ABS Sump Pump Inspection and Lubrication at Building 225E

Tank Farm Maintenance Procedure  
Effluent Treatment Facility

USQ Not Required – ETF is a <Hazard Category 3 Radiological Facility

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for a safe, uniform method to perform maintenance inspection(s) and lubrication on sump pumps at TEDF Pump Station 2. The following pumps are in service at Building 225E:

- 68B-P-A1
- 68B-P-B1

1.2 Scope

This procedure applies to delivery of pump to grade level, electrical inspection, lubricant change/examination, and return of pump to working position.

2.0 INFORMATION

None.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Lock and tag protects personnel from the unexpected release of hazardous energy or materials. Under these circumstances, lock and tag is required in accordance with procedure DOE 0336, Hanford Site Lockout/Tagout Procedure.

3.2 Equipment Safety

3.2.1 Chokers shall be replaced whenever 68B-P-1A or 68B-P-1B is replaced or inspected.

3.3 Radiation and Contamination Control

3.3.1 Work in radiological areas will be performed using a radiological work permit following review by Radiological Control per ALARA Work Planning procedure, TFC-ESHQ-RP_RWP-C-03.

3.4 Environmental Compliance

3.4.1 In the event of a spill/leak/release, notify the SOM/FWS and respond per ETF-ERP-85B-003, Emergency Spill or Release at ETF.
4.0 PREREQUISITES

4.1 Special Tools, Equipment and Supplies

The following supplies will be needed to perform this procedure:

- Single viscosity high detergent oil, 10W to 20W; Chevron Delo 400 SAE 10W
- 68B-P-A1, -B1 = approximately four quarts
- Pump to remove oil
- Oil absorbing barriers
- ABS Part No. 1005 and 1007 seal washers (one each per pump)
- ABS Part No. 505 rubber seal ring (one each per pump)
- Two wire rope chokers (As specified by FWS)
- Electrical cable glands (Part Nos. 1108 and 1118)
- Oil fill plug (Part No. 1008)
- Oil level plug (Part No. 1004).

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- DOE-0336, Hanford Site Lockout/Tagout Procedure.

4.3 Field Preparation

4.3.1 CONFIRM Operations personnel have configured system or equipment as required to allow performance of this procedure.

4.3.2 CONFIRM hoist and monorail inspections are current (include the PM/S activity sheets in the work package).

4.3.3 APPLY lock and tag per DOE-0336.
5.0 PROCEDURE

Special Instructions

Wire Rope Chokers are to be replaced whenever pump is replaced or inspected. FWS will specify length needed.

Sections 5.1 through 5.4 may be worked in any logical order.

5.1 Delivery of Pump to Grade Level

5.1.1 ENGAGE hoist hook in eye of pump lanyard.
5.1.2 SEPARATE pump from discharge elbow using hoist.
5.1.3 RAISE to pipe gallery level.
5.1.4 CLOSE hatch plate.
5.1.5 SWING AND LOWER pump to gallery floor.
5.1.6 WIPE down pump externals.

5.2 Electrical Inspection

5.2.1 EXAMINE AND CORRECT electrical cable glands for tightness.
5.2.2 EXAMINE electrical cable sheathing for deterioration or loss of integrity.
5.2.3 RECORD findings in work package.
5.3 Lubricant Change and Examination

5.3.1 REMOVE oil fill plug to vent.
5.3.2 REMOVE oil.
5.3.3 REMOVE oil level plug.
5.3.4 EXAMINE drained oil for presence of water.
5.3.5 IF water is present, CONTACT Design Authority to determine action required.
5.3.6 REPLACE seal washers.
5.3.7 REFILL seal chamber.
5.3.8 SECURE oil fill and oil level plugs in place.
5.3.9 WIPE down pump to remove excess oil.
5.3.10 REPLACE seal ring.
5.3.11 RECORD findings in work package.
5.3.12 VISUALLY INSPECT from pipe gallery equipment hatch to ensure sump area is void of damaging items that may enter pump intake.

5.4 Return of Pump to Working Position

5.4.1 REPLACE the wire choker with choker specified.
5.4.2 OPEN hatch cover.
5.4.3 LOWER pump sufficient distance to ensure alignment with guide system.
5.4.4 LOWER pump to sump level while observing progress to confirm the following conditions:
   • Cables are not stretched
   • Cables are not cut or abraded on hatch cover frame
   • Space between pump flange and connection foot is clear
   • Pump mates properly with discharge elbow.
5.4.5 SECURE eye of pump lanyard on retention hook on equipment hatch wall.
5.5 Restoration

5.5.1 **DISPOSE** of any waste generated by this procedure performance in accordance with Waste Planning Checklist (SWITS-generated).

5.5.2 **RETURN** to as-found conditions.

5.5.3 **INFORM** SOM test is complete and pump(s) may be returned to service.

5.6 Acceptance Criteria

Acceptance criteria has been met when steps in this procedure have been satisfactorily performed and results are recorded on the data sheet(s).

5.7 Review

5.7.1 **INFORM** FWS test is complete.

5.7.2 *(FWS) REVIEW AND ENSURE* the following:
   - Completed data sheets meet the acceptance criteria
   - Comments sections are filled out appropriately
   - Work requests needed as a result of this procedure are identified and generated
   - Work request number(s) of any work documents generated as a result of this procedure, are recorded in the Comments/Remarks section of the data sheet.

5.8 Records

The performance of this procedure generates no records. However PM/S data sheets associated with the procedure are records and are maintained in the work package as record material.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.