

ORIGINAL
WO Priority: 5
Resp Group: MM

* UNIT 0 *

HEADER PAGE

PBNP
MWO

* UNIT 0 *

WO No: 0205651
Step Print: 06/20/02

Equipment: P-038A
Equipment Name: AUX FEEDWATER MOTOR-DRIVEN PUMP
Physical Location: 8/CB/AFP RM P-38A CUB
Serial Number: 681-S-1030

System: AF HP Zone:
Discovery Date: 04/03/02

Problem Description:
WITH PUMP NOT IN OPERATION: THE INBOARD SEAL LEAKS EXCESSIVELY - ABOUT
1/2 PENCIL STREAM AND OUTBOARD SEAL ALSO LEAKS 1/2 PENCIL STREAM.
(USNRC P KROHN RESIDENT CONCERN)

Originator: VANDYKE D D 6703 Outage ID: Activity: T11A2
Tag/Stkr Placed: T TAG #: 185037 Tag Lctn: P-38A
Job Type: CORRECTIVE MAINTENANCE ON PL Project ID: Condition Report: E
Work Function: WORK ORDER
Mod. Req #: -

=====
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: 3

Tools Needed:

06-27-02 09:00 P0V0

=====
Work Plan/Instructions reviewed. Planner: DESROCHES M D 6919
LINE SUPERVISOR: W. E. 10101216 NAME: [Signature] DATE: 06/26/02

=====
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) at 10:30 AM 6/26/02 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: [Signature] Date: 10/9/02

Special Notification:
VERIFY APPENDIX R FIRE ROUNDS PER OM 3.27

~~Conditional release pending~~
~~tagging/schedule~~

Number of Steps: 001

Acct #: 00 - 0000 - 3000122 - -0030
MFG Code: BYRONJ Tech Manual Cntl #: 00265

=====
* WORK ORDER CLOSEOUT *

[Signature]

=====
Group Head Signature: _____ Date: ___/___/___
=====

ORIGINAL ***** PBNP ***** WO No: 0205651001
 WO Priority: 5 * UNIT 0 * MWO * UNIT 0 *
 Resp Group: MM ***** STEP DETAIL ***** Step Print: 06/20/02
 Equipment: P-038A System: AF HP Zone:
 Equipment Name: AUX FEEDWATER MOTOR-DRIVEN PUMP
 Physical Location: 8/CB/AFP RM P-38A CUB
 Sequence No: 01
 Short Desc: P-38A INBRD & OUTBRD SEAL LEAKS Need Date
 Sched Start Date: 07/29/02

PLANNED:
 Crew: MM
 Shift: D
 Class: 410

WORK PROCEDURES:

Work Plan Description:
 REPACK PUMP AS PER ATTACHED WORKPLAN

QC REVIEW REQUIRED: Y CURRY A S 6481 DATE: 061902

As Found Condition: *Leaking configuration on both inboard + outboard pump ends found with 3 outer rings, cases ring, and three inner rings. The splits on old outer rings all found at the top while the inner rings were staggered. APR 029923*

WORK PERFORMED: *Removed inboard and outboard packing and cleaned stuffing boxes and glands and gland studs. Installed new packing with 7 inner rings, case ring and three outer rings. All rings staggered 180°.*

MTE: _____ QAR: _____

ACTUAL USED: CREW: _____
 SHIFT: _____
 WORKER CLASS: 410
 NUMBER OF WORKERS: 4
 TOTAL HOURS: 33
 TTL EXPOSURE/STEP (MREM): _____

PARTS USED LIST ATTACHED: / N
 WO TAGS REMOVED: / N / NA WORK COMPLETE DATE: 10/23/02
 EMPLOYEE NUMBER: W1E123011 EMPLOYEE NAME: D Ducat

* WORK COMPLETED *

Cause Failure Code: PM / SVC / NRM / SVC
 As Found-Out of Spec: / N / NA Machine History Review Required: / N
 Failed Component: Pack.
 Corrective Action: NA/RP/RET RP Downtime: _____ hrs
 LINE SUPERVISOR: W1E11914 NAME: _____ DATE: 10/25/02

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: IT-10
 EQUIP. TAKEN OOS - DATE: 1/1 TIME: _____ RETURN DATE: 1/1 TIME: _____
 Operability Procs Performed
 NON OPS SUPV: W1E123011 NAME: _____ DATE: 1/1
 DSS: W1E123011 NAME: [Signature] / PTM DATE: 10/25/02

WO WORK PLAN

Work Control Document: 0205651
 Equipment ID: P-038A
 Equipment Description: AUX FEEDWATER MOTOR-DRIVEN PUMP
 Work Plan Originator: Mike Desroches x6919

