Tank Farm Plant Operating Procedure

Operate 241-AY-102 Sump Pumps

CHANGE HISTORY (≤ LAST 5 REV-MODS)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-5</td>
<td>07/12/2018</td>
<td>Changes from Periodic Review</td>
<td>Removed &quot;native&quot; file link. Update Record section to procedure standards. Update signature authentication on Checklists per procedure standards. Removed 2.2.2 and AC 5.9.1 under 3.4 Limits section</td>
</tr>
<tr>
<td>A-4</td>
<td>12/19/2016</td>
<td>Inconsequential Change</td>
<td>Added to Environmental Compliance standard, As Low As Reasonably Achievable Control Technology (ALARACT) Requirements Standard</td>
</tr>
<tr>
<td>A-3</td>
<td>12/06/2016</td>
<td>Operations Request</td>
<td>Updated checklists and figures to match current configuration. Updated callouts and procedure format.</td>
</tr>
<tr>
<td>A-2</td>
<td>07/11/2016</td>
<td>Inconsequential Change</td>
<td>Updated the records section.</td>
</tr>
<tr>
<td>A-1</td>
<td>02/29/2016</td>
<td>Operations Request</td>
<td>Changed Checklist 3 to include Manifold to F and U14. Changed Figure 3 to match Route Board. Removed JRG stamp at top of procedure.</td>
</tr>
</tbody>
</table>

Table of Contents

1.0 PURPOSE AND SCOPE........................................................................................................3
   1.1 Purpose..................................................................................................................3
   1.2 Scope..................................................................................................................3

2.0 INFORMATION.............................................................................................................3
   2.1 Terms and Definitions.........................................................................................3
   2.2 General Information.............................................................................................4

3.0 PRECAUTIONS AND LIMITATIONS...........................................................................6
   3.1 Personnel Safety..................................................................................................6
   3.2 Radiation and Contamination Control...............................................................6
   3.3 Environmental Compliance ..............................................................................6
   3.4 Limits..................................................................................................................7

4.0 PREREQUISITES .......................................................................................................8
   4.1 Special Tools, Equipment, and Supplies.............................................................8
   4.2 Performance Documents......................................................................................8

5.0 PROCEDURE...............................................................................................................9
   5.1 Operate Splitter Box Sump Pump POR385-WT-P-101.........................................9
   5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A)..................................13

Type CONTINUOUS  Document No. TO-200-405  Rev/Mod A-5  Release Date 07/12/2018  Page 1 of 31
Operate 241-AY-102 Sump Pumps

5.3 Records .......................................................................................................................... 17

Checklist 1 - Instrument Calibration .................................................................................. 18

Checklist 2 - Instrument Operability Splitter Box POR385-WT-DB-001 .............................. 19

Checklist 3 - Transfer Routing Board Jumper Checks ......................................................... 20

Checklist 4 - Pre-Transfer Cover Inspection ....................................................................... 21

Checklist 5 - Splitter Box POR385-WT-DB-001 Valve Line-up ........................................... 22

Checklist 6 - Instrument Operability, Pump Pit AY02A ..................................................... 23

Checklist 7 - Sump Pump AY102-WT-P-103 Valve Line-up ............................................... 24

Figure 1 – Sump Pump Transfer Routes .............................................................................. 25

Figure 2 - POR385-WT-DB-001 Splitter Box Details ........................................................... 26

Figure 3 – 241-AY-02A Pump Pit Details .......................................................................... 27

Figure 4 – 241-AY-01A Pump Pit Details ........................................................................... 28

Attachment 1 – Valve Positioning ...................................................................................... 29
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for operation of sump pumps POR385-WT-P-101 located in Splitter Box POR385-WT-DB-001, and AY102-WT-P-103 located at the AY02A Pump Pit.

1.2 Scope

1.2.1 This procedure involves startup, operation and shutdown of the following sump pumps:
- POR385-WT-P-101 located in Splitter Box POR385-WT-DB-001
- AY102-WT-P-103 located in AY02A Pump Pit

1.2.2 This procedure will be used any time sump pumps need to be operated in the event of leakage or water intrusion in the respective pits.

