AP 1001 | Three Mile Island Nuclear Station | SIDE 1

Figure 1001-8 | Special Operating Procedure | SOP No. 277 (From SOP Log Index)

NOTE: Instructions and guidelines in AP 1001 must be followed when completing this form.

Unit No. 2

Date 4-7-79

1. Title Repack or Add packing to RR-P1A/B/C/D

2. Purpose (Include purpose of SOP)

To stop excessive packing leakage

3. Attach procedure to this form written according to the following format.

A. Limitations and Precautions
   1. Nuclear Safety
   2. Environmental Safety
   3. Personnel Safety
   4. Equipment Protection

B. Prerequisites

C. Procedure

4. Generated by Joseph Barbuto Date 4-7-79

5. Duration of SOP - Shall be no longer than 90 days from the effective date of the SOP or (a) or (b) below – whichever occurs first.

(a) SOP will be cancelled by incorporation into existing or new permanent procedure submitted by N/A ☐

(b) SOP is not valid after N/A ☐
(Fill in circumstances which will result in SOP being cancelled)

6. (a) Is the procedure Nuclear Safety Related?
If "yes", complete Nuclear Safety Evaluation. (Side 2 of this Form) ..... Yes ☐ No ☐

(b) Does the procedure affect Environmental Protection?
If "yes", complete Environmental Evaluation. (Side 2 of this Form) ..... Yes ☐ No ☐

(c) Does the procedure affect radiation exposure to personnel? ..... Yes ☐ No ☐

N/A

NOTE: If all answers are "no", the change may be approved by the Shift Supervisor. If any questions are answered "yes", the change must be approved by the Unit Superintendent.

7. Review and Approval

Approved – Shift Supervisor [signature] 4/8/79 Date

Reviewed – List members of PORC contacted

NRC Clayton 4/8/79 Date
B&W N. J. Spraine W. Fels 4/8/79 Date
AIARA [signature] 4/9/79 D.A. Williams 4/8/79 Date
[signature] 4/8/79 Date
[signature] 4/8/79 Date

Approved - Unit Superintendent

8. SOP is Cancelled

Shift Supervisor/Shift Foreman Date

132 089

A. Limitations & Precautions

1. Nuclear Safety - See Tech. Spec 3.6.2.3.
2. Environmental Safety - N/A
3. Personnel Safety - See RWP
4. Equipment Protection N/A.

B. Prerequisites - Obtain RWP

C. Procedure

1. Insure that RR-P1C OR RR-P1D are running & lineup to the Rx Bldg Coolers.

2. Insure that RR-P1A & RR-P1B are stopped.

3. Close NR-V45A, RR-V2A & RR-V2B.

4. Repack or add packing to RR-P1A & RR-P1B per Attachment A and 1410-P1 or 1410 P2. Caution: Do not start RR-P1A & RR-P1B yet.

~~5. Stop RR-P1C & close RR-V2C.~~

6. Open NR-V45A & RR-V2A.

7. Start RR-P1A & adjust packing for slight amount of leakage.

8. Stop RR-P1A & close RR-V2A.
9. Open RR-V2B
10. Start RR-P1B & adjust packing for slight amount of leakage.
~~11. Close NR-V45B, RR-V2C & RR-V2D.~~
11. STOP RR-P-1C & 1D and close RR-V2C, 2D, and NR-V45B
12. Repack or add packing to RR-P1C & RR-P1D per Attachment A and 1410-P1 or 1410-P2. Caution: Do not start RR-P1C & RR-P1D yet.

~~13. Start RR-P1A & close RR-V2A.~~

13. 11. Open NR-V45B & RR-V2C
14. 12. Start RR-P2C & adjust packing for slight amount of leakage
15. 13. Stop RR-P1C & close RR-V2C
16. 14. Open RR-V2D
17. 15. Start RR-P1D & adjust packing for slight amount of leakage.

132 091

ATTACHMENT A

In packing the stuffing box, put in one ring at a time, pushing it well into place. The joints of succeeding rings must be staggered.

There is a passage leading into the stuffing box for the purpose of sealing the packing with liquid or grease. When the packing is compressed, the seal cage must be in line with this passage. Measure the location of the hole where the passage leads into the box by means of packing hooks.

Now determine from the location of the hole and the size of the packing whether one or two rings of packing must be inserted before the seal cage so that the seal cage is approximately in line with the hole when the packing is compressed.

After the last ring of packing is in place, draw up the nuts evenly finger tight, then tighten nuts an extra 1/4 turn to initially set the packing. A slight amount of leakage through the gland is necessary for proper lubrication.

Preserve any left over packing for future use after the packing has squeezed up enough under operating conditions to allow another ring to be inserted.

CONTROLLED COPY

1410-P-1
Revision 1
05/31/77

Z-77

WORK REQUEST PROCEDURE
TMI Nuclear Station
Maintenance Procedure Format and Approval

Station _____

This form outlines the format and acts as a cover sheet for a maintenance procedure. Due to the limited size of the form, additional pages may be attached as required. Work Request procedure AP 1013 Section 6 should be used as a guide in preparing the maintenance procedure.

1410-P-1

1. Procedure Title & No.:

   Repack Pump

2. Purpose:

   To replace pump packing.

3. Description of system or component to be worked on.

   All pumps having removable packing.

