ORIGINAL ********** PBNP ********** WO No: 9945610
* UNIT 0 * Callup * UNIT 0 * Callup: M-A15
Resp Group: MM ********** HEADER PAGE ********** Need Date: 07/22/02
Equipment: AF-04012-O System: AF HP Zone:
Equip Nm: P-38A AFP DISCHARGE CONTROL OPERATOR Freq: FA2
Physical Location: 8/CB/AFP RM P-38A CUB Callup Type: PM
Serial Number: 6810-81133-39-1
Callup Description:
REPLACE OPERATOR DIAPHRAGM AS REQUIRED. TEST AND ADJUST PER RMP 9141 - SEE TEXT.

Outage ID: Activity: U11A2

Job Type: PREVENTIVE MAINTENANCE ACTIVITY
Work Function: REPLACEMENT

QA: Y SEIS: 1 Operability Pre-Test: N Procedures:
SR: Y LCO: Y
EQ: N PMT: Y Operability Post-Test: Y Procedures: IT-10
SSA: Y CIV: N MRULE: Y IT-10A
A/P: Y CACC: IT-10B
RRN: - - - - Tech Spec Ref: SEE ITS
QA Codes: 04 20 Sect XI Class:
Tools Needed:

10-01-02 13:36 RCVD

Plant Conditions: ANY CONDITION Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N Scaffolding: N Heat Trace: N RWP: N
IS SCREENING FOR 10 CFR 50.59 OR 72.48 REQUIRED ACCORDANCE WITH NP 10.3.1?
___ YES X NO. IF YES ATTACH APPLICABLE PORTIONS OF FORM PBF-1515.
Equipment Isolation Required: (Y) ☐ AF P-38A mm RCVC-1 FME: Y
ISO Tag Series #1: _____ ISO Tag #2: _____ ISO Tag #3: _____

Operability Pre-Test Complete. ____ Equipment Isolation as requested. ___
Permission granted to perform Work.
Ops DSS Notification Req: (Y) Ops DSS Signature: M Miller Date: 10/9/2

Special Notification:
VERIFY APPENDIX R FIRE ROUNDS PER OM 3.27

Previous Callup Comments: Conditional release pending tagging/schedule

Number of Steps: 001
Acct #: 00 - 00000 - 3000122 - -0029
MFG Code: CVULC Tech Manual Cntl #: 00003

---

* WORK ORDER CLOSEOUT *
Next Task Instructions: _____

Group Head Signature: _____ Date: __/__/__

A1256

ORIGINAL ********** PBNP ********** WO No: 9945610001
* UNIT 0 * Callup * UNIT 0 * Callup: M-A15
Resp Group: MM ********** STEP DETAIL ********** Step Print: 07/23/02
Equipment: AF-04012-O System: AF HP Zone:
Equipment Name: P-38A AFP DISCHARGE CONTROL OPERATOR
Physical Location: 8/CB/AFP RM P-38A CUB Callup Type: PM
Sequence No: 01
Short Desc: OPERATOR DIAPHRAGM REPLACEMENT Sched Start Date: 10/21/02

PLANNED:
Crew: MM I
Shift: 2 2
Class: 410 321

WORK PROCEDURES:
PBF-9158
RMP 9141

Work Plan Description:
REPLACE OPERATOR DIAPHRAGM AS REQUIRED. TEST AND ADJUST PER RMP 9141 - SEE TEXT.

WORK PERFORMED: Valve failed leak check on 10 minute dead test. Leaking at handwheel to bonnet junction. REPLACED DIAPHRAGM AND GASKET FOR BAD HANDWHEEL.

MTE: ICTI-503, ICTI-764, MCPI-007 2-14-03
QAR:

ACTUAL USED:		
CREW:	MM	MM
SHIFT:	NIGHTS	DAYS
WORKER CLASS:	410	410
NUMBER OF WORKERS:	1	2
TOTAL HOURS:	3.5	6
TTL EXPOSURE/STEP (MREM):	0	0

PARTS USED LIST ATTACHED: (Y) / N
WO TAGS REMOVED: Y / N / (NA)
WORK COMPLETE DATE: 10/23/02
EMPLOYEE NUMBER: 1W1E13718141 EMPLOYEE NAME:

* WORK COMPLETED *

Cause Failure Code: PM / SVC / NRM / ~~wpa~~
As Found-Out of Spec: Y / N / (NA) Machine History Review Required: (Y) / N
Failed Component: Regrind
Corrective Action: NA/(RP)/RE/
Downtime: 40 hrs
LINE SUPERVISOR: 1W1E1813101E1 NAME: DATE: 10/25/02

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: IT-10 "A" Train completed sat