UNIT: PB_0_

Date: October 18, 2002

WORK SCOPE

WORK SCOPE and PURPOSE	Repack I.B. and O.B. stuffing boxes for P-038A
INITIAL CONDITIONS	P-038A O.O.S.
DANGER TAG SCOPE	Seal Water and Motor to P-038A is Danger Tagged
DANGER TAG REFERENCES	
LIMITATIONS AND PRECAUTIONS	Packing contains lead. Wear gloves when handling. Wash hands immediately after handling to avoid ingestion.
TOOLS AND MATERIALS	1 & 1/16" Open end wrenches. Packing Tool to consolidate packing rings, might have to be fabricated to slightly more than the I.D. of the packing and slightly less than the O.D. SIR# 17186 (packing)

QUALITY CONTROL

QC REVIEW OF WORK PLAN (independent QC review required on QA classified work order only) NA if non-QA work order Any change in scope requires WO WP review by QC inspector.	 INSP.	12/18/02 Date
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SUPPORT

SUPPORT	<input type="checkbox"/> Chemistry
	<input type="checkbox"/> Engineering
	<input type="checkbox"/> HP
	<input type="checkbox"/> I&C
	<input type="checkbox"/> Maintenance
	<input type="checkbox"/> NDE
	<input type="checkbox"/> Operations
	<input type="checkbox"/> QC
	<input type="checkbox"/> Security
	<input type="checkbox"/> Crane <input type="checkbox"/> TB <input type="checkbox"/> PAB <input type="checkbox"/> Polar <input type="checkbox"/> Other
	<input type="checkbox"/> Other

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PRE-JOB BRIEF	
Supervisor / Job Leader to conduct pre-job brief using PBF-9217 (Mtn and I&C) or OM 3.29 (OPs).	
NOTE: Pre-job brief may require attendance of other workgroups involved in the work activity.	
PRE-JOB BRIEF COMPLETED	 _____ Supervisor or Job Leader 10-23-02 Date

NOTES	
NOTE: The steps in this work plan may be performed in any logical order.	
FME:	Tools and equipment <u>shall</u> be checked for loose parts and debris and temporary covers should be installed for foreign material exclusion (FME) of system/components per Exclusion of Foreign Material from Plant components and Systems, NP 8.4.10.
NOTE:	IF inspections or discrepancies require modifications to Work Scope: THEN STOP work, place equipment in SAFE condition, and NOTIFY Supervision.
NOTE:	The Control Room / the Work Control Center / and the watchstander (as appropriate) shall be informed of the status of jobs which: bring in alarms, affect indications, and other work being performed on operating equipment.
NOTE:	All workers <u>shall</u> perform all Danger Tagging requirements as defined in NP 1.9.15
NOTE:	When replacing parts, compare the old part to the new part to verify it is an acceptable replacement.
NOTE:	If work scope changes, an R/R/M form may be required for parts replacement or repair.
NOTE:	Any pen and ink change to work plan requires initial and date by the change.
NOTE:	Write WO number on top/header of any supplemental pages added to work package, i.e., forms, procedures, checklists...

WO WORK PLAN

Work Control Document: 0205651
 Equipment ID: P-038A
 Equipment Description: AUX FEEDWATER MOTOR-DRIVEN PUMP
 Work Plan Originator: Mike Desroches x6919

UNIT: PB_0_

Date: October 18, 2002

Hold Point	Step No	Work Plan Description	Worker	Date
	1.	Remove fasteners and gland halves. Remove pump packing from Outboard Stuffing Box. Record packing configuration removed below. Dwg. shows 3 outer rings of packing, a cage ring, then 4 inner rings of packing) <i>AL WRITTEN (splits on top) (staggered)</i> Packing configuration removed <i>3 outer rings, cage ring, 3 inner rings</i>	<u>DD</u> MT	<u>10.23.02</u> DATE
<p>Caution It is important to ensure proper operation with a minimum of run-in and final adjustment, that each ring of packing is firmly seated with a packing tool, and inserted one at a time. There is not ample room in this stuffing box area, and to negate this practice, would lead to running out of room for the entire packing set. Each packing set per Stock Item No. comes with 14 rings, enough for both ends. Proper packing configuration is extremely important to allow seal water to cool shaft.</p>				
	2.	Check the packing configuration removed, matches 4 rings, followed by cage ring, followed by 3 rings. If the removed packing configuration was different, notify supervisor or responsible engineer.	<u>DD</u> MT	<u>10.23.02</u> DATE
FME	3.	Inspect accessible areas for dirt and debris, and remove.	<u>DD</u> MT	<u>10.23.02</u> DATE
	4.	Insert one ring at a time with splits 180° apart. Use a packing tool to seat the packing firmly, <u>one ring at a time</u> . Do not overtighten. Dwg. 1F3351 shows packing configuration to be 4 rings (3/8" packing) followed by cage ring, followed by 3 rings of (3/8" packing). It is the mfg. Recommendation, that new packing is not tightened. Tightened being a relative term. Firmly seated and fasteners snugged should be adequate. Final packing adjustment to be made <u>immediately</u> when pump is run.	<u>DD</u> MT	<u>10.23.02</u> DATE
	5.	Record the As-Left Packing Configuration below. <i>3 outer rings, cage ring, 4 inner ring - all splits @ 180°</i> Install gland halves and take up evenly on gland fasteners.	<u>DD</u> MT	<u>10.23.02</u> DATE
	6.	Remove fasteners and gland halves. Remove pump packing from Inboard Stuffing Box. Record packing configuration removed below. Dwg. shows 3 outer rings of packing, a cage ring, then 4 inner rings of packing) <i>(splits on top) (staggered)</i> Packing configuration removed <i>3 outer rings, cage ring, 3 inner rings</i>	<u>DD</u> MT	<u>10.23.02</u> DATE

