GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

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U.S. Nuclear Regulatory Commission
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Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed is the River Bend Station (RBS) Annual Operating Report for 1992. This report is submitted in accordance with Technical Specification 6.9.1.4 and 6.9.1.5 of Appendix A to RBS Operating License NPF-47.

Sincerely,

J. E. Booker

J. E. Booker
Manager - Safety Assessment
and Quality Verification

LAE/LLD/WJS/pj

Enclosure

cc: U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

NRC Resident Inspector
P.O. Box 1051
St. Francisville, LA 70775

Mr. Edward T. Baker
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GULF STATES UTILITIES COMPANY

RIVER BEND STATION

ANNUAL OPERATING REPORT

FOR

1992

TABLE OF CONTENTS

1.0 OCCUPATIONAL RADIATION SUMMARY REPORT

Enclosed in this section is a report on Occupational Radiation Exposure for River Bend Station personnel for the year 1992 as required by 10CFR20.407, Regulatory Guide 1.16, and Technical Specification Section 6.9.1.5a of Appendix A to River Bend Station Operating License NPF-47.

The attached table is developed from pocket dosimeter data. The River Bend Station TLD total for 1992 is 709.8 man-rem.

REG GUIDE 1.16 REPORT

GULF STATES UTILITIES - NRC LICENSE

P. O. Box 220

St. Francisville, LA 70775

	NUMBER OF PERSONNEL (>100.0 MREM)			TOTAL MAN REM		
WORK & JOB FUNCTION	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS & OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS & OTHERS
REACTOR OPERATIONS & SURVEILLANCE						
MAINTENANCE PERSONNEL	5.9	0.1	11.2	2.922	0.026	5.773
OPERATING PERSONNEL	47.2	0.0	1.1	19.094	0.000	0.108
HEALTH PHYSICS PERSONNEL	19.7	0.0	49.5	11.314	0.000	29.628
SUPERVISORY PERSONNEL	0.0	0.9	0.4	0.000	0.079	0.090
ENGINEERING PERSONNEL	6.2	3.1	5.7	2.193	1.231	2.904
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	10.9	0.0	52.5	6.029	0.000	29.465
OPERATING PERSONNEL	0.1	0.0	0.0	0.013	0.000	0.000
HEALTH PHYSICS PERSONNEL	0.5	0.0	5.6	0.340	0.000	2.299
SUPERVISORY PERSONNEL	0.6	0.0	0.7	0.069	0.000	0.108
ENGINEERING PERSONNEL	0.3	0.9	16.1	0.052	0.241	12.119
INSERVICE INSPECTION						
MAINTENANCE PERSONNEL	5.7	0.0	93.8	3.300	0.000	70.212
OPERATING PERSONNEL	2.6	0.0	0.0	0.951	0.000	0.000
HEALTH PHYSICS PERSONNEL	3.1	0.0	4.9	1.695	0.000	2.058
SUPERVISORY PERSONNEL	0.0	0.0	0.4	0.000	0.000	0.069
ENGINEERING PERSONNEL	3.2	2.7	37.5	0.596	0.919	57.186
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	59.7	0.9	327.9	58.681	0.245	262.481
OPERATING PERSONNEL	10.5	0.0	1.3	4.854	0.000	2.139
HEALTH PHYSICS PERSONNEL	11.7	0.0	25.4	6.477	0.000	13.213
SUPERVISORY PERSONNEL	0.4	0.1	1.0	0.043	0.009	0.495
ENGINEERING PERSONNEL	5.5	6.8	37.9	1.222	1.642	17.643
WASTE PROCESSING						
MAINTENANCE PERSONNEL	0.4	0.0	33.4	0.189	0.000	19.322
OPERATING PERSONNEL	4.3	0.0	4.6	0.046	0.000	5.620
HEALTH PHYSICS PERSONNEL	1.4	0.0	9.4	0.011	0.000	5.478
SUPERVISORY PERSONNEL	0.0	0.0	0.0	0.000	0.000	0.000
ENGINEERING PERSONNEL	0.0	0.0	0.2	0.000	0.000	0.082
REFUELING						
MAINTENANCE PERSONNEL	0.3	0.0	41.2	0.125	0.000	18.283
OPERATING PERSONNEL	3.3	0.0	0.0	0.440	0.000	0.000
HEALTH PHYSICS PERSONNEL	0.6	0.0	5.2	0.588	0.000	2.535
SUPERVISORY PERSONNEL	0.0	0.0	0.4	0.000	0.000	0.060
ENGINEERING PERSONNEL	3.8	1.5	21.6	0.602	0.219	6.310
TOTALS*						
MAINTENANCE PERSONNEL	83	1	560	63.246	0.271	405.536
OPERATING PERSONNEL	68	0	7	26.398	0.000	7.867
HEALTH PHYSICS PERSONNEL	37	0	100	21.425	0.000	55.211
SUPERVISORY PERSONNEL	1	1	3	0.112	0.088	0.822
ENGINEERING PERSONNEL	19	15	119	4.665	4.252	96.244
GRAND TOTALS	208	17	789	115.846	4.611	565.680

*FIGURES REPRESENT THE ACTUAL NUMBER OF PERSONNEL EXPOSED.

2.0 SAFETY RELIEF VALVE HISTORY

During 1992, River Bend Station experienced four reactor scrams. On March 5, 1992 at 0202 hours, a reactor scram (92-02) occurred due to tornadic winds causing building sheet metal to fall on the main transformer. During this event, reactor pressure increased to 1110 psig causing a challenge to five SRVs of low-low setpoint 1103 psig. The SRVs involved were 1B21*VF047F, 051B, 051C, 051D, and 051G. After their initial opening they did not open again. During this event, the four SRVs of higher setpoint (1113 psig) 1B21*RVF047A, 047B, 047C, and 047D operated as expected and did not open.

During March through September 1992, River Bend Station had Refueling Outage #4, in which all sixteen SRVs were removed and replaced with a new compliment of SRVs previously inspected, refurbished, and tested offsite by Crosby Valve in 1991. The maintenance activities are documented in Attachment #1.

Once installed, the new valves were tested to Surveillance Test Procedure (STP) 202-0602, and ADS Safety Relief Valve Operability Test, dated September 8, 1992. All sixteen SRVs passed satisfactorily.

The operating history of these valves during 1992 was as follows:

January - March, 1992	Nine SRVs experienced elevated tail pipe temperatures of 215°F - 250°F indicating SRV weepage.
After RF-4 Outage September - December, 1992	Four SRVs experienced elevated temperatures of 215°F - 230°F indicating SRV weepage.

ATTACHMENTS

Attachment 1 - Maintenance Activities Performed on All Valves
Attachment 2 - Leakage Log for SRVs During Operation
Attachment 3 - Actuation Events for Five SRVs During Scram #92-02

ATTACHMENT 1

MAINTENANCE ACTIVITIES PERFORMED ON ALL

MAIN STEAM SAFETY/RELIEF VALVES

(64 SHEETS)

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0040

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVE041A

403. TYPE OF MAINTENANCE CODE

- A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
- B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
- C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
- D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

- A. [X] COMPLETE
- B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
- C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
- D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR) _____

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY _____

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

- A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
- B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
- C. [ ] PANEL INDICATOR LIGHTS
- D. [ ] DROP IN ELECTRICAL OUTPUT
- E. [ ] STEAM-FEED FLOW MISMATCH
- F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
- G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
- H. [ ] RISE IN SUPPRESSION POOL LEVEL
- I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
- J. [ ] RADIATION MONITOR(S)
- K. [ ] ACOUSTIC MONITOR(S)
- L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
- M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
- X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

- A. [ ] POWER REDUCTION
- B. [ ] TURBINE TRIP
- C. [ ] MANUAL SCRAM
- D. [ ] AUTOMATIC SCRAM
- E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
- F. [ ] MANUAL SHUTDOWN
- G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE) _____ °F

419. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

- A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
- B. [ ] LIFTED PAST SETPOINT - FAILED TO LIFT
- C. [ ] FAILED TO RECLOSE
- D. [ ] FAILED TO FULLY RESEAT
- E. [ ] LEAKAGE (OTHER THAN MINOR)
- F. [ ] INADVERTENT OPENING OF S/R VALVE
- X. [ ] OTHER (EXPLAIN IN ITEM 419)