Operability Procs Performed
NON OPS SUPV: 1_1_1_1_1_1_1 NAME: DATE: /_/_/
DSS: 1W1E1618171O1 NAME: Robert Higgins for PJM DATE: 10/25/02

ORIGINAL ********** PBNP ********** WO No: 9945610
WO Priority: 4 * UNIT 0 * MWO * UNIT 0 *
Resp Group: MM ********** TEXT DETAIL ********** Step Print: 07/23/02
Equipment: AF-04012-O System: AF HP Zone:
Equipment Name: P-38A AFP DISCHARGE CONTROL OPERATOR
Physical Location: 8/CB/AFP RM P-38A CUB Discovery Date:

TEXT ID: WO-9945610 PAGE: 001
WORK SCOPE: REPLACE OPERATOR DIAPHRAGM AS REQUIRED. TEST AND ADJUST PER RMP 9141. FME PER PBF-9158.

1. COMPLETE APPLICABLE SECTION OF RMP 9141 TO COMPLETE AS-FOUND TESTING AS REQUIRED.	DD INITIALS	10.23.02 DATE
2. DISCONNECT AIR CONNECTION AT THE OPERATOR BONNET TO AID REMOVAL OF BONNET FOR DIAPHRAGM REPLACEMENT.	INITIALS	10/23/02 DATE
3. REMOVE OPERATOR BONNET AND REPLACE DIAPHRAGM. REINSTALL BONNET AND TORQUE FASTENERS TO 19 FT/LBS NOMINAL (18 FT/LBS TO 20 FT/LBS). RECORD MTE USED: MTE: MCTW-0606 CAL DUE DATE: 8/16/03.	INITIALS	10/23/02 DATE

TEXT ID: WO-9945610 PAGE: 002

4. CONNECT AIR CONNECTIONS AT THE OPERATOR BONNET REMOVED IN PREVIOUS STEP.	INITIALS	10/23/02 DATE
5. COMPLETE AS-LEFT DIAGNOSTIC TESTING AND LEAK CHECKS PER RMP 9141.	IC	10/28/02 DATE

ALL REQUIRED PMT PER RMP 9141.

Nuclear Power Business Unit

Return to Service Testing Reviews

Work Order/Document No. 9945610

Work Group Post-Maintenance Testing *		INITIALS & DATE	
		Pre-Release	Post Work-RTS **
		JRH	~~RJS~~
		9/3/02	10/23/02 !
PER RMP 9141			
PMT Matrix Attached? ☐ Y Specify _____ ☒ N ☐ N/A (√ box)			
Section XI Equipment? ☐ Y ☒ N (√ box) Maint. Rule? ☒ Y ☐ N (√ box)			
Section XI Engineering Review *		*** / **	
~~IT-10/10A/10B~~		10.03.02	NIA
~~Reference value test~~ ?			
Engineering Review *		*** / **	
IT-10/10A/10B		MA 10-2-02	NIA
Operations – SRO Review for PMT Adequacy & Operability Testing			
IT-10		MA 10/3/2	NO 10/23/02
Comments / Resolutions			
Test requirements listed in the work plan (SRO Review)? ☐ Y ☒ N ☐ N/A		MA 10/3/2	/

* Specify required equipment/plant conditions with PMT activities.

** If original work scope is unchanged. Post RTS signoff may be N/A'd by WCC SRO or designee.

*** May be N/A'd by WCC SRO or designee for "S" type WOs or "C" type WOs where a PMT is not required by procedure scope.

Point Beach Nuclear Plant

FME CHECKLIST

I. WORK ORDER/PROCEDURE/EVOLUTION: 9945610

II. ADMINISTRATIVE CONTROL EXEMPTIONS: (If any are answered "YES." General requirements continue in effect and Section IV INSPECTIONS are still required)

	Yes / No
1. Piping/Conduit 2" Diameter or Less (nominal) or System Opening Less Than 4 Square Inches (approximate). See Note 1.	NO
2. System Opening Less Than or Equal to 4 Inches in Diameter (i.e. waterbox drain) Between 4 O'clock and 8 O'clock (pointing down).	NO
3. Maintenance Activity Involving Compression/Threaded Fittings.	NO
4. Maintenance/Operations Pump/Valve Repacking. See Note 1.	NO
5. Maintenance/Operation Oil Changes, Oil Sampling, or Repacking of Grease in Components Using Factory Installed Fill/Vent Ports.	NO

6. FME Zone: 1 (2) N/A – Gen. Reqmt's. (circle one)

Recommended By (Planner): JRH **Date:** 7/23/02

Concurred By (Cognizant Supervisor): [signature] **Date:** 10-23-02

III. ADMINISTRATIVE REQUIREMENTS: (Initial those that apply)

	ZONE 1	ZONE 2		
1. Boundaries (Required for all Zone 1 FMEAs)	Required	NOT Required		
2. Signs (Required for all FMEA Zone 1 & 2)	Required	Required		
3. Pipe Dams Required (Record On FME Material Control Log)		N/A		
4. FME Material Control Log (PBF-9157)	*Required	N/A		
5. Chemical Exclusion Zone (See Dry Fuel Requirements)		N/A		

* NOT required when Temporary Covers or internal barriers are in place.