2.0 INFORMATION

2.1 Terms and Definitions

- EPDM - Ethylene Propylene Diene Monomer

Special Instructions

Tank Farms does not install Calibration/Test Stickers on farm equipment, therefore all calibration/function test verifications must be accomplished using Maintenance Management System data sheets or work package.

2.1.1 Calibration:
- Preventative Maintenance checks have been performed within required periodicity (calibration is current) with a satisfactory result. When authorized by Shift Manager/OE a PM may be past its scheduled due date if it is within its grace period.
2.1 Terms and Definitions

2.1.2 Operable, in general:

- Preventative Maintenance checks have been performed within required periodicity (calibrations/functional tests are current) with a satisfactory result. When authorized by Shift Manager/OE a PM may be past its scheduled due date if it is within its grace period.
- If applicable, local or remote alarms are not in alarm (e.g., bells, strobe lights, alarm windows, power indication lights are LIT).
- Instrument/component being inspected appears to be functioning normally (e.g., charts are inking, annunciator lights work, any associated meters are active).

2.2 General Information

2.2.1 Personnel Responsibilities

2.2.1.1 Shift Manager authorizes the following:

- Permission to operate Sump Pump POR385-WT-P-101 in POR385 Splitter Box, and Sump Pump AY102-WT-P-103 in AY102 Pump Pit.
- Removal and replacement of Tank Farm administrative lock.
- Confirms minimum staffing for waste transfer activity.

2.2.1.2 OE performs the following verifications:

- Verifies that a pre-job survey has been performed.
- Confirms that transfer system cover check has been performed prior to removing administrative lock.
- Verifies that a post-job survey of work area has been completed.

2.2.2 The 241-AY-102 Waste Compatibility Assessment is documented in RPP-RPT-58916 (current revision). (AC 5.9.1, AC 5.9.4, AC 5.9.5)
2.2 General Information (Cont.)

2.2.3 The maximum volume that a sump pump would pump at any one time is 600 gallons. The starting level in AY-102 is 272 inches, the max volume the sump pump would pump at any one time from the AY02A pump pit is 60 gallons. Therefore the sump pumps used in this procedure are not capable of exceeding the benchmark. Level readings in the tank are not required to protect the benchmark.

2.2.4 A line in the left margin that corresponds to a step or bullet item of a step is used as a place holder. When a step or bullet item is completed a check mark (✓) or initials is placed on this line. If a step or bullet is not applicable N/A is placed on this line. The operator running the procedure will ensure the step is marked appropriately.

2.2.5 AC 5.7 Waste Leak Evaluation is completed in RPP-TE-58256 (current revision).

2.2.6 Freeze Protection Evaluation is documented in RPP-TE-58275 (current revision).

2.2.7 Overpressure RPP-TE-58282, Pump Documentation for Water Hammer Acceptability.

2.2.8 If liquid is being pumped using a sump pump and its pH is less than 12.5 then the sump pump does not meet the definition of a waste transfer pump and no DSA transfer controls apply. Environmental controls still apply when pumping liquid using the sump pump.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Comply with DOE-0359, Hanford Site Electrical Safety Program.

3.2 Radiation and Contamination Control

3.2.1 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.

3.3 Environmental Compliance

3.3.1 Environmental must be notified, per Environmental On-Call List, in the event of a leak during transfer operations. Environmental will make appropriate leak or release notification.

3.3.2 To meet the requirements of WAC, Chapter 173-303, Dangerous Waste Regulations, spilled or leaked waste must be removed from transfer piping secondary containment within twenty-four hours of detection.

3.3.3 The following controls specified in TFC-ESHQ-ENV-STD-06 As Low As Reasonably Achievable Control Technology (ALARACT) Requirements Standard are applicable:

- Receiving tanks have active ventilation
- Temporary or permanent covers are installed on pits in the transfer route before starting any transfer operation
- HPT coverage will be performed as specified in the RWP
- Pre- and post-job surveys shall be taken.
3.4 Limits

HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

AC 5.7 Waste Leak Evaluation Program.
AC 5.9.4 Waste Characteristics Controls.
AC 5.9.5 Nuclear Criticality Safety.