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE: _____

S/R VALVE SERIAL NUMBER N63800-00-0040

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458

S/R VALVE SERIAL NUMBER N63800-09-0040

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C")

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIXIERS
- D293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE		456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. ☐	A.	☐ PILOT DISC STEAM CUT OR DAMAGED
B. ☐	B.	☐ PISTON RINGS WORN, DAMAGED
C. ☐	C.	☐ DAMAGE TO SEAT(S)
D. ☐	D.	☐ FOREIGN MATERIAL (WIRE, GRUD) ON/UNDER SEAT
E. ☐	E.	☐ DAMAGE TO 2ND STAGE PISTON
F. ☐	F.	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G. ☐	G.	☐ DAMAGED SPRING(S)
H. ☐	H.	☐ CASTING DEFECTS
J. ☐	J.	☐ OTHER MANUFACTURING DEFECTS
K. ☐	K.	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. ☐	L.	☐ NORMAL WEAR
M. ☐	M.	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. ☐	N.	☐ DIAPHRAGM(S) DAMAGED
P. ☐	P.	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q. ☐	Q.	☐ BELLOWS DAMAGED, WORN
R. ☐	R.	☐ BROKEN AIR LINE
S. ☐	S.	☐ SOLENOID FAILURE
T. ☐	T.	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X. ☐	X.	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☒ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0090

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

900. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

901. S/R VALVE SERIAL NUMBER N63800-00-0107

902. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF010B

903. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

904. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 901 AND 910 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 910 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 930.

910. DATE OF FAILURE (Mo/Da/Yr) _____

911. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

912. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

913. VOLTAGE OF ELECTRIC POWER SUPPLY _____

914. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 919)

915. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 919)

916. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

917. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE) _____ °F

918. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE: _____

S/R VALVE SERIAL NUMBER N63B20-00-0107

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. Test Type Code (Select One Per Line)	435. Parameter Measured Code (Select One Per Line)	436. Numerical Results Of Tests - Include Units Or Give Leakage Rate Or Write "No Leak" For Leakage Tests	437. Results Of Test Acceptable? "Yes" Or "No"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458
S/R VALVE SERIAL NUMBER N62B00-DD-0107

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C")

- C731 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DYKERS
- D243 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ ONAMO VALVE (NOT MFRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

	455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE	456. CAUSE OF FAILUTE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	☐ PISTON RINGS WORN, DAMAGED
C.	☐	☐ DAMAGE TO SEAT(S)
D.	☐	☐ FOREIGN MATERIAL (WIRE, CRUD) ON/UNDER SEAT
E.	☐	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	☐ DAMAGED SPRING(S)
H.	☐	☐ CASTING DEFECTS
J.	☐	☐ OTHER MANUFACTURING DEFECTS
K.	☐	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	☐ NORMAL WEAR
M.	☐	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	☐ DIAPHRAGM(S) DAMAGED
P.	☐	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
R.	☐	☐ BELLOWS DAMAGED, WORN
S.	☐	☐ BROKEN AIR LINE
T.	☐	☐ SOLENOID FAILURE
V.	☐	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- R. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- S. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0007

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
K. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
K. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0109

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF041C

403. TYPE OF MAINTENANCE CODE

- A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
- B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
- C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
- D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

- A. [X] COMPLETE
- B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
- C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
- D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 450 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

- A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
- B. [ ] LIFTED PAST SETPOINT
- C. [ ] FAILED TO LIFT
- D. [ ] FAILED TO RECLOSE
- E. [ ] FAILED TO FULLY RESEAT
- F. [ ] LEAKAGE (OTHER THAN MINOR)
- G. [ ] INADVERTENT OPENING OF S/R VALVE
- X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

- A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
- B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
- C. [ ] PANEL INDICATOR LIGHTS
- D. [ ] DROP IN ELECTRICAL OUTPUT
- E. [ ] STEAM-FEED FLOW MISMATCH
- F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
- G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
- H. [ ] RISE IN SUPPRESSION POOL LEVEL
- I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
- J. [ ] RADIATION MONITOR(S)
- K. [ ] ACOUSTIC MONITOR(S)
- L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
- M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
- X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

- A. [ ] POWER REDUCTION
- B. [ ] TURBINE TRIP
- C. [ ] MANUAL SCRAM
- D. [ ] AUTOMATIC SCRAM
- E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
- F. [ ] MANUAL SHUTDOWN
- G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

429. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50 458
S/R VALVE SERIAL NUMBER N63800-00-0109

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ ON-SITE (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- P167 ☐ DIRRERS
- B293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 9999 ☐ ORANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455. AND 456. IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

	455. OBSERVED DAMAGE CORRELATED TO ANY FAILURE	456. CAUSE OF FAILUTE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	☐ PISTON RINGS WORN, DAMAGED
C.	☐	☐ DAMAGE TO SEAT(S)
D.	☐	☐ FOREIGN MATERIAL (DIRT, GRUD) ON/UNDER SEAT
E.	☐	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	☐ DAMAGED SPRING(S)
H.	☐	☐ CASTING DEFECTS
J.	☐	☐ OTHER MANUFACTURING DEFECTS
K.	☐	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	☐ NORMAL WEAR
M.	☐	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	☐ DIAPHRAGM(S) DAMAGED
P.	☐	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
R.	☐	☐ BELLOWS DAMAGED, WORN
S.	☐	☐ BROKEN AIR LINE
T.	☐	☐ SOLENOID FAILURE
U.	☐	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☒ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- R. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0109

490. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0106

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF041D

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 450 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 450.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

S/R VALVE SERIAL NUMBER N63800-00-0196

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"As Found" Tests Performed Prior to Disassembly:

	434. Test Type Code (Select One Per Line)	435. Parameter Measured Code (Select One Per Line)	436. Numerical Results Of Tests - Include Units Or Give Leakage Rate Or Write "No Leak" For Leakage Tests	437. Results Of Test Acceptable? "Yes" Or "No"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. Set Point Test - Steam
B. Set Point Test - N_2 (Nitrogen)
C. Operational Relief Test - Steam
D. Operational Relief Test - N_2
E. Leak Test - Steam
F. Leak Test - N_2
X. Other _____

435. PARAMETER MEASURED CODE (Select One Parameter Per Test. If More Than One Parameter Is Measured In A Test, Repeat Test Type Code.)

A. Set Point - Lift Pressure
B. Reseat - Reclose Pressure
C. Valve Opening Delay Time - Manual Mode
D. Valve Opening Delay Time - Automatic Mode
E. Main Disc Opening Stroke Time - Manual Mode
F. Main Disc Opening Stroke Time - Automatic Mode
G. Pilot Stage Seat Tightness
H. Main Stage Seat Tightness
J. Flanged Connection Gasket Leakage
X. Other _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458
S/R VALVE SERIAL NUMBER N6380-00-0106

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. [ ] IN-SITU (VALVE REMAINS IN PLACE)
- B. [ ] ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. [X] OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. [ ] OPERATIONS
- B. [ ] MAINTENANCE
- C. [X] CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C731 [X] CROSBY VALVE & GAGE CO.
- D167 [ ] DIBBERS
- D293 [ ] DRESSER VALVE
- G082 [ ] GENERAL ELECTRIC CORP.
- 0999 [ ] OKANO VALVE (NOT NPRDS CODE)
- T020 [ ] TARGET ROCK CORP.
- W336 [ ] WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