	COMPLETED (Initial/Date)
6. Administrative requirements implemented (Supervisor/Leadperson).	DD / 10.23.02
IV. INSPECTION REQUIRED:	
1. Pre-System Opening Area Inspection/Cleanup Required.	DD / 10.23.02
2. Final Closeout Inspection.	DD / 10.23.02

Complete/Reviewed By (Supervisor/Leadperson): [signature] **Date:** 10.23.02

Note 1: Continuously attend system/component when open, or cover when NOT attended.

(Reference. NP 8.4.10)

Warehouse Issue Ticket No: PB02-28182

Required Date	: 10/23/2002	Issue Point	: 30-PBNP
SIR Number	: PB02-030509	Work Order	: PB99-045610-000
Requestor	: Lukes, James	Asset	:
Deliver To	: Lukes, James	Crew	:

Line	Stock Number	Description	Q Level	
1.	915-5626	GASKET, MANUAL HANDWHEEL ACTUATOR/GAG, DWG. NO.	CM1	Qty To Be Issued: 1.00 EA

Row/Bin	Lot Number	Expires	Cond	Allocated	On Hand	Issued	Returned
3FE3C5	03-30-2017	03/30/2017	NEW	1.00	5.00	1	0
3FE3C5	03-23-2019	03/23/2019	NEW		7.00		

Line	Stock Number	Description	Q Level	
2.	919-1810	SEAL, VALVE ACTUATOR, D1000-160 (RA), CV JOB NO.	CM1	Qty To Be Issued: 1.00 EA

Row/Bin	On Hand	Issued	Returned
NSS5H5	8.00	1	0

Issued By Roger Lodell Received By [signature] Date 10-23-02

Required Date	: 10/20/2002	Issue Point	: 30-PBNP
SIR Number	: PB02-020676	Work Order	: PB99-045610-000
Requestor	: Hamilton, James	Asset	:
Deliver To	: work order 9945610	Crew	:

Line	Stock Number	Description	Q Level	
1.	100-1141	DIAPHRAGM, ACTUATOR, SIZE D-100-60, ACTUATOR SIZE 60	SR1	Qty To Be Issued: 1.00 EA

Row/Bin	Lot Number	Expires	Cond	Allocated	On Hand	Issued	Returned
NSJ4N1	P001470-01	04/11/2009	NEW		2.00		
NSJ4N1	P001470-02	04/11/2009	NEW	1.00	1.00	1	
NSJ4N1	P004177-01	06/26/2012	NEW		2.00		0

Row 6
Shelf 3 Bin with 9949098 & 0205651

Issued By W. Wisnowski ✓ Received By R Mantek Date 10/18/02

Point Beach Nuclear Plant

PRE-JOB BRIEF CHECKLIST

JOB/EVOLUTION:	AREAS/WO#	DATE: 5-23-02

ATTENDEES ☐ BRIEFING REQUIRED DAILY IF CHECKED

Conducted By: C Ridings	J. Johnson	
Duerr	A. Schlies	
Wiegand		
Pepicelli	Hubbard	
Duchateau		*Use back of sheet if necessary*

REVIEW / DISCUSS & CHECK OFF all Applicable Items

✓ (√) Scope of Job

- Purpose, leader, resources, tools, parts
- Procedures, work orders, drawings, permits
- Maintenance Rule Status of the affected system

✓ (√) Hazards

- Personnel safety/PPE
- Plant operation, power generation, nuclear safety, trip avoidance
- Equipment
- Asbestos
- Lead paint

✓ (√) Energy Sources

- Tag boundaries
- Energized equipment, de-energized equipment, pressurized, de-pressurized
- Protected Worker Log

✓ (√) Radiological Conditions

- ALARA
- RWP
- Radwaste Considerations

✓ (√) Communications

- Communication requirements
- Necessary notifications
- Individual job requirements are understood

✓ (√) Other

- Logistics support requirements
- Foreign Material Exclusion
- Housekeeping
- Security notification
- PBNP/Industry event Lessons learned