WO WORK PLAN

Work Control Document: 0205651
 Equipment ID: P-038A
 Equipment Description: AUX FEEDWATER MOTOR-DRIVEN PUMP
 Work Plan Originator: Mike Desroches x6919

UNIT: PB_0_

Date: October 18, 2002

Hold Point	Step No	Work Plan Description	Worker	Date
Caution				
It is important to ensure proper operation with a minimum of run-in and final adjustment, that each ring of packing is firmly seated with a packing tool, and inserted one at a time. There is not ample room in this stuffing box area, and to negate this practice, would lead to running out of room for the entire packing set. Each packing set per Stock Item No. comes with 14 rings, enough for both ends. Proper packing configuration is extremely important to allow seal water to cool shaft.				
	7.	Check the packing configuration removed, matches 4 rings, followed by cage ring, followed by 3 rings. If the removed packing configuration was different, notify supervisor or responsible engineer.	<u>DD</u> MT	<u>10-23-02</u> DATE
FME	8.	Inspect accessible areas for dirt and debris, and remove.	<u>DD</u> MT	<u>10-23-02</u> DATE
	9.	Insert one ring at a time with splits 180° apart. Use a packing tool to seat the packing firmly, <u>one ring at a time</u> . Do not overtighten. Dwg. 1F3351 shows packing configuration to be 4 rings (3/8" packing) followed by cage ring, followed by 3 rings of (3/8" packing). It is the mfg. Recommendation, that new packing is not tightened. Tightened being a relative term. Firmly seated and fasteners snugged should be adequate. Final packing adjustment to be made <u>immediately</u> when pump is run.	<u>DD</u> MT	<u>10-23-02</u> DATE
	10.	Record the As-Left Packing Configuration below. <i>Inner rings staggered 180°, cage ring 3 outer rings @ 180° staggered</i> Install gland halves and take up evenly on gland fasteners.	<u>DD</u> MT	<u>10-23-02</u> DATE
	11.	Coordinate with Operations to clear tags and run the pump.	<u>RHS</u> MT	<u>10/23/02</u> DATE
CAUTION:				
Monitor the stuffing boxes temperature to determine if seal water is keeping the shaft cool. Scoring of the shaft will occur is excessive temperatures of the stuffing boxes are reached, resulting from the packing being of the improper configuration or over-tightening. This type packing is not meant to be leak tight. A small amount of leakage is needed at all times to lubricate and cool the packing. If adjustment is required, be sure that all packing gland nuts are tightened evenly and gradually.				
	12.	Monitor stuffing box temperatures, I.B. and O.B. and adjust packing by taking a flat at a time and evenly across the two gland nuts, until the desired packing leakage is achieved.	<u>JHS</u> MT	<u>10/23/02</u> DATE
HOUSE KEEPING	13.	Remove all debris, tools, and materials from the area. Ensure all work areas meet PBNP housekeeping expectations.	<u>RHS</u> MT	<u>10/24/02</u> DATE
PMT	14.	Temperatures on stuffing boxes and shaft area, were monitored and found to be satisfactory. (Not hot to the touch)	<u>JHS</u> MT/OPS	<u>10/24/02</u> DATE

NUCLEAR POWER BUSINESS UNIT
WO WORK PLAN

Work Control Document: 0205651
 Equipment ID: P-038A
 Equipment Description: AUX FEEDWATER MOTOR-DRIVEN PUMP
 Work Plan Originator: Mike Desroches x6919

UNIT: PB_0_

Date: October 18, 2002

Hold Point	Step No	Work Plan Description	Worker	Date
PMT	15.	Pump operates without excessive leakage. (Note: Slight amount of leakage is needed to lubricate and keep packing cool) <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory	<i>MT/OPS</i> MT/OPS	<i>10/18/02</i> DATE

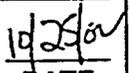
WO WORK PLAN

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UNIT: PB_0_

Date: October 18, 2002

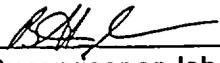
OPERATIONS

RETURN TO SERVICE TESTING	1.	IT-10	 OPS	 DATE
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POST-JOB BRIEF

Conduct post-job debrief using PBF-9218 (Mtn and I&C) or OM 3.29 (OPs). Document lessons learned, good practices, problems encountered, etc. on feedback form. Debrief should include all applicable work groups.