	455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	[ ]	[ ] PILOT DISC STEAM CUT OR DAMAGED
B.	[ ]	[ ] PISTON RINGS WORN, DAMAGED
C.	[ ]	[ ] DAMAGE TO SEAT(S)
D.	[ ]	[ ] FOREIGN MATERIAL (DIRT, CRUD) ON/UNDER SEAT
E.	[ ]	[ ] DAMAGE TO 2ND STAGE PISTON
F.	[ ]	[ ] SET POINT DRIFT - NOT DAMAGE RELATED
G.	[ ]	[ ] DAMAGED SPRING(S)
H.	[ ]	[ ] CASTING DEFECTS
J.	[ ]	[ ] OTHER MANUFACTURING DEFECTS
K.	[ ]	[ ] IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	[ ]	[ ] NORMAL WEAR
M.	[ ]	[ ] DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	[ ]	[ ] DIAPHRAGM(S) DAMAGED
P.	[ ]	[ ] GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q.	[ ]	[ ] BELLOWS DAMAGED, WORN
R.	[ ]	[ ] BROKEN AIR LINE
S.	[ ]	[ ] SOLENOID FAILURE
T.	[ ]	[ ] FAILURE OF AIR OPERATOR ASSEMBLY
X.	[ ]	[ ] OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. [ ] ACTUATION STAGES REPLACED
- B. [ ] TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. [ ] RELAP SEAT, DISC
- D. [ ] MACHINE PILOT VALVE DISC
- E. [X] CLEAN & REWORK PILOT ASSEMBLIES
- F. [ ] SETPOINT ADJUSTMENT
- G. [ ] VALVE THROAT BORE SIZE INCREASED
- H. [ ] SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. [ ] REORIFICE STEAM BLOWDOWN ORIFICE
- K. [ ] REPLACE PISTON RING(S)
- L. [ ] REPLACE "O"-RING(S)
- M. [ ] REPLACE DIAPHRAGM(S)
- N. [ ] REPLACE/REPAIR BELLOWS
- P. [ ] REPLACE/REPAIR GASKET(S)
- Q. [ ] REPLACE/REPAIR SPRING(S)
- X. [ ] OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0106

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

Prepared By: John Murray

SRVS Approved By: GM Dolney

MAINTENANCE ACTIVITY

900. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

901. S/R VALVE SERIAL NUMBER: N63800-00-0039

902. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF041F

903. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

909. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 901 AND 930 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 910 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 930.

910. DATE OF FAILURE (MO/DA/YR)

911. VOLTAGE OF ELECTRIC POWER SUPPLY

912. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

913. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT - FAILED TO LIFT
C. [ ] FAILED TO RECLOSE
D. [ ] FAILED TO FULLY RESEAT
E. [ ] LEAKAGE (OTHER THAN MINOR)
F. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 919)

914. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 919)

916. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

917. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

918. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC...) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

410. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50 458
S/R VALVE SERIAL NUMBER N63800-00-0039

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIRKERS
- D293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NFRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- I. ☐ ORIFICE STEAM BLOWDOWN ORIFICE
- J. ☐ REPLACE PISTON RING(S)
- K. ☐ REPLACE "O"-RING(S)
- L. ☐ REPLACE DIAPHRAGM(S)
- M. ☐ REPLACE/REPAIR BELLOWS
- N. ☐ REPLACE/REPAIR GASKET(S)
- O. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. ☐	A. ☐ PILOT DISC STEAM CUT OR DAMAGED
B. ☐	B. ☐ PISTON RINGS WORN, DAMAGED
C. ☐	C. ☐ DAMAGE TO SEAT(S)
D. ☐	D. ☐ FOREIGN MATERIAL (WIRE, LRUD) ON/UNDER SEAT
E. ☐	E. ☐ DAMAGE TO 2ND STAGE PISTON
F. ☐	F. ☐ SET POINT DRIFT - NOT DAMAGE RELATED
G. ☐	G. ☐ DAMAGED SPRING(S)
H. ☐	H. ☐ CASTING DEFECTS
J. ☐	J. ☐ OTHER MANUFACTURING DEFECTS
K. ☐	K. ☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. ☐	L. ☐ NORMAL WEAR
M. ☐	M. ☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. ☐	N. ☐ DIAPHRAGM(S) DAMAGED
P. ☐	P. ☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q. ☐	Q. ☐ BELLOWS DAMAGED, WORN
R. ☐	R. ☐ BROKEN AIR LINE
S. ☐	S. ☐ SOLENOID FAILURE
T. ☐	T. ☐ FAILURE OF AIR OPERATOR ASSEMBLY
X. ☐	X. ☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0039

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-011

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF041G

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR) _____

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY _____

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT (USE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE) _____ °F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE: _____

S/R VALVE SERIAL NUMBER N63A00-00-0111

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"As Found" Tests Performed Prior to Disassembly:

	434. Test Type Code (Select One Per Line)	435. Parameter Measured Code (Select One Per Line)	436. Numerical Results Of Tests - Include Units Or Give Leakage Rate Or Write "No Leak" For Leakage Tests	437. Results Of Test Acceptable? "Yes" Or "No"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. Set Point Test - Steam
B. Set Point Test - N_2 (Nitrogen)
C. Operational Relief Test - Steam
D. Operational Relief Test - N_2
E. Leak Test - Steam
F. Leak Test - N_2
X. Other _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. Set Point - Lift Pressure
B. Reseat - Reclose Pressure
C. Valve Opening Delay Time - Manual Mode
D. Valve Opening Delay Time - Automatic Mode
E. Main Disc Opening Stroke Time - Manual Mode
F. Main Disc Opening Stroke Time - Automatic Mode
G. Pilot Stage Seat Tightness
H. Main Stage Seat Tightness
J. Flanged Connection Gasket Leakage
X. Other _____

SRVS Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458
S/R VALVE SERIAL NUMBER N63809-OC-011

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIRKERS
- D703 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ GRAND VALVE (NOT NFRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE CORRELATED TO ANY FAILURE		456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	A. ☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	B. ☐ PISTON RINGS WORN, DAMAGED
C.	☐	C. ☐ DAMAGE TO SEAT(S)
D.	☐	D. ☐ FOREIGN MATERIAL (DIRT, CRUD) ON/UNDER SEAT
E.	☐	E. ☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	F. ☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	G. ☐ DAMAGED SPRING(S)
H.	☐	H. ☐ CASTING DEFECTS
J.	☐	J. ☐ OTHER MANUFACTURING DEFECTS
K.	☐	K. ☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	L. ☐ NORMAL WEAR
M.	☐	M. ☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	N. ☐ DIAPHRAGM(S) DAMAGED
P.	☐	P. ☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q.	☐	Q. ☐ BELLOWS DAMAGED, WORN
R.	☐	R. ☐ BROKEN AIR LINE
S.	☐	S. ☐ SOLENOID FAILURE
T.	☐	T. ☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	X. ☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	☐ NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0011

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray

Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0112

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF041L

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 450 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 450.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,.) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50-458

S/R VALVE SERIAL NUMBER N63800-00-0112

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS MAINTENANCE
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIXSERS
- D243 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN (ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE	456. CAUSE OF FAILUTE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. ☐	A. ☐ PILOT DISC STEAM CUT OR DAMAGED
B. ☐	B. ☐ PISTON RINGS WORN, DAMAGED
C. ☐	C. ☐ DAMAGE TO SEAT(S)
D. ☐	D. ☐ FOREIGN MATERIAL (DIRT, CRUD) ON/UNDER SEAT
E. ☐	E. ☐ DAMAGE TO 2ND STAGE PISTON
F. ☐	F. ☐ SET POINT DRIFT - NOT DAMAGE RELATED
G. ☐	G. ☐ DAMAGED SPRING(S)
H. ☐	H. ☐ CASTING DEFECTS
J. ☐	J. ☐ OTHER MANUFACTURING DEFECTS
K. ☐	K. ☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. ☐	L. ☐ NORMAL WEAR
M. ☐	M. ☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. ☐	N. ☐ DIAPHRAGM(S) DAMAGED
P. ☐	P. ☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q. ☐	Q. ☐ BELLOWS DAMAGED, WORN
R. ☐	R. ☐ BROKEN AIR LINE
S. ☐	S. ☐ SOLENOID FAILURE
T. ☐	T. ☐ FAILURE OF AIR OPERATOR ASSEMBLY
X. ☐	X. ☐ OTHER (EXPLAIN IN NARRATIVE)
Z. ☐ NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0112

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: G.M. Delaney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0097

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVE047A

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (Mo/Da/Yr)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT - FAILED TO LIFT
C. [ ] FAILED TO RECLOSE
D. [ ] FAILED TO FULLY RESEAT
E. [ ] LEAKAGE (OTHER THAN MINOR)
F. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC...) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G M Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50: 458
S/R VALVE SERIAL NUMBER: N63800-00-0097

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. [ ] In-Situ (Valve Remains In Place)
- B. [ ] On-Site (Valve Is Removed From Installation But Remains On Plant Site)
- C. [X] Off-Site

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. [ ] Operations
- B. [ ] Maintenance
- C. [X] Contractor, Lab, or Vendor

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C")