✓ (√) Special Precautions

- Industry and in-house operating experience, as applicable
- Critical steps
- Error-likely-situations, as applicable
- Defenses-barriers
- Independent verifications and concurrent checks
- Termination criteria-recovery, as applicable

✓ (√) Key Error Traps

- First time evolution
- Distractive or poor environment
- Inadequate mental/physical state
- Time pressure
- Imprecise communication
- Other error likely tasks

✓ (√) Key Barriers

- Job briefings
- Procedure use
- Administrative program use
- Turnover meetings
- Supervisory presence
- Review verification
- Co-worker coaching
- Self improvement

Preventive Maintenance Optimization Feedback

- Work Order Number: 994560 10 Work Group: _____
- Equipment ID: _____
- Task Description: _____

Indicate rating below of as-found equipment condition relative to the Preventive Maintenance being conducted. Circle one of the group numbers as appropriate.

1 Condition at/near failure; degradation/condition noted significantly worse than expected; consider increase in PM frequency.

2 Condition degraded; degradation /condition noted worse than anticipated; consider increase in PM frequency.

(3) Condition marginal; degradation/condition noted to be expected; PM frequency about right.

4 Condition adequate; degradation/condition noted better than anticipated; consider reduction in PM frequency.

5 Condition optimal; degradation/condition noted not worthy of current PM performance; reduce PM frequency.

Comments/Notes (Include comments on as-found condition that would aid in decisions on PM frequency and/or scope adjustment):

ok

RMP 9141

AIR-OPERATED VALVE TESTING AND ADJUSTMENT

DOCUMENT TYPE:	Technical
CLASSIFICATION:	Safety Related
REVISION:	2
EFFECTIVE DATE:	September 12, 2001
REVIEWER:	Qualified Reviewer
APPROVAL AUTHORITY:	Department Manager
PROCEDURE OWNER (title):	Group Head
OWNER GROUP:	Maintenance

Verified Current Copy: O Ducat (Signature) 10-22-02 (Date) 1440 (Time)

List pages used for Partial Performance	Controlling Work Document Numbers	
	99456.10	

TABLE OF CONTENTS

INITIALS

1.0 PURPOSE

1.1 This procedure provides instructions to perform testing and adjustment on air-operated valves.

NOTE: **Due to ITS implementation, in order to allow use of this procedure prior to and after implementation , both the CTS and ITS information is shown, with the ITS information in braces. Example: CTS info {ITS info}.**

1.2 Reactor operating condition is appropriate for valve and operator being worked.

1.3 This procedure is applicable to all air operated valves.

2.0 PREREQUISITES

2.1 Planning

2.1.1 Record equipment number and air operated valve assembly drawing number. Include copy of valve drawing with work package if appropriate for work to be performed.

Equipment number AF-04012-C

Drawing number CVUCC S-13903D JZH 7/23/01 PLNR

2.1.2 Review CHAMPS, drawings, or other appropriate source and record AOV specification data on Attachment A. JZH 7/23/01 PLNR

2.1.3 Review CHAMPS, drawings, or other appropriate source and determine if AOV is a containment isolation valve. Indicate result below:

AOV is containment isolation valve: YES (NO) JZH 7/23/01 PLNR

INITIALS

2.1.4 Planner have Engineer determine if as found testing is required and if diagnostic testing equipment or AOV test rig is to be used for as found testing. Indicate requirements and comments or justification for NOT testing below.

As found testing required: YES / (NO)

Type of testing: Diagnostic testing equipment / AOV test rig / (NA)

JEH 7/23/02
PLNR

2.1.5 Planner have Engineer determine if diagnostic testing equipment or AOV test rig is to be used for AOV adjustment/final check after maintenance. Indicate requirements and comments below.

Type of equipment: ~~Diagnostic testing equipment~~ / AOV test rig

GRAVE WAS DIAGNOSTIC TEST EQUIP

10/23/02

JEH 7/23/02
PLNR

2.1.6 Planner have Engineer provide PBF-9221, Valve Packing Data Sheet or provide information for filling out form for applicable valve and include in work package.

N/A JEH 7/23/02
PLNR

2.1.7 If any testing or adjustment steps are NOT required or anticipated, then Planner NA applicable steps.

JEH 7/23/02
PLNR

2.2 Measurement and Test Equipment

2.2.1 AOV test rig or diagnostic testing equipment.

2.2.2 Torque wrench with crows-foot for packing gland nut torque.

2.3 External Organization Support

2.3.1 Operations to install and remove danger tags, if required, and support post maintenance and operability testing.

2.3.2 RP if valve is in system containing radioactive contaminants or in RWP required area, as determined necessary.

2.3.3 I&C for diagnostic testing and positioner adjustment, as needed.

INITIALS

2.4 Permits

PBF-4031, Radiation Work Permit, as needed.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Consumable materials used on corrosion resistant alloys or on parts of systems containing corrosion resistant alloys shall meet requirements for Chemical Contamination Control for Corrosion Resistant Alloys, NP 3.1.1.