HNF-IP-1266, Tank Farms Operations Administrative Controls

Appendix 5.B Administrative Lock Controls.

OPERATING SPECIFICATION RECORDS

OSD-T-151-00007 Operating Specifications for the Double-Shell Tanks
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies
- pH paper
- Extension cord
- Work gloves for valve T-handle or hand-wheel operation.

4.2 Performance Documents

The following documents may be needed to perform this procedure:
- ARP-T-251-00034, Respond to Alarms at 241-AY-102 Control Trailer
- RPP-PLAN-60643, Radiological Monitoring Plan for Tank 241-AY-102 To 241-AP-102 Waste Transfer
- TFC-OPS-OPER-C-22, Control and Use of Administrative Locks
- (Independent verification procedure)C-34
- TO-020-610, Operate Tank Farms Waste Transfer System Valves
- TO-040-745, Perform Weatherization of Retrieval Buildings and Equipment
- IHSP-RETR-AY-15, Bulk/Hard Heel Removal (HHR) Retrieval
- IHSP-RETR-AY-23 AY Retrieval Environmental Sampling/Monitoring.
5.0 PROCEDURE

5.1 Operate Splitter Box Sump Pump POR385-WT-P-101

Special Instructions

Sections 5.1 and 5.2 can be performed independently; however, Sections 5.1 and 5.2 cannot be performed concurrently.

Figure 1 outlines transfer route.

Required Activity, Non-Tank Specific

5.1.1 CONFIRM an approved work package has determined the pH of the liquid to be less than 12.5.

<table>
<thead>
<tr>
<th>PH</th>
<th>First NCO Check (✓)</th>
<th>Second NCO Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 12.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OR

5.1.2 VERIFY transfer system has not been operated since inclement weather caused actuation of leak detector.

________________________________________ / ______________________________________ / __________
Signature                                    Print (First & Last)                                  Date

OE Approval

________________________________________ / ______________________________________ / __________
Signature                                    Print (First & Last)                                  Date

Engineering Approval
5.1 Operate Splitter Box Sump Pump POR385-WT-P-101 (Cont.)

Special Instructions

Steps 5.1.2 through 5.1.12 can be performed in any logical order or concurrently.

5.1.2 CONFIRM light POR399-WT-LDA-107 (Leak Detected Splitter Box) ON at POR399-WT-IE-001 is illuminated.

5.1.3 ENSURE equipment checks are performed per Checklist 1.

5.1.4 COMPARE Checklist 1 with Retrieval RATL AND

IF any discrepancy is discovered, UPDATE Checklist 1 and Retrieval RATL.

5.1.5 PERFORM instrument operability checks per Checklist 2 AND

RECORD comments/discrepancies on Checklist 2.

5.1.6 COMPARE Checklist 2, with Retrieval RATL AND

IF any discrepancy is discovered, UPDATE Checklist 2 and Retrieval RATL.

5.1.7 PERFORM routing board checks per Checklist 3.

5.1.8 NOTIFY HPT Splitter Box Sump Pump POR385-WT-P-101 will be started AND

REQUEST pre-job survey.

5.1.9 ENSURE cold or warm weather preparations are performed per TO-040-745.

5.1.10 ENSURE exhauster is operable and ventilating 241-AY-102.

Required Activity, AY Farm

5.1.11 PERFORM cover inspection per Checklist 4.

5.1.12 ENSURE Shift Manager is notified of initiating transfer valving for POR385 Splitter Box and Pump Pit AY02A.

5.1.13 PERFORM transfer valving per Checklist 5. (ref. Figure 1 through Figure 4).
5.1 Operate Splitter Box Sump Pump POR385-WT-P-101 (Cont.)

5.1.14 VERIFY Steps 5.1.1 through 5.1.13 have been completed and Shift Manager is not aware of anything that has changed that would affect equipment status.

Signature / Print (First & Last) / Date

5.1.15 PRIOR to starting transfer and during transfer ENSURE an operator is stationed at Control Trailer POR399-WT-TRLR-001 and capable of communicating with personnel monitoring transfer.