- C711 [X] Crosby Valve & Gage Co.
- D167 [ ] Dirrers
- D293 [ ] Dresser Valve
- G082 [ ] General Electric Corp.
- 0999 [ ] Okano Valve (Not NPRDS code)
- T020 [ ] Target Rock Corp.
- W336 [ ] Wyle Labs
- Other: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. Observed Damage Correlated to Any Failure		456. Cause of Failure/ Damage Resulting From Failure (If Failure Has Occurred)
A.	[ ]	A. [ ] Pilot Disc Steam Cut or Damaged
B.	[ ]	B. [ ] Piston Rings Worn, Damaged
C.	[ ]	C. [ ] Damage to Seat(s)
D.	[ ]	D. [ ] Foreign Material (Dirt, Crud) On/Under Seat
E.	[ ]	E. [ ] Damage to 2nd Stage Piston
F.	[ ]	F. [ ] Set Point Drift - Not Damage Related
G.	[ ]	G. [ ] Damaged Spring(s)
H.	[ ]	H. [ ] Casting Defects
J.	[ ]	J. [ ] Other Manufacturing Defects
K.	[ ]	K. [ ] Improper Assembly or Installation, Missing Parts
L.	[ ]	L. [ ] Normal Wear
M.	[ ]	M. [ ] Damaged "O"-Ring(s) (Beyond Normal Wear)
N.	[ ]	N. [ ] Diaphragm(s) Damaged
P.	[ ]	P. [ ] Gasket(s) Worn Beyond Normal, Expected Wear
Q.	[ ]	Q. [ ] Bellows Damaged, Worn
R.	[ ]	R. [ ] Broken Air Line
S.	[ ]	S. [ ] Solenoid Failure
T.	[ ]	T. [ ] Failure of Air Operator Assembly
X.	[ ]	X. [ ] Other (Explain In Narrative)
Z.	No Damage Except That Directly Relating to Failure	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. [ ] Actuation Stages Replaced
- B. [ ] Topworks Replaced With One of Same Setpoint
- C. [ ] Relap Seat, Disc
- D. [ ] Machine Pilot Valve Disc
- E. [X] Clean & Rework Pilot Assemblies
- F. [ ] Setpoint Adjustment
- G. [ ] Valve Throat Bore Size Increased
- H. [ ] Solenoid Assembly Removed, Reinstalled
- J. [ ] Reorifice Steam Blowdown Orifice
- K. [ ] Replace Piston Ring(s)
- L. [ ] Replace "O"-Ring(s)
- M. [ ] Replace Diaphragm(s)
- N. [ ] Replace/Repair Bellows
- P. [ ] Replace/Repair Gasket(s)
- Q. [ ] Replace/Repair Spring(s)
- X. [ ] Other (Explain In Narrative)

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0097

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: G M Dolsey

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63B00-00-0100

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF047B

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (Mo/Da/Yr)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC...) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

S/R VALVE SERIAL NUMBER N63800-00-0100

#19. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

#30. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	#34. TEST TYPE CODE (SELECT ONE PER LINE)	#35. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	#36. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	#37. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

#34. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

#35. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458
S/R VALVE SERIAL NUMBER N63BD0-00-0100

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIKKERS
- D703 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- G939 ☐ OKANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE CORRELATED TO ANY FAILURE		456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)	
A.	☐	A.	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	B.	☐ PISTON RINGS WORN, DAMAGED
C.	☐	C.	☐ DAMAGE TO SEAT(S)
D.	☐	D.	☐ FOREIGN MATERIAL (DIRT, DRUG) ON/UNDER SEAT
E.	☐	E.	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	F.	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	G.	☐ DAMAGED SPRING(S)
H.	☐	H.	☐ CASTING DEFECTS
J.	☐	J.	☐ OTHER MANUFACTURING DEFECTS
K.	☐	K.	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	L.	☐ NORMAL WEAR
M.	☐	M.	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	N.	☐ DIAPHRAGM(S) DAMAGED
P.	☐	P.	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q.	☐	Q.	☐ BELLOWS DAMAGED, WORN
R.	☐	R.	☐ BROKEN AIR LINE
S.	☐	S.	☐ SOLENOID FAILURE
T.	☐	T.	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	X.	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE		

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0100

490. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

Prepared By: John Murray
Approved By: GM Dolney

SRVS

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0098

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF047C

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT - FAILED TO LIFT
C. [ ] FAILED TO RECLOSE
D. [ ] FAILED TO FULLY RESEAT
E. [ ] LEAKAGE (OTHER THAN MINOR)
F. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (ENTER ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: GM Delney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 458
S/R VALVE SERIAL NUMBER N63800-00-0098

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C")

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DRESSERS
- D293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ GRANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

	455. OBSERVED DAMAGE RELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	☐ PISTON RINGS WORN, DAMAGED
C.	☐	☐ DAMAGE TO SEAT(S)
D.	☐	☐ FOREIGN MATERIAL (WIRE, DRUG) ON/UNDER SEAT
E.	☐	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	☐ DAMAGED SPRING(S)
H.	☐	☐ CASTING DEFECTS
J.	☐	☐ OTHER MANUFACTURING DEFECTS
K.	☐	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	☐ NORMAL WEAR
M.	☐	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	☐ DIAPHRAGM(S) DAMAGED
P.	☐	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q.	☐	☐ BELLOWS DAMAGED, WORN
R.	☐	☐ BROKEN AIR LINE
S.	☐	☐ SOLENOID FAILURE
T.	☐	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0098

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0081

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF047D

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,.) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0081

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. Test Type Code (Select One Per Line)	435. Parameter Measured Code (Select One Per Line)	436. Numerical Results Of Tests - Include Units Or Give Leakage Rate Or Write "No Leak" For Leakage Tests	437. Results Of Test Acceptable? "Yes" Or "No"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolacy

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50 458
S/R VALVE SERIAL NUMBER N63B00-00-008

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DEPREE
- 0293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456. IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

	455. OBSERVED DAMAGE CORRELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	☐ PISTON RINGS WORN, DAMAGED
C.	☐	☐ DAMAGE TO SEAT(S)
D.	☐	☐ FOREIGN MATERIAL (DIRT, LRUD) ON/UNDER SEAT
E.	☐	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	☐ DAMAGED SPRING(S)
H.	☐	☐ CASTING DEFECTS
J.	☐	☐ OTHER MANUFACTURING DEFECTS
K.	☐	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	☐ NORMAL WEAR
M.	☐	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	☐ DIAPHRAGM(S) DAMAGED
P.	☐	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q.	☐	☐ BELLOWS DAMAGED, WORN
R.	☐	☐ BROKEN AIR LINE
S.	☐	☐ SOLENOID FAILURE
T.	☐	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REMOVE PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-00B1

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RESEAT PRESSURE
C. MAIN STAGE OPENING DELAY TIME - PNEUMATIC MODE
D. MAIN STAGE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN STAGE OPENING STROKE TIME - PNEUMATIC MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0095

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF047F

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (Mo/Da/Yr) _____

"As Found" Tests Performed Prior to Disassembly:

	434. Test Type Code (Select One Per Line)	435. Parameter Measured Code (Select One Per Line)	436. Numerical Results Of Tests - Include Units Or Give Leakage Rate Or Write "No Leak" For Leakage Tests	437. Results of Test Acceptable? "Yes" or "No"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. Set Point Test - Steam
B. Set Point Test - N_2 (Nitrogen)
C. Operational Relief Test - Steam
D. Operational Relief Test - N_2
E. Leak Test - Steam
F. Leak Test - N_2
X. Other _____

435. PARAMETER MEASURED CODE (Select One Parameter Per Test. If More Than One Parameter Is Measured In A Test, Repeat Test Type Code.)