3.2 Care must be exercised to prevent damaging plug and seat during disassembly, transport, assembly, and adjustment.

3.3 Foreign material exclusion (FME) shall be controlled per NP 8.4.10, Exclusion of Foreign Material from Plant Components and Systems and PBF-9158, FME Checklist.

4.0 INITIAL CONDITIONS

NOTE: **Initial Conditions may be performed and signed off in any order.**

NOTE: **Initial conditions that are NOT applicable may be marked NA.**

4.1 System and component conditions established per applicable Tech Spec. OPS

4.2 If LCO {ITS: Condition or Required Action} is required, then LCO {ITS: Condition or Required Action} entered. OPS

4.3 OM 3.27, Protection of Safe Shutdown/Appendix R Equipment Section 8.0, Appendix R Cold Shutdown Repair Components reviewed for applicability and required contingencies and fire rounds established. OPS

4.4 If either unit is in cold shutdown or refueling shutdown, {ITS: Mode 3 less than 1000 PSI, 4, 5, 6, or Defueled} then NP 10.3.6, Outage Safety Review and Safety Assessment, has been reviewed and contingencies or increased shutdown fire protection surveillance established. N/A OPS

NOTE: **Instrument air supply valve is NOT normally danger tagged since air supply is normally used to allow stroking valve for testing, disassembly, and assembly. Control of valve is provided in steps within procedure.**

4.5 If system conditions require isolating valve, then applicable AOV is isolated and danger tagged. OPS

INITIALS

5.0 PROCEDURE

CAUTION

If containment integrity is required and valve testing or work will cause open path from atmosphere inside containment to atmosphere outside containment, then testing or work as applicable shall NOT proceed until containment integrity is NOT required.

NOTE: **Stroking valve open or disassembling valve may open system going to or from containment and may provide open path from atmosphere inside containment to atmosphere outside containment.**

5.1 Containment Integrity and Closure Control

5.1.1 IF containment integrity is required,
THEN coordinate with Operations
AND ensure that valve testing/stroking will NOT cause open path from atmosphere inside containment to atmosphere outside containment. DD

5.1.2 IF controls for containment closure are required and valve testing/stroking could cause open path from atmosphere inside containment to atmosphere outside containment,
THEN do the following:

- While coordinating with Operations, determine contingency action(s) to be taken in case containment closure is required. NA/DD
- IF open path is through valve, piping system, and other opening(s) in system,
  THEN plan to assemble valve components, shut valve, isolate valve from other opening(s), or close other opening(s). NA/DD

5.1.3 Notify Operations of the following:

- Valve work causing containment closure concern will begin and extent of such work. NA/DD
- Plan for closure, if needed. NA/DD
- Update CL 1E, Containment Closure Checklist. NA/DD

INITIALS

5.2 Instrument Air Supply Valve Configuration Control

IF AOV has instrument air supply valve,
THEN determine
AND record equipment ID and as found position of valve.

Instrument air supply valve equipment ID IA 354 (AF 130)* DD

Instrument air supply valve as found position (OPEN) / SHUT / NA (Both Valves) DD

NOTE: Maintenance supervisor/planner may NA Steps NOT required by work specified in work order.

NOTE: Sections and steps may be performed in parallel or any order as reasonable.

5.3 As-Found Testing

CAUTION

Instrument air supply line shall NOT be left open ended when left unattended to prevent potential for instrument air system degradation.

NOTE: Instrument air or other temporary air supply and equipment may be used to support operating valve as needed and air supply valve shall be manipulated as needed to support testing or valve disassembly.

NOTE: Air supply shall be isolated prior to disconnecting air lines and disconnected air lines shall be capped or covered for FME.

5.3.1 IF as found diagnostic testing is required per Step 2.1.4, THEN I&C perform the following.

a. Ensure instrument air supply valve is shut, if available AND install diagnostic testing equipment. NA/DD I&C

b. Perform diagnostic testing AND record as found data on Attachment A. NA/DD I&C

INITIALS

NOTE: **Copy of test record/chart may be put in work package any time prior to work package closeout.**

c. Place copy of test record/chart with work package. NA/DD I&C

d. Record comments below as needed.

Comments_____

_____ NA/DD I&C

5.3.2 IF as-found AOV test rig testing is required per Step 2.1.4, THEN perform the following:

a. Ensure instrument air supply valve is shut AND install AOV test rig. NA/DD

b. Perform AOV test rig testing AND record as-found data on Attachment A. NA/DD

c. Record comments below as needed.