5.1.16 ENSURE administrative lock condition is installed for AY102 Slurry Pump P-001 in Pump Pit AY02A.

5.1.17 OBTAIN Shift Manager approval to remove administrative lock condition. (Appendix 5.B)

5.1.18 REMOVE administrative lock from POR385-WT-P-101.

5.1.19 NOTIFY Shift Manager time administrative lock was removed.

NOTE - Sump Pump POR385-WT-P-101 should be operated for approximately twenty (20) minutes, or for two (2) minutes after alarm POR399-WT-LDA-107 has cleared, to ensure removal or residual fluid at low point of pit.

- Estimated transfer time is approximately two (2) minutes.

5.1.20 PLUG sump pump power cord into a nominal 110 VAC receptacle.

5.1.21 OPEN valve POR385-WT-V-111.

5.1.22 IF any of the following leak detectors alarm,

- POR399-WT-LDXA-101 (Leak Detector Trouble)
- POR399-WT-LDA-103 (Pump Pit AY-02A)

PERFORM the following:

5.1.22.1 UNPLUG sump pump POR385-WT-P-101 from 110 VAC receptacle.

5.1.22.2 CLOSE valve POR385-WT-V-111.
5.1 Operate Splitter Box Sump Pump POR385-WT-P-101 (Cont.)

5.1.23 **AFTER** approximately twenty (20) minutes of pump start,

**OR**

**AFTER** POR385-WT-LDA-107 has been cleared for two (2) minutes, **UNPLUG** sump pump power cord from receptacle.

5.1.23.1 **CLOSE** Splitter Box valve POR385-WT-V-111.

5.1.23.2 **UNPLUG** sump pump power cord from receptacle.

5.1.24 **INSTALL** administrative lock on plug POR385-WT-P-101.

5.1.25 **NOTIFY** Shift Manager the time administrative lock was installed.

5.1.26 **OPEN** Splitter Box Valve POR385-WT-V-121.

5.1.27 **AFTER** one (1) minute, **CLOSE** Splitter Box Valve POR385-WT-V-121.

5.1.28 **CLOSE** Splitter Box valve POR385-WT-V-110.

5.1.29 **NOTIFY** HPT Splitter Box Sump Pump POR385-WT-P-101 has been stopped **AND**

**REQUEST** post-job survey.
5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A)

NOTE - Sections 5.1 and 5.2 can be performed independently; however, Sections 5.1 and 5.2 cannot be performed concurrently.

- Figure 1 outlines transfer route.

Required Activity, Non-Tank Specific

5.2.1 CONFIRM an approved work package has determined the pH of the liquid to be less than 12.5,

<table>
<thead>
<tr>
<th>Date Performed:</th>
<th>PH</th>
<th>First NCO Check (✓)</th>
<th>Second NCO Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 12.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OR

VERIFY transfer system has not been operated since inclement weather caused actuation of leak detector.

____________________________________ / __________________________ / ______________________
Signature                          Print (First & Last)                   Date
OE Approval

____________________________________ / __________________________ / ______________________
Signature                          Print (First & Last)                   Date
Engineering Approval
5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A) (Cont.)

Special Instructions

Steps 5.2.2 through 5.2.12 can be performed in any logical order or concurrently.

5.2.2 Confirm light POR399-WT-LDA-103 (Leak Detected Pump Pit AY-02A) ON at POR399-WT-IE-001 is illuminated.

5.2.3 Ensure equipment checks are performed per Checklist 1.

5.2.4 Compare Checklist 1 with Retrieval RATL AND IF discrepancies are found, Update Checklist 1 and Retrieval RATL.

5.2.5 Perform instrument operability checks per Checklist 6 AND Record comments/discrepancies on Checklist 6.

5.2.6 Compare Checklist 6, with Retrieval RATL AND IF discrepancies are found, Update Checklist 6 and Retrieval RATL.

5.2.7 Perform routing board checks per Checklist 3.

5.2.8 Ensure cold or warm weather preparations are performed per TO-040-745.

5.2.9 Notify HPT Pump Pit AY02A Sump Pump AY102-WT-P-103 will be started AND Request pre-job survey.

5.2.10 Ensure exhauster is operable and ventilating 241-AY-101.

Required Activity, AY Farm

5.2.11 Perform cover inspection per Checklist 4.

5.2.12 Perform transfer valving per Checklist 7. (ref. Figure 1 through Figure 4)

5.2.13 Verify 241-AY-101 surface level is less than 364 inches AND IF adding liquid to AY-101 it will not exceed 364 inches. [OSD-T-151-00007]
5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A) (Cont.)