A. Set Point - Lift Pressure
B. Reseat - Reclose Pressure
C. Valve Opening Delay Time - Manual Mode
D. Valve Opening Delay Time - Automatic Mode
E. Main Disc Opening Stroke Time - Manual Mode
F. Main Disc Opening Stroke Time - Automatic Mode
G. Pilot Stage Seat Tightness
H. Main Stage Seat Tightness
J. Flanged Connection Gasket Leakage
X. Other _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50 458
S/R VALVE SERIAL NUMBER N63B00-00-0095

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. [ ] IN-SITU (VALVE REMAINS IN PLACE)
- B. [ ] ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. [X] OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. [ ] OPERATIONS
- B. [ ] MAINTENANCE
- C. [X] CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 [X] CROSBY VALVE & GAGE CO.
- B167 [ ] DIERKES
- D703 [ ] DRESSER VALVE
- G082 [ ] GENERAL ELECTRIC CORP.
- 0999 [ ] OKANO VALVE (NOT NPRDS CODE)
- T020 [ ] TARGET ROCK CORP.
- W336 [ ] WYLE LABS
- OTHER: _____

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. [ ] ACTUATION STAGES REPLACED
- B. [ ] TOPWORKS REPLACED WITH O.E. OF SAME SETPOINT
- C. [ ] RELAP SEAT, DISC
- D. [ ] MACHINE PILOT VALVE DISC
- E. [X] CLEAN & REWORK PILOT ASSEMBLIES
- F. [ ] SETPOINT ADJUSTMENT
- G. [ ] VALVE THROAT BORE SIZE INCREASED
- H. [ ] SOLENOID ASSEMBLY REMOVED, REINSTALLED
- I. [ ] ORIFICE STEAM BLOWDOWN ORIFICE
- J. [ ] REPLACE PISTON RING(S)
- K. [ ] REPLACE "O"-RING(S)
- L. [ ] REPLACE DIAPHRAGM(S)
- M. [ ] REPLACE/REPAIR BELLOWS
- N. [ ] REPLACE/REPAIR GASKET(S)
- O. [ ] REPLACE/REPAIR SPRING(S)
- Z. [ ] OTHER (EXPLAIN IN NARRATIVE)

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE CORRELATED TO ANY FAILURE		456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	[ ]	A. [ ] PILOT DISC STEAM CUT OR DAMAGED
B.	[ ]	B. [ ] PISTON RINGS WORN, DAMAGED
C.	[ ]	C. [ ] DAMAGE TO SEAT(S)
D.	[ ]	D. [ ] FOREIGN MATERIAL (DIRT, CRUD) ON/UNDER SEAT
E.	[ ]	E. [ ] DAMAGE TO 2ND STAGE PISTON
F.	[ ]	F. [ ] SET POINT DRIFT - NOT DAMAGE RELATED
G.	[ ]	G. [ ] DAMAGED SPRING(S)
H.	[ ]	H. [ ] CASTING DEFECTS
I.	[ ]	I. [ ] OTHER MANUFACTURING DEFECTS
J.	[ ]	J. [ ] IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
K.	[ ]	K. [ ] NORMAL WEAR
L.	[ ]	L. [ ] DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
M.	[ ]	M. [ ] DIAPHRAGM(S) DAMAGED
N.	[ ]	N. [ ] GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
O.	[ ]	O. [ ] BELLOWS DAMAGED, WORN
P.	[ ]	P. [ ] BROKEN AIR LINE
Q.	[ ]	Q. [ ] SOLENOID FAILURE
R.	[ ]	R. [ ] FAILURE OF AIR OPERATOR ASSEMBLY
X.	[ ]	X. [ ] OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0095

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0123

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF051B

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

408. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR) _____

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY _____

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESTAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE) _____ °F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC...) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE: _____

S/R VALVE SERIAL NUMBER N63800-00-0123

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIKKERS
- D293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NPRDS CODE)
- 1020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE UNRELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. ☐	A. ☐ PILOT DISC STEAM CUT OR DAMAGED
B. ☐	B. ☐ PISTON RINGS WORN, DAMAGED
C. ☐	C. ☐ DAMAGE TO SEAT(S)
D. ☐	D. ☐ FOREIGN MATERIAL (DIRT, DRUG) ON/UNDER SEAT
E. ☐	E. ☐ DAMAGE TO 2ND STAGE PISTON
F. ☐	F. ☐ SET POINT DRIFT - NOT DAMAGE RELATED
G. ☐	G. ☐ DAMAGED SPRING(S)
H. ☐	H. ☐ CASTING DEFECTS
J. ☐	J. ☐ OTHER MANUFACTURING DEFECTS
K. ☐	K. ☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. ☐	L. ☐ NORMAL WEAR
M. ☐	M. ☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. ☐	N. ☐ DIAPHRAGM(S) DAMAGED
P. ☐	P. ☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q. ☐	Q. ☐ BELLOWS DAMAGED, WORN
R. ☐	R. ☐ BROKEN AIR LINE
S. ☐	S. ☐ SOLENOID FAILURE
T. ☐	T. ☐ FAILURE OF AIR OPERATOR ASSEMBLY
X. ☐	X. ☐ OTHER (EXPLAIN IN NARRATIVE)
Z. NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- Q. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63B09-00-0123

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0120

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF051C

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (MO/DA/YR) _____

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY _____

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESTAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE) _____ °F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE: _____

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50-458
S/R VALVE SERIAL NUMBER N63800-00-0180

451. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. [ ] IN-SITU (VALVE REMAINS IN PLACE)
- B. [ ] ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. [X] OFF-SITE

452. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. [ ] OPERATIONS
- B. [ ] MAINTENANCE
- C. [X] CONTRACTOR, LAB, OR VENDOR

453. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 452 IS "C".)

- C711 [X] CROSBY VALVE & GAGE CO.
- D167 [ ] DRESSERS
- D293 [ ] DRESSER VALVE
- G082 [ ] GENERAL ELECTRIC CORP.
- 0999 [ ] OTHER VALVE (NOT NPRDS CODE)
- T020 [ ] TARGET ROCK CORP.
- W336 [ ] WYLE LABS
- OTHER: _____

455., 456. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 455, AND 456, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 456 IF NO FAILURE HAS OCCURRED.

455. OBSERVED DAMAGE RELATED TO ANY FAILURE	456. CAUSE OF FAILURE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. [ ]	A. [ ] PILOT DISC STEAM CUT OR DAMAGED
B. [ ]	B. [ ] PISTON RINGS WORN, DAMAGED
C. [ ]	C. [ ] DAMAGE TO SEAT(S)
D. [ ]	D. [ ] FOREIGN MATERIAL (DIRT, LRUD) ON/UNDER SEAT
E. [ ]	E. [ ] DAMAGE TO 2ND STAGE PISTON
F. [ ]	F. [ ] SET POINT DRIFT - NOT DAMAGE RELATED
G. [ ]	G. [ ] DAMAGED SPRING(S)
H. [ ]	H. [ ] CASTING DEFECTS
J. [ ]	J. [ ] OTHER MANUFACTURING DEFECTS
K. [ ]	K. [ ] IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. [ ]	L. [ ] NORMAL WEAR
M. [ ]	M. [ ] DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. [ ]	N. [ ] DIAPHRAGM(S) DAMAGED
P. [ ]	P. [ ] GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
Q. [ ]	Q. [ ] BELLOWS DAMAGED, WORN
R. [ ]	R. [ ] BROKEN AIR LINE
S. [ ]	S. [ ] SOLENOID FAILURE
T. [ ]	T. [ ] FAILURE OF AIR OPERATOR ASSEMBLY
X. [ ]	X. [ ] OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE

460. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

465. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. [ ] ACTUATION STAGES REPLACED
- B. [ ] TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. [ ] RELAP SEAT, DISC
- D. [ ] MACHINE PILOT VALVE DISC
- E. [X] CLEAN & REWORK PILOT ASSEMBLIES
- F. [X] SETPOINT ADJUSTMENT
- G. [ ] VALVE THROAT BORE SIZE INCREASED
- H. [ ] SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. [ ] ORIFICE STEAM BLOWDOWN UNIFICE
- K. [ ] REPLACE PISTON RING(S)
- L. [ ] REPLACE "O"-RING(S)
- M. [ ] REPLACE DIAPHRAGM(S)
- N. [ ] REPLACE/REPAIR BELLOWS
- P. [ ] REPLACE/REPAIR GASKET(S)
- Q. [ ] REPLACE/REPAIR SPRING(S)
- X. [ ] OTHER (EXPLAIN IN NARRATIVE)

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63800-00-0120

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray

Approved By: G M Dolney

MAINTENANCE ACTIVITY

400. Plant Docket #50- 458

NOTE: Must Be Completed Each Time Maintenance Is Done On Any Valve. Includes Any Relocation Of Any Valve.

401. S/R Valve Serial Number N63800-00-0047

402. Plant's Component ID Prior to Maint. (or "S" if from Storage) 1B21*RVFCS1D

403. Type Of Maintenance Code

A. [X] Scheduled/Routine Maintenance - No Failure Requiring Maintenance Has Occurred Since Last Maintenance Period
B. [ ] Non-Immediate Maintenance - Scheduled For Next Outage After A Non-Catastrophic Failure Occurred
C. [ ] Unscheduled/Immediate Maintenance - A Failure Occurred That Required Immediate Maintenance Be Performed
D. [X] Valve Relocation Report Only - Valve Installed With No Maintenance Performed.