4. References:

   4.1 Vendor Tech. Manual
   4.2 AP 1002
   4.3 AP 1003

5. Special Tools, Materials and Qualifications required.

   5.1 Packing Puller.
   5.2 Trenches of appropriate size.
   5.3 Knife.
   5.4 Required packing as recommended by manufacturer in Tech. Manual and meeting system Q.C. requirements.

6. Detailed Procedure (attach additional pages as required)

   See Attached

Supervisor of Maintenance recommends approval _____ Date 5-11-77

*PORC Recommends approval – Chairman _____ Date _____

*Unit/Station Superintendent Approval _____ Date _____

*NOTE: These approvals required only on Nuclear Safety Related/Radiation work permit jobs.

Standing Procedure _____ 132 093 Date 5-11-77
Supervisor - QC

6.0 PROCEDURE

CAUTION 1: The Shift Supervisor/Foreman shall determine any Tech. Spec. requirements associated with the component and will perform redundant component testing or log equipment out of service as applicable.

CAUTION 2: Initiate RWP prior to starting work (on systems containing radioactive material or in a controlled area).

6.1 Insure pump is tagged out and depressurized.

6.2 Loosen packing gland and remove gland nuts. Slide packing gland out of way. Clean and lubricate gland studs if necessary.

6.3 Remove old packing using packing puller, and slide lantern ring out of way where applicable.

CAUTION: Avoid scoring of pump shaft through careless use of packing removal tools.

6.4 Cut new packing rings to fit stem and stuffing box.

6.5 Put new rings of packing in stuffing box, staggering the butt end 120° apart, replacing lantern ring in proper position (as per tech manual) where applicable.

6.6 Replace packing gland bringing up packing hand tight.

CAUTION: Insure packing gland is taken up evenly by adjusting each packing gland nut alternately in small increments while pump is running to obtain proper leak off as per tech manual, and to prevent binding of the packing on the pump shaft. Check pump stuffing box to insure that it doesn't overheat. Check by hand. A slight leakoff is required for packing lubrication.

6.7 Acceptance Criteria

6.7.1 Packing leakoff and temperature normal in accordance with Step 6.6 and vendor Tech Manual.

6.8 Remove all tools and materials upon the completion of work.

6.9 Turn pump over to the Shift Foreman for operation in accordance with approved procedures.

CONTROLLED COPY Supervisor Maint-I 1410-P-2
Revision 1
05/31/77

2-77

WORK REQUEST PROCEDURE
TMI Nuclear Station
Maintenance Procedure Format and Approval

Station: _____

This form outlines the format and acts as a cover sheet for a maintenance procedure. Due to the limited size of the form, additional pages may be attached as required. Work Request procedure AP 1016 Section 6 should be used as a guide in preparing the maintenance procedure.

1410-P-2

1. Procedure Title & No.:

   Add Packing To Pumps and Adjust Packing Glands

2. Purpose:

   To add packing to pumps and to take up on packing gland.

3. Description of system or component to be worked on.

   All pumps having removable packing.

4. References:
   - 4.1 Vendor Pump Manuals
   - 4.2 AP 1002
   - 4.3 AP 1003

5. Special Tools, Materials and Qualifications required.
   - 5.1 Wrenches of appropriate size.
   - 5.2 Required packing as recommended by manufacturer and meeting QC and system requirements.

6. Detailed Procedure (attach additional pages as required)

   See Attached

Supervisor of Maintenance recommends approval: _____ Date 5-11-77

*PORC Recommends approval – Chairman: _____ Date _____

*Unit/Station Superintendent Approval: _____ Date _____

*NOTE: These approvals required only on Nuclear Safety Related/Radiation work permit jobs.

Standing Procedure W. W. Cross 132 096 Date 5/25/77
Supervisor - Q.C.

1.0

1410-P-2 Rev. 4-76

6.0 PROCEDURE

CAUTION 1: The Shift Supervisor/Foreman shall determine any Tech. Spec. requirements associated with the component and will perform redundant component testing or log equipment out of service as applicable.

CAUTION 2: Initiate RWP prior to starting work (on systems containing radioactive material or in a controlled area).

6.1 To tighten packing gland.

6.1.1 Take up evenly, in small increments, packing gland nuts, insuring gland does not become cocked. (Pump must be running).

6.1.2 After each step or increment, insure that the stuffing box temperature does not noticeably increase. Check by hand.

6.1.3 Acceptance Criteria

6.1.3.1 Perform 6.1.1 and 6.1.2 until leakoff is reduced to a slight leakoff to allow for packing lubrication.

6.1.3.2 Insure pump operates satisfactorily.

6.1.4 Remove all tools and materials upon the completion of work.

6.2 To add packing rings.

6.2.1 Insure pump is tagged out and depressurized.

6.2.2 Loosen gland nuts and slide out gland.

6.2.3 Add packing rings as necessary and stagger joints 120° apart. Clean gland studs if necessary.

6.2.4 Tighten gland finger tight and run pump.

6.2.5 Evenly and in small increments take up on gland.

6.2.6 Acceptance Criteria

6.2.6.1 After each increment insure that the stuffing box does not run hot. Check by hand. Insure slight leakoff for packing lubrication.

6.2.6.2 Perform 6.2.5 and 6.2.6 until leakage is acceptable.

CAUTION: Do not add packing rings on pumps having lantern rings, unless it can be determined that ring lines up to lantern ring ports.

6.2.7 Return control of the pump to the Shift Foreman.

6.2.8 Remove all tools and materials upon the completion of work.