5.2.14 VERIFY Steps 5.2.1 through 5.2.13 have been completed and Shift Manager is not aware of anything that has changed that would affect equipment status.

---

Signature / Print (First & Last) / Date

---

5.2.15 PRIOR to starting transfer and during transfer, ENSURE an operator is stationed at Control Trailer POR399-WT-TRLR-001 and capable of communicating with personnel monitoring transfer.

5.2.15.1 NOTIFY Shift Manager to ENSURE an Operator is monitoring AY01A-LD-310.

5.2.16 ENSURE administrative lock condition is installed for AY101 Transfer Pump in Pump Pit AY01A.

5.2.17 OBTAIN Shift Manager approval to remove administrative lock condition. (Appendix 5.B)

5.2.18 REMOVE administrative lock from AY102-WT-P-103.

5.2.19 NOTIFY Shift Manager the time administrative lock was removed.

NOTE - Sump Pump AY102-WT-P-103 should be operated for approximately twenty (20) minutes, or for two (2) minutes after alarm POR399-WT-LDA-103 has cleared, to ensure removal or residual fluid at low point of pit.

- Estimated transfer time is approximately two (2) minutes.

5.2.20 PLUG sump pump power cord into a nominal 110 VAC receptacle.

5.2.21 OPEN valve AY102-WT-V-102.

5.2.22 IF any of the following leak detectors alarms,
   - POR399-WT-LDXA-101 (Leak Detector Trouble)
   - POR399-WT-LDA-107 (Leak Detected Splitter Box)
   - AY01A-LD-310-ALM (Pump Pit AY-01A).

PERFORM the following:

5.2.22.1 UNPLUG sump pump AY102-WT-P-103 from 110 VAC receptacle.

5.2.22.2 CLOSE valve AY102-WT-V-102.
5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A) (Cont.)

_____ 5.2.23  AFTER approximately twenty (20) minutes of pump start,

    OR

    AFTER POR399-WT-LDA-103 has been cleared for two (2) minutes,
    UNPLUG sump pump power cord from receptacle.

_____ 5.2.23.1  CLOSE Pump Pit AY02A valve AY02A-WT-V-102.

_____ 5.2.23.2  UNPLUG sump pump power cord from receptacle.

_____ 5.2.24  INSTALL administrative lock on plug AY102-WT-P-103.

_____ 5.2.25  NOTIFY Shift Manager the time administrative lock was installed.

_____ 5.2.26  OPEN Pump Pit AY02A valve AY02A-WT-V-111.

_____ 5.2.27  NOTIFY HPT Pump Pit AY02A Sump Pump AY102-WT-P-103 has been stopped AND

    REQUEST post-job survey.

_____ 5.2.28  AFTER one (1) minute, CLOSE Pump Pit AY02A valve AY02A-WT-V-111.

_____ 5.2.29  CLOSE Pump Pit AY02A valve AY02A-WT-V-101.
5.3 Records

_____ 5.3.1 PERFORM the following for records identified within this procedure.

_____ 5.3.1.1 RECORD the number of times the record was generated in applicable column

OR

PLACE a check mark (✓) in the N/A column.

_____ 5.3.1.2 SUBMIT the package for verification of completed records.

<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
<th>Number of times completed</th>
<th>N/A (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Operate Splitter Box Sump Pump POR385-WT-P-101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.1.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2 Operate Sump Pump AY102-WT-P-103 (Pump Pit AY02A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.2.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.2.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 1 - Instrument Calibration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 2 - Instrument Operability Splitter Box POR385-WT-DB-001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 3 - Transfer Routing Board Jumper Checks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 4 - Pre-Transfer Cover Inspection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 5 - Splitter Box POR385-WT-DB-001 Valve Line-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 6 - Instrument Operability, Pump Pit AY02A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist 7 - Sump Pump AY102-WT-P-103 Valve Line-up</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FWS/OE/Shift Manager SEND the completed records to the Central Shift Office for records retention.