404. Type Report

A. [X] Complete
B. [ ] Incomplete-Maintenance Details Later
C. [ ] Additions To Previously Incomplete Report
D. [ ] Revisions To Previously Completed Report

NOTE: For C. And D., Items 401 And 450 Must Match Those On Report To Be Amended.

NOTE: If Maintenance Is Associated With Any Failure, Complete Items 410 Onward. If No Failure Has Occurred, Continue From Item 450.

410. Date Of Failure (Mo/Da/Yr) ____ ____ ____

411. Automatic Pressure Switch Operable?

[ ] Yes Or [ ] No

412. Electric Power Supply Available?

[ ] Yes Or [ ] No

413. Voltage Of Electric Power Supply ____

414. Type Failure (Check As Many As Applicable)

A. [ ] Lifted Prematurely - Lifted Below Setpoint
B. [ ] Lifted Past Setpoint
C. [ ] Failed To Lift
D. [ ] Failed To Reclose
E. [ ] Failed To Fully Reseat
F. [ ] Leakage (Other Than Minor)
G. [ ] Inadvertent Opening Of S/R Valve
X. [ ] Other (Explain In Item 419)

415. Mode(s) Of Failure Detection (Check As Many As Applicable)

A. [ ] Tailpipe Thermocouple Reading High
B. [ ] Annunciator - Tailpipe Pressure Switch
C. [ ] Panel Indicator Lights
D. [ ] Drop In Electrical Output
E. [ ] Steam-Feed Flow Mismatch
F. [ ] Imbalance In Steam Flow Among Steam Lines
G. [ ] Rise In Suppression Pool Temperature
H. [ ] Rise In Suppression Pool Level
I. [ ] Slight Transient Drop In Vessel Level
J. [ ] Radiation Monitor(s)
K. [ ] Acoustic Monitor(s)
L. [ ] Direct-Mounted SRV Position Indicator
M. [ ] Indirect-Mounted SRV Position Indicator
X. [ ] Other (Explain In Item 419)

416. Effect Of Failure On Plant Code (Check One Only)

A. [ ] Power Reduction
B. [ ] Turbine Trip
C. [ ] Manual Scram
D. [ ] Automatic Scram
E. [ ] Extension Of Pre Existing Shutdown
F. [ ] Manual Shutdown
G. [ ] No Significant Effect

417. Temp. Of Environment Around S/R Valve (If Available) ____ °F

418. Were There Any Attachments (LVDT, Position Indicator, Etc...) Attached To S/R Valve Not Depicted On Original "As Furnished" Valve? If So, Specify What And When Attached. Reference Tests Performed To Verify Compatibility With Valve Performance: ____

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: G.M. Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50- 456
S/R VALVE SERIAL NUMBER N63B00-00-0047

951. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

952. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

953. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 952 IS "C")

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DIKKERS
- D293 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- O999 ☐ OKANO VALVE (NOT NPRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

965. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- N. ☐ REPLACE/REPAIR BELLOWS
- P. ☐ REPLACE/REPAIR GASKET(S)
- R. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

955., 956. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 955, AND 956, IF A FAILURE HAS OCCURRED. DO NOT ANSWER 956 IF NO FAILURE HAS OCCURRED.

	955. OBSERVED DAMAGE CORRELATED TO ANY FAILURE	956. CAUSE OF FAILUTE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A.	☐	☐ PILOT DISC STEAM CUT OR DAMAGED
B.	☐	☐ PISTON RINGS WORN, DAMAGED
C.	☐	☐ DAMAGE TO SEAT(S)
D.	☐	☐ FOREIGN MATERIAL (DIRT, DEBRIS) ON/UNDER SEAT
E.	☐	☐ DAMAGE TO 2ND STAGE PISTON
F.	☐	☐ SET POINT DRIFT - NOT DAMAGE RELATED
G.	☐	☐ DAMAGED SPRING(S)
H.	☐	☐ CASTING DEFECTS
J.	☐	☐ OTHER MANUFACTURING DEFECTS
K.	☐	☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L.	☐	☐ NORMAL WEAR
M.	☐	☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N.	☐	☐ DIAPHRAGM(S) DAMAGED
P.	☐	☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
R.	☐	☐ BELLOWS DAMAGED, WORN
S.	☐	☐ BROKEN AIR LINE
T.	☐	☐ SOLENOID FAILURE
V.	☐	☐ FAILURE OF AIR OPERATOR ASSEMBLY
X.	☐	☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE	

960. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

MAINTENANCE ACTIVITY (CONT'D.)

S/R VALVE SERIAL NUMBER N63B00-00-0047

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (Mo/Da/Yr): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (Mo/Da/Yr): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER

SRVS

Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY

400. PLANT DOCKET #50- 458

NOTE: MUST BE COMPLETED EACH TIME MAINTENANCE IS DONE ON ANY VALVE. INCLUDES ANY RELOCATION OF ANY VALVE.

401. S/R VALVE SERIAL NUMBER N63800-00-0121

402. PLANT'S COMPONENT ID PRIOR TO MAINT. (OR "S" IF FROM STORAGE) 1B21*RVF051G

403. TYPE OF MAINTENANCE CODE

A. [X] SCHEDULED/ROUTINE MAINTENANCE - NO FAILURE REQUIRING MAINTENANCE HAS OCCURRED SINCE LAST MAINTENANCE PERIOD
B. [ ] NON-IMMEDIATE MAINTENANCE - SCHEDULED FOR NEXT OUTAGE AFTER A NON-CATASTROPHIC FAILURE OCCURRED
C. [ ] UNSCHEDULED/IMMEDIATE MAINTENANCE - A FAILURE OCCURRED THAT REQUIRED IMMEDIATE MAINTENANCE BE PERFORMED
D. [X] VALVE RELOCATION REPORT ONLY - VALVE INSTALLED WITH NO MAINTENANCE PERFORMED.

404. TYPE REPORT

A. [X] COMPLETE
B. [ ] INCOMPLETE-MAINTENANCE DETAILS LATER
C. [ ] ADDITIONS TO PREVIOUSLY INCOMPLETE REPORT
D. [ ] REVISIONS TO PREVIOUSLY COMPLETED REPORT

NOTE: FOR C. AND D., ITEMS 401 AND 430 MUST MATCH THOSE ON REPORT TO BE AMENDED.

NOTE: IF MAINTENANCE IS ASSOCIATED WITH ANY FAILURE, COMPLETE ITEMS 410 ONWARD. IF NO FAILURE HAS OCCURRED, CONTINUE FROM ITEM 430.

410. DATE OF FAILURE (Mo/Da/Yr)

411. AUTOMATIC PRESSURE SWITCH OPERABLE?

[ ] YES OR [ ] NO

412. ELECTRIC POWER SUPPLY AVAILABLE?

[ ] YES OR [ ] NO

413. VOLTAGE OF ELECTRIC POWER SUPPLY

414. TYPE FAILURE (CHECK AS MANY AS APPLICABLE)

A. [ ] LIFTED PREMATURELY - LIFTED BELOW SETPOINT
B. [ ] LIFTED PAST SETPOINT
C. [ ] FAILED TO LIFT
D. [ ] FAILED TO RECLOSE
E. [ ] FAILED TO FULLY RESEAT
F. [ ] LEAKAGE (OTHER THAN MINOR)
G. [ ] INADVERTENT OPENING OF S/R VALVE
X. [ ] OTHER (EXPLAIN IN ITEM 419)

415. MODE(S) OF FAILURE DETECTION (CHECK AS MANY AS APPLICABLE)

A. [ ] TAILPIPE THERMOCOUPLE READING HIGH
B. [ ] ANNUNCIATOR - TAILPIPE PRESSURE SWITCH
C. [ ] PANEL INDICATOR LIGHTS
D. [ ] DROP IN ELECTRICAL OUTPUT
E. [ ] STEAM-FEED FLOW MISMATCH
F. [ ] IMBALANCE IN STEAM FLOW AMONG STEAM LINES
G. [ ] RISE IN SUPPRESSION POOL TEMPERATURE
H. [ ] RISE IN SUPPRESSION POOL LEVEL
I. [ ] SLIGHT TRANSIENT DROP IN VESSEL LEVEL
J. [ ] RADIATION MONITOR(S)
K. [ ] ACOUSTIC MONITOR(S)
L. [ ] DIRECT-MOUNTED SRV POSITION INDICATOR
M. [ ] INDIRECT-MOUNTED SRV POSITION INDICATOR
X. [ ] OTHER (EXPLAIN IN ITEM 419)