Comments_____

_____ NA/DD

5.3.3 Record AOV test rig or diagnostic testing equipment M&TE ID and calibration due date below as applicable.

M&TE ID	
Cal Due Date	

NA/DD I&C/MTN

5.4 General Valve and Operator Inspection and Cleaning

5.4.1 Inspect valve and operator externals including general valve and operator, bolting, air tubing, and stem locking devices for damage or other degradation AND record inspection results.

External inspection result: (SAT) UNSAT

_____

_____

_____

_____

_____

_____ DD

INITIALS

5.4.2 Ensure valve external is clean. DD

NOTE: This procedure does NOT allow repair although operator and packing adjustments may be performed per Section 5.5.

5.4.3 IF work other than operator or packing adjustment or minor maintenance (tightening fittings to secure leakage and other such non-intrusive work) is required,
THEN ensure WO initiated for repairs
AND record WO number(s) below.

WO number(s) Bo Diaphragm change w/ WO 9945610 DD

5.5 Valve, Operator, and Packing Adjustment

NOTE: Instrument air or other separate/temporary air supply and equipment may be used to support testing and adjustments as needed.

NOTE: Instrument or temporary air supply valve shall be manipulated as needed to support testing or adjustments.

NOTE: Air supply shall be isolated prior to disconnecting air lines and disconnected air lines shall be capped or covered for FME.

5.5.1 IF diagnostic testing equipment or AOV test rig needs to be installed,
THEN ensure instrument air supply valve, if applicable, is shut
AND install diagnostic testing equipment or AOV test rig per Step 2.1.5.

I&C/MTN

5.5.2 Ensure plug contacts closed seat AND indicate (circle one) method used to ensure plug contacts closed seat below.

Diagnostic testing trace.

Adjusting stem while noting change in stem travel.

Presence of gap between yoke and operator.

Other (explain) _____

_____

I&C/MTN

INITIALS

5.5.3 Measure stroke AND ensure stroke is plus or minus 1/16 inch of specification data. Record stroke and discrepancies or comments noted below.

Actual valve stroke _____ inch(es)
Specification valve stroke _____ inch(es)

_____

_____

MH
I&C/MTN

5.5.4 IF stem has stem lockbar,
THEN secure stem lockbar as follows:

a. Adjust stem lockbar to leave about 1/8 inch gap between lockbar and yoke.

MH
I&C/MTN

b. Align stem lockbar screw holes AND install indicator arm and stem lockbar screws.

MH
I&C/MTN

c. Tighten stem lockbar screws.

MH
I&C/MTN

5.5.5 IF stem does NOT have stem lockbar,
THEN couple
AND tighten coupling device.

MH
I&C/MTN

5.5.6 IF valve is equipped with a positioner,
THEN I&C perform positioner adjustments as required
AND ensure positioner mounted securely with feedback arm and all nuts and screws tight.

MH
I&C

NOTE: **For valve travel less than or equal to 0.5 inch, limit switches should operate within 1/8 inch (1/16 inch preferred) of hard stop.**

NOTE: **For valve travel greater than 0.5 inch, limit switches should operate within 5/16 inch (3/16 preferred) of hard stop.**

5.5.7 IF valve is equipped with limit switch(es),
THEN while stroking valve open and shut, adjust limit switches
AND record as-left adjustments.

Limit switch actuation at _____ inch from shut hard stop

Limit switch actuation at _____ inch from open hard stop

MH
I&C/MTN

INITIALS

5.5.8 IF valve is equipped with remote indication,
THEN coordinate with Operations, stroke valve open and shut,
AND ensure open and shut remote indication is received.

I&C/MTN

5.5.9 Adjust operator as follows:

a. Using torque wrench, if required, adjust packing.

b. Consolidate packing by stroking valve and torquing or tightening packing per PBF-9221, Valve Packing Data Sheet and MI 32.2, Valve Packing as necessary.

c. While noting specification parameters, stroke valve.

NOTE: **If using diagnostic testing equipment, then Steps 5.5.9.d through f may be marked NA.**

NOTE: **As left to move pressure should be adjusted to equal specification data to move pressure plus the as-left packing friction.**

d. Using as-found data from Attachment A, perform (B-E)/2 and (C-D)/2 calculations for determining packing friction.