_________________________ / __________________________ / __________________________
Signature                     Print (First & Last)              Date

The record custodian identified in the company-level Record Inventory and Disposition Schedule (RIDS), is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
## Checklist 1 - Instrument Calibration

<table>
<thead>
<tr>
<th>Instrument Nomenclature</th>
<th>Instrument Location</th>
<th>Calibrate*/Functional Test</th>
<th>Next Due Date</th>
<th>Verified Calibration Date</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>241-AY-102-XFER-SYS</td>
<td>POR399 (WT-200486)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most Conservative HIHTL Expiration Date</td>
<td>AY-Farm (EAM Tickler for 15011-01, 15011-03, 15011-04)</td>
<td></td>
<td></td>
<td>01/30/2019</td>
<td></td>
</tr>
<tr>
<td>AY01A-WT-LDE-301</td>
<td>AY01A Pit (ET-107804)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY101-WST-LIT-101</td>
<td>AY-Farm/AY101 (ET-005837)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY102-WST-LIT-101</td>
<td>AY-Farm/AY-102 (ET-005824)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See Section 2.1 for definition of “calibration.”

**Comments:**

________________________________________________________

Signature: ____________________________ / _______ Print (First & Last) / __________ Date

Operator

________________________________________________________

Signature: ____________________________ / _______ Print (First & Last) / __________ Date

Shift Manager /OE
## Checklist 2 - Instrument Operability Splitter Box POR385-WT-DB-001

<table>
<thead>
<tr>
<th>Instrument Nomenclature</th>
<th>Instrument Location</th>
<th>Operable* (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POR399-WT-LDA-107**</td>
<td>POR399 (Control Trailer)</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-107)</td>
<td>Leak Detected Splitter Box</td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDA-101</td>
<td>Sluice Pit AY-02B</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-101)</td>
<td>(In Alarm)</td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDA-104</td>
<td>Sluice Pit AY-02C</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-104)</td>
<td>(In Alarm)</td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDA-103</td>
<td>Pump Pit AY-02A</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-103)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDA-104</td>
<td>Sluice Pit AY-02D</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-104)</td>
<td>(In Alarm)</td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDA-105</td>
<td>Sluice Pit AY-02E</td>
<td></td>
</tr>
<tr>
<td>(AY102-WT-LDE-105)</td>
<td>(In Alarm)</td>
<td></td>
</tr>
<tr>
<td>POR399-WT-LDXA-101</td>
<td>LDE Trouble</td>
<td></td>
</tr>
<tr>
<td>ANNUNCIATOR POWER ON</td>
<td>POR399 (AY102 Control Room)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POR399-WT-ANN-001</td>
<td></td>
</tr>
</tbody>
</table>

* See Section 2.1 for definition of “operable.”
** This Alarm may be active or lit.

Comments/Discrepancies (attach and sign additional sheets as needed):

Instrumentation & equipment has been verified for operability and all discrepancies/deficiencies have been noted on this comment sheet.

Signature / Print (First & Last) / Date

Operator

Signatures required only if discrepancies are noted.
System Engineer signature required for verification only if it is agreed that:
- Discrepancies have been satisfactorily resolved and meet the requirements of the DSA.
- Failed or non-operable equipment has been repaired, replaced, or isolated and/or is adequate for the intended transfer.

System Engineer / Signature / Print Name (First & Last) / Date

Shift Manager/OE / Signature / Print Name (First & Last) / Date

Type | Document No. | Rev/Mod | Release Date | Page |
-----|--------------|---------|--------------|------|
CONTINUOUS | TO-200-405 | A-5 | 07/12/2018 | 19 of 31 |
Checklist 3 - Transfer Routing Board Jumper Checks

<table>
<thead>
<tr>
<th>Location</th>
<th>Jumper Connection</th>
<th>Drains To</th>
<th>Operator Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POR385-WT-DB-001</td>
<td>Manifold to A, B, C, D, E, G, F and