416. EFFECT OF FAILURE ON PLANT CODE (CHECK ONE ONLY)

A. [ ] POWER REDUCTION
B. [ ] TURBINE TRIP
C. [ ] MANUAL SCRAM
D. [ ] AUTOMATIC SCRAM
E. [ ] EXTENSION OF PRE-EXISTING SHUTDOWN
F. [ ] MANUAL SHUTDOWN
G. [ ] NO SIGNIFICANT EFFECT

417. TEMP. OF ENVIRONMENT AROUND S/R VALVE (IF AVAILABLE)

°F

418. WERE THERE ANY ATTACHMENTS (LVDT, POSITION INDICATOR, ETC.,) ATTACHED TO S/R VALVE NOT DEPICTED ON ORIGINAL "AS FURNISHED" VALVE? IF SO, SPECIFY WHAT AND WHEN ATTACHED. REFERENCE TESTS PERFORMED TO VERIFY COMPATIBILITY WITH VALVE PERFORMANCE:

S/R VALVE SERIAL NUMBER N63800-00-0121

419. DESCRIPTION OF FAILURE, INCLUDING DETECTION MODE: N/A

430. DATE REMOVED FROM SERVICE (MO/DA/YR) _____

"AS FOUND" TESTS PERFORMED PRIOR TO DISASSEMBLY:

	434. TEST TYPE CODE (SELECT ONE PER LINE)	435. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	436. NUMERICAL RESULTS OF TESTS - INCLUDE UNITS OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS	437. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

434. TYPE TEST CODE:

A. SET POINT TEST - STEAM
B. SET POINT TEST - N_2 (NITROGEN)
C. OPERATIONAL RELIEF TEST - STEAM
D. OPERATIONAL RELIEF TEST - N_2
E. LEAK TEST - STEAM
F. LEAK TEST - N_2
X. OTHER _____

435. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

A. SET POINT - LIFT PRESSURE
B. RESEAT - RECLOSE PRESSURE
C. VALVE OPENING DELAY TIME - MANUAL MODE
D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
G. PILOT STAGE SEAT TIGHTNESS
H. MAIN STAGE SEAT TIGHTNESS
J. FLANGED CONNECTION GASKET LEAKAGE
X. OTHER _____

SRVS Prepared By: John Murray
Approved By: GM Dolney

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET #50-458
S/R VALVE SERIAL NUMBER N63800-00-0181

851. MAINTENANCE/REFURBISHING* PERFORMED WHERE? (CHECK ONE)

- A. ☐ IN-SITU (VALVE REMAINS IN PLACE)
- B. ☐ ON-SITE (VALVE IS REMOVED FROM INSTALLATION BUT REMAINS ON PLANT SITE)
- C. ☒ OFF-SITE

852. MAINTENANCE/REFURBISHING* PERFORMED BY WHOM? (CHECK ONE)

- A. ☐ OPERATIONS
- B. ☐ MAINTENANCE
- C. ☒ CONTRACTOR, LAB, OR VENDOR

853. CONTRACTOR, LAB, OR VENDOR* (CHECK ONE ONLY IF ITEM 852 IS "C".)

- C711 ☒ CROSBY VALVE & GAGE CO.
- D167 ☐ DRESSERS
- D243 ☐ DRESSER VALVE
- G082 ☐ GENERAL ELECTRIC CORP.
- 0999 ☐ OKANO VALVE (NOT NFRDS CODE)
- T020 ☐ TARGET ROCK CORP.
- W336 ☐ WYLE LABS
- OTHER: _____

855., 856. OBSERVED DAMAGE/CAUSE OF FAILURE (CHECK AS MANY AS APPLICABLE IN EACH COLUMN) ANSWER BOTH 855. AND 856. IF A FAILURE HAS OCCURRED. DO NOT ANSWER 856 IF NO FAILURE HAS OCCURRED.

855. OBSERVED DAMAGE CORRELATED TO ANY FAILURE	856. CAUSE OF FAILUTE/ DAMAGE RESULTING FROM FAILURE (IF FAILURE HAS OCCURRED)
A. ☐	A. ☐ PILOT DISC STEAM CUT OR DAMAGED
B. ☐	B. ☐ PISTON RINGS WORN, DAMAGED
C. ☐	C. ☐ DAMAGE TO SEAT(S)
D. ☐	D. ☐ FOREIGN MATERIAL (DIRT, DRUG) ON/UNDER SEAT
E. ☐	E. ☐ DAMAGE TO 2ND STAGE PISTON
F. ☐	F. ☐ SET POINT DRIFT - NOT DAMAGE RELATED
G. ☐	G. ☐ DAMAGED SPRING(S)
H. ☐	H. ☐ CASTING DEFECTS
J. ☐	J. ☐ OTHER MANUFACTURING DEFECTS
K. ☐	K. ☐ IMPROPER ASSEMBLY OR INSTALLATION, MISSING PARTS
L. ☐	L. ☐ NORMAL WEAR
M. ☐	M. ☐ DAMAGED "O"-RING(S) (BEYOND NORMAL WEAR)
N. ☐	N. ☐ DIAPHRAGM(S) DAMAGED
P. ☐	P. ☐ GASKET(S) WORN BEYOND NORMAL, EXPECTED WEAR
R. ☐	R. ☐ BELLOWS DAMAGED, WORN
S. ☐	S. ☐ BROKEN AIR LINE
T. ☐	T. ☐ SOLENOID FAILURE
U. ☐	U. ☐ FAILURE OF AIR OPERATOR ASSEMBLY
X. ☐	X. ☐ OTHER (EXPLAIN IN NARRATIVE)
Z.	NO DAMAGE EXCEPT THAT DIRECTLY RELATING TO FAILURE

860. DETAILS OF OBSERVED DAMAGE/CAUSE OF FAILURE NARRATIVE:

865. MAINTENANCE/REFURBISHING PERFORMED (SELECT AS MANY AS APPLICABLE)

- A. ☐ ACTUATION STAGES REPLACED
- B. ☐ TOPWORKS REPLACED WITH ONE OF SAME SETPOINT
- C. ☐ RELAP SEAT, DISC
- D. ☐ MACHINE PILOT VALVE DISC
- E. ☒ CLEAN & REWORK PILOT ASSEMBLIES
- F. ☐ SETPOINT ADJUSTMENT
- G. ☐ VALVE THROAT BORE SIZE INCREASED
- H. ☐ SOLENOID ASSEMBLY REMOVED, REINSTALLED
- J. ☐ REORIFICE STEAM BLOWDOWN ORIFICE
- K. ☐ REPLACE PISTON RING(S)
- L. ☐ REPLACE "O"-RING(S)
- M. ☐ REPLACE DIAPHRAGM(S)
- P. ☐ REPLACE/REPAIR BELLOWS
- R. ☐ REPLACE/REPAIR GASKET(S)
- S. ☐ REPLACE/REPAIR SPRING(S)
- X. ☐ OTHER (EXPLAIN IN NARRATIVE)

SRVS

MAINTENANCE ACTIVITY (CONT'D.)

PLANT DOCKET # 50- 458 PAGE 4 OF 4

S/R VALVE SERIAL NUMBER N63800-00-0121

470. DETAILS OF MAINTENANCE/REFURBISHING NARRATIVE: SCHEDULED REMOVAL AND REPLACEMENT OF THESE SRV's DURING RF-4. ALL REFURBISHMENT AND TESTING PERFORMED PRIOR TO INSTALLATION. TESTING PERFORMED DOCUMENTED ON STP-000-3606 AND STP-202-0602 DATED 9-8-92.

480. DATE TESTED AFTER REASSEMBLY (MO/DA/YR): 9-8-92

481. TEST REPORT NUMBERS FOR POST REASSEMBLY BENCH TESTS:

POST REASSEMBLY BENCH TEST RESULTS (ONLY THOSE WHICH MEASURE PERTINENT PARAMETERS SUCH AS SET POINT, RESEAT PRESSURE, ETC.)