(_____ - _____) / 2 = _____
To Move Return to Seat = Packing Friction

(_____ - _____) / 2 = _____
To Stroke To Reverse Direction = Packing Friction

NOTE: **Difference between as-found (B-E)/2 and (C-D)/2 calculations greater than 3 psig may indicate bent or damaged stem or internals binding.**

e. Determine difference between as-found (B-E)/2 and (C-D)/2 calculations.
IF difference is greater than 3 psig,
THEN notify Maintenance supervisor/engineer.

INITIALS

f. Using specification to move pressure from Attachment A and greater of as found (B-E)/2 and (C-D)/2 calculations for packing friction in Step 5.5.9.d, calculate required as left to move pressure for setting spring compression.

_____	+	_____	=	_____
Spec To Move	+	Packing Friction	=	As Left To Move

g. IF spring compression is adjustable,
THEN using as-left to move (spring setting) calculation of Step 5.5.9.f or diagnostic testing results, adjust spring compression.

PMT

h. Repeat Steps 5.5.9.a through g, as needed, ensure specification data of Attachment A are met, AND record final as-left data on Attachment A.

I&C/MTN

i. IF packing gland nuts were torqued,
THEN record as-left packing torque, M&TE ID, and calibration due date below.

As left packing torque _____ ftlbs

M&TE ID	
Cal Due Date	

I&C/MTN

j. Record diagnostic test equipment or AOV test rig M&TE ID and calibration due date below.

M&TE ID	
Cal Due Date	

I&C/MTN

PMT

k. Before removing diagnostic test equipment or AOV test rig, AOV Engineer or designee review as-left data AND indicate results and comments below.

As-left AOV data review/AOV setup SAT / UNSAT

_____

_____

AOV ENG

l. IF diagnostic testing equipment was used for as-left testing, THEN any time prior to work package closeout, place copy of diagnostic testing report/chart with work package.

I&C/MTN

INITIALS

m. IF valve is equipped with stroke indicator,
THEN stroke valve
AND adjust indicator to indicate correct valve position. — I&C/MTN

PMT

5.5.10 I&C or maintenance perform leak check as follows:

a. Apply air pressure to maximum regulator setting listed on Attachment A. — I&C/MTN

NOTE: Combined manual-AOV control valve handwheel assembly has flange gasket and seal between screw mechanism and air chamber.

b. Leak check air connections, air chamber joints, and other potential leakage paths AND ensure NO leakage. — I&C/MTN

c. IF actuator was rebuilt or elastomer replaced,
THEN hold pressure for ten minutes, observe pressure gauge,
AND ensure NO pressure drop. — I&C/MTN

5.5.11 Reduce air supply pressure to zero, disconnect air supply, AND remove diagnostic testing equipment or AOV test rig as applicable.

FME

5.5.12 Inspect disconnected instrument air supply tubing/connections for cleanliness and FME.

5.5.13 Connect disconnected instrument air supply tubing/connections AND tighten tubing connections.

5.5.14 Set air regulator to the greater of specification data pressure specified on Attachment A or value of 5 psi greater than to stroke pressure AND record as left regulator pressure on Attachment A.

PMT

5.5.15 Leak check tubing air connections AND ensure NO leakage.

INITIALS

5.6 Instrument Air Supply Valve Configuration Control

IF AOV has instrument air supply valve,
THEN determine as-found position of instrument air supply valve recorded under Step 5.2
ensure valve positioned to as-found position,
AND record instrument air supply valve equipment ID and as-left position.

Instrument air supply valve equipment ID IA-354 AND IA-130

Instrument air supply valve as left position (OPEN) / SHUT / NA — JKB

5.7 IF valve was placed on CL 1E, Containment Closure Checklist,
THEN notify Operations that valve is restored, in-process testing is complete, and CL 1E, Containment Closure Checklist may be updated. — N/A JKB

5.8 IF danger tags were installed to support work,
THEN Operations remove danger tags
AND align system per DSS. — RH (OPS)

5.9 Ensure all tools and materials removed from job site. — JKB

5.10 Closeout

5.10.1 Record identification numbers for measuring and test equipment (M&TE) used on work order. — JKB

5.10.2 Maintenance supervisor sign for work completion.

Maintenance supervisor (Print and Sign)	Date	Time	Initials
[signature]	10/23/02	2230	[initials]

INITIALS

NOTE: **PMT should be performed in parallel with IT or other operability tests, if applicable.**

PMT

5.10.3 Operations or maintenance ensure NO leakage at the following:

- Valve body-to-bonnet joint. RH OPS/MTN
- Packing. RH OPS/MTN

5.10.4 IF practical,
THEN Operations stroke valve at operating temperature and pressure AND ensure local and remote position indication as applicable corresponds to valve position. RH OPS

NOTE: **Inservice, operability, or other testing as applicable shall be as specified on PBF-2114.**

PMT

5.10.5 Operations perform inservice, operability, or other testing, as applicable, AND record results and comments.

NOTE: **The following Substeps 5.10.5.a through c. may be performed in any reasonable order.**

a. IF timed stroke test is required,
THEN establish system conditions
AND time valve stroke per applicable requirements.