POST-JOB DEBRIEF COMPLETED

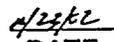

Supervisor or Job Leader

 Date

FEEDBACK

Fill out feedback form attached to work package (maintenance group use PBF-9929)


MT


DATE

Point Beach Nuclear Plant
FME CHECKLIST

I. WORK ORDER/PROCEDURE/EVOLUTION: 0205651

II. ADMINISTRATIVE CONTROL EXEMPTIONS:

Yes / No

(If any are answered "YES," General requirements continue in effect and Section IV INSPECTIONS are still required.)

- 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. Reqmts. (circle one)

Recommended By (Planner): MD

Date: 6-19-02

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	<u>NOT</u> Required		
2. Signs (Required for all FMEA Zone 1 & 2)	Required	Required		
3. Pipe Dams Required (Record On FME Material Control Log)		NIR		
4. FME Material Control Log (PBF-9157)	*Required	NIR		
5. Chemical Exclusion Zone (See Dry Fuel Requirements)		WIR		

* 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.
- 2. Final Closeout Inspection.

DD / 10.23.02

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)

Point Beach Nuclear Plant
PRE-JOB BRIEF CHECKLIST

JOB/EVOLUTION: P-038A packing replace.	AREAS/WO# 0205651	DATE:
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ATTENDEES

BRIEFING REQUIRED DAILY IF CHECKED

Conducted By: <i>C. P. King</i>	<i>D. Chateaux</i>	
<i>D. Dent</i>	<i>A. Schlies</i>	
<i>W. Lewis</i>		
<i>J. Johnson</i>		
<i>P. P. ...</i>		<i>Use back of sheet if necessary</i>

REVIEW / DISCUSS & CHECK OFF all Applicable Items

<p><input checked="" type="checkbox"/> <u>Scope of Job</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Purpose, leader, resources, tools, parts • Procedures, work orders, drawings, permits • Maintenance Rule Status of the affected system 	<p><input checked="" type="checkbox"/> <u>Hazards</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Personnel safety/PPE • Plant operation, power generation, nuclear safety, trip avoidance • Equipment • Asbestos • Lead paint
<p><input checked="" type="checkbox"/> <u>Energy Sources</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Tag boundaries • Energized equipment, de-energized equipment, pressurized, de-pressurized • Protected Worker Log 	<p><input checked="" type="checkbox"/> <u>Radiological Conditions</u></p> <p>(√)</p> <ul style="list-style-type: none"> • ALARA • RWP • Radwaste Considerations
<p><input checked="" type="checkbox"/> <u>Communications</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Communication requirements • Necessary notifications 	<p><input checked="" type="checkbox"/> <u>Other</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Logistics support requirements • Foreign Material Exclusion • Housekeeping • Security notification • PBNP/Industry event Lessons learned
<p><input checked="" type="checkbox"/> <u>Special Precautions</u></p> <p>(√)</p> <ul style="list-style-type: none"> • 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 	<p><input checked="" type="checkbox"/> <u>Key Error Traps</u></p> <p>(√)</p> <ul style="list-style-type: none"> • First time evolution • Distractive or poor environment • Inadequate mental/physical state • Time pressure • Imprecise communication
<p><input checked="" type="checkbox"/> <u>Key Barriers</u></p> <p>(√)</p> <ul style="list-style-type: none"> • Job briefings • Procedure use • Administrative program use • Turnover meetings • Supervisory presence • Review verification • Co-worker coaching • Self-improvement 	



Required Date	: 07/28/2002	Issue Point	: 30-PBNP
SIR Number	: PB02-017186	Work Order	: PB02-005651-000
Requestor	: Desroches, Michael	Asset	:
Deliver To	: Store w WO# 0205651	Crew	:

Line	Stock Number	Description	Q Level	Qty To Be Issued:	1.00 ST
1.	919-8881	PACKING SET, 2-3/4" ID X 3-1/2" OD X 3/8" THICKNESS, 14	CM1		

Row/Bin	On Hand	Issued	Returned
NSK5P3	3.00	1	0

Row & Shelf 3 Bin (w) 9949098 + 9945610

Issued By W. Wisnowski Received By _____ Date 10/18/02