	484. TEST TYPE CODE (SELECT ONE PER LINE)	485. PARAMETER MEASURED CODE (SELECT ONE PER LINE)	486. NUMERICAL RESULTS OF TEST - INCLUDE UNITS (OR GIVE LEAKAGE RATE OR WRITE "NO LEAK" FOR LEAKAGE TESTS)	487. RESULTS OF TEST ACCEPTABLE? "YES" OR "NO"
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

490. DATE REINSTALLED IN SERVICE (MO/DA/YR): *BEFORE 9-4-92

491. COMPONENT ID WHERE VALVE REINSTALLED (OR "S" IF STORED OR "D" IF DISPOSED):

CODES

484. TYPE TEST CODE:

- A. SET POINT TEST - STEAM
- B. SET POINT TEST - N_2 (NITROGEN)
- C. OPERATIONAL RELIEF TEST - STEAM
- D. OPERATIONAL RELIEF TEST - N_2
- E. LEAK TEST - STEAM
- F. LEAK TEST - N_2
- X. OTHER

485. PARAMETER MEASURED CODE (SELECT ONE PARAMETER PER TEST. IF MORE THAN ONE PARAMETER IS MEASURED IN A TEST, REPEAT TEST TYPE CODE.)

- A. SET POINT - LIFT PRESSURE
- B. RESEAT - RECLOSE PRESSURE
- C. VALVE OPENING DELAY TIME - MANUAL MODE
- D. VALVE OPENING DELAY TIME - AUTOMATIC MODE
- E. MAIN DISC OPENING STROKE TIME - MANUAL MODE
- F. MAIN DISC OPENING STROKE TIME - AUTOMATIC MODE
- G. PILOT STAGE SEAT TIGHTNESS
- H. MAIN STAGE SEAT TIGHTNESS
- J. FLANGED CONNECTION GASKET LEAKAGE
- X. OTHER

ATTACHMENT 2

MAIN STEAM SAFETY/RELIEF VALVE LEAKAGE LOG

(1 SHEET)

SRVS — Leakage Log — 200. Plant Docket # 50-458

Note: Up to Five Different Leakage Readings OR AS Many as five Different Valves May be Reported on One Sheet

		1.	2.	3.	4.	5.
201.	S/R Valve Serial Number	NG3800-00-0098	NG3800-00-0121	NG3800-00-0040	NG3800-00-0100	
202.	Component ID (Location)	1B21*RVF047C	1B21*RVF051G	1B21*RVF041A	1B21*RVF047B	
203.	Date (Mo/Da/Yr)	10-16-92	10-16-92	10-16-92	10-16-92	
204.	Time (24 Hour Clock)	1503	1503	1503	1503	
205.	Leakage Determination Method (CODE)	* I/H	I/H	I/H	I/H	
206.	Tailpipe Temp. (°F) (Normal)	165-170°F	165°-170°F	165°-170°F	165-170°F	
207.	Tailpipe Temp (°F) When Leak Detected	215°F	215°F	215°F	214°F	
208.	Other Instrument Type and Units Read IN (CODE)	Y	Y	Y	Y	
209.	Other Instrument Reading	——	——	——	——	
210.	Reactor Pressure (PSIG)	1011 psig	1011 psig	1011 psig	1011 psig	
211.	Reactor Power (% of Full Rated Thermal Power)	100%	100%	100%	100%	
212.	Comments Attached? (Yes or No)	No	No	No	No	

Codes: 205. Leakage Determination Method
I. Tailpipe Temp >10° Above Normal
H. Other Method (Name Here)
Manufacturer Recommendation for Alert Range above 215°F

208. Other Instrument - Type and Units Read In
A. Acoustic Monitor, Milliamps
B. Acoustic Monitor, Percent Valve Open
C. Pressure Sensor, PSIG
Y. Other (Name Here)
Tail Pipe Temp (°F)

ATTACHMENT 3

MAIN STEAM SAFETY/RELIEF VALVE

ACTUATION EVENTS

(2 SHEETS)

SRVS Prepared By: G M Dolney Approved By: G M Dolney

ACTUATION EVENTS 300. PLANT DOCKET # 50- 458

NOTE: INCLUDES ALL IN-SITU TESTS.

FOR EACH ACTUATION OR FAILURE TO ACTUATE:	1.	2.	3.	4.	5.
301. S/R VALVE SERIAL NUMBER	NG3800 00-0078	NG3800 00-0083	NG3800 00-0084	NG3800 00-0085	NG3800 00-0082
302. COMPONENT ID (LOCATION)	1B21*RVF047F	1B21*RVF051B	1B21ARVF051C	1B21*RVF051D	1B21*RVF051G
303. DATE OF ACTUATION (MO/DA/YR)	03-05-92	03-05-92	03-05-92	03-05-92	03-05-92
304. TIME OF DAY (24 HOUR CLOCK)	0202	0202	0202	0202	0202
305. TYPE OF ACTUATION (CODE)	A	A	A	A	A
306. CAUSE/REASON FOR ACTUATION (CODE)	A	A	A	A	A
307. Rx OPERATING CONDITION PRIOR TO LIFT (CODE)	E	E	E	E	E
308. Rx POWER LEVEL PRIOR TO LIFT (% RATED THERMAL)	100%	100%	100%	100%	100%
309. Time Req'd for Tailpipe Temp to Return to Normal	—	—	—	—	—
310. OTHER INSTRUMENTATION TYPE (CODE)	X	X	X	X	X
311. OTHER INSTRUMENTATION NUMBER, READING AND UNITS.	ERIS Points	ERIS Points	ERIS Points	ERIS Points	ERIS Points
312. Rx PRESSURE PRIOR TO ACTUATION (PSIG)	1032 psig	1032 psig	1032 psig	1032 psig	1032 psig
IF AVAILABLE/IF APPLICABLE					
313. RESEAT PRESSURE AT VALVE CLOSURE (PSIG)					
314. DURATION OF THE ACTUATION (MINUTES:SECOND)					
315. FAILURES, REPEATS (CODE)					
316. LER NUMBER (5 DIGIT NUMBER)					
317. COMMENTS REGARDING THIS ACTUATION ATTACHED? (YES OR NO)					

SRVS ACTUATION 18 (CONT'D.)

NOTE: FOR EACH ACTUATION EVENT, SELECT THE NUMBER OF CODES INDICATED IN PARENTHESES.

CODES:

305. TYPE OF ACTUATION (SELECT ONE)

A. AUTOMATIC
B. REMOTE MANUAL
C. SPRING

306. CAUSE/REASON FOR ACTUATION (SELECT ONE)

A. OVERPRESSURE
B. ADS OR OTHER SAFETY
C. TEST
D. INADVERTENT (ACCIDENTAL, SPURIOUS)
E. MANUAL RELIEF

307. REACTOR OPERATING CONDITION PRIOR TO LIFT (SELECT ONE ONLY)

A. CONSTRUCTION
B. PREOPERATIONAL STARTUP OR POWER ASCENSION TESTS IN PROGRESS
C. ROUTINE STARTUP
D. ROUTINE SHUTDOWN
E. STEADY STATE OPERATION
F. LOAD CHANGES DURING ROUTINE OPERATION
G. SHUTDOWN (HOT OR COLD) EXCEPT REFUELING
H. REFUELING

310. OTHER INSTRUMENT-TYPE (SELECT ONE ONLY IF APPLICABLE)

A. ACOUSTIC MONITOR
B. PRESSURE SENSOR
X. OTHER _____

315. FAILURES-REPORTS (SELECT AS MANY AS APPLICABLE)

A. FAILURE OF ELECTRICAL OR OTHER COMPONENTS NOT CONSIDERED PART OF VALVE ASSEMBLY - NO SRVS FAILURE REPORT IS REQUIRED
B. FAILURE OF ANY PART OF VALVE ASSEMBLY - SRVS FAILURE REPORT WILL BE FILED
C. NO FAILURES OCCURRED - NO SRVS REPORT REQUIRED
D. LER SUBMITTED - GIVE LER NUMBER IN ITEM 316
E. NPRDS WILL BE SUBMITTED

3.0 REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY ANALYSIS

During the year of 1992, analysis of the primary coolant indicated that the specific activity requirements of Technical Specification 3.4.5, "Specific Activity" were not exceeded.