IT-10 RH OPS

b. IF seat leakage test is required,
THEN establish system conditions
AND check seat leakage per applicable requirements.

N/A NK OPS

INITIALS

c. IF IST requirements are applicable,
THEN ensure test results are within limits of applicable IT.

IT-10

RH
OPS

5.10.6 Operations evaluate valve operation AND record comments and overall evaluation results below.

AF-4012 operation sat

RH
OPS

5.10.7 IF valve operation is unsatisfactory or questionable,
THEN Engineer perform evaluation
AND provide resolution or recommended action.

N/A RH
ENG

5.10.8 DSS/DOS ensure following:

a. Testing complete and AOV ready for return to service.

RH
OPS

b. Affected systems/components returned to normal alignment and AOV returned to service per DSS.

RH
OPS

c. IF LCO {ITS: Condition or Required Action} was entered,
THEN exit LCO {ITS: Condition or Required Action}.

RH
OPS

d. IF fire rounds were required,
THEN secure fire rounds.

RH
OPS

Robert Higgins Robert Higgins 10/25/02 0217
DSS/DOS (Print and Sign) Date Time

6.0 REFERENCES

6.1 Fisher Flow Scanner Control Valve Diagnostic System.

6.2 NP 4.2.20, Radiation Work Permit.

6.3 NP 3.1.1, Chemical Contamination Control for Corrosion Resistant Alloys.

6.4 NP 8.4.10, Exclusion of Foreign Material from Plant Components and Systems.

6.5 PBF-9158, FME Checklist.

6.6 OM 3.27, Protection of Safe Shutdown/Appendix R Equipment.

6.7 NP 10.3.6, Outage Safety Review and Safety Assessment.

6.8 CL-1E, Containment Closure Checklist.

6.9 PBF-9221, Valve Packing Data Sheet.

6.10 MI 32.2, Valve Packing.

6.11 PBF-2114, Return to Service Testing Reviews.

7.0 BASES

None.

REMARKS

Air leak thru bolt - repeat steps as necessary to regain.
Changed O Ring A-O Gasket. BHS 10/23/02

Performed by:

LKRAIDEMAN / [signature]	10/23/02	2218	[initials]
Performer (Print and Sign)	Date	Time	Initials
Performer (Print and Sign)	Date	Time	Initials

NOTE: **If diagnostic testing was performed under Steps 5.3.1 or 5.5.9, then Engineer shall ensure diagnostic test report(s)/chart(s) included with work package and Steps 5.3.1.c and 5.5.9.l are signed off as applicable.**

Reviewed by AOV Engineer (for data review and collection):

N/A			
AOV Engineer/Reviewer (Print and Sign)	Date	Time	Initials

Reviewed by:

Brittingham [signature]	10/23/02	2230	[initials]
Reviewer (Print and Sign)	Date	Time	Initials

ATTACHMENT A
AOV DATA SHEET

Valve ID AF-4012-C
WO# 9950610
Valve Model# D100-60
Drawing# CVUIC S-139020

Unit PBO
Serial# 6810-8/1133-39-1

Operator Action: DA

Specification Data

Diaphragm Effective Area	60	in^2
Stroke Length	3/4"	inches
To Move Pressure	3	psig
To Stroke Pressure	14	psig
To Operate Pressure	23	psig
Preferred Regulator Setting	25	psig

As Found Data

A.	Stroke Length		inches
B.	To Move Pressure		psig
C.	To Stroke Pressure		psig
D.	Pressure to Reverse Direction		psig
E.	Return to Seat Pressure		psig
F.	Air Regulator Setting		psig
G.	Nitrogen Regulator Setting		psig
H.	Friction (B-E) / 2		psig

Friction (C-D) / 2 _____ psig

As Left Data

A.	Stroke Length		inches
B.	To Move Pressure **		psig
C.	To Stroke Pressure		psig
D.	Pressure to Reverse Direction		psig
E.	Return to Seat Pressure		psig
F.	Regulator Setting	19.5	psig
G.	Nitrogen Regulator Setting		psig
H.	Friction (B-E) / 2		psig

Friction (C-D) / 2 _____ psig

**NOTE: The as-left data To Move Pressure should be adjusted to equal the specification data To Move Pressure plus the as-left Packing Friction.

NO Test Required NO Changes made OL — 10-23-02 / _____ — _____

Performer (Print and Sign) | Date | Time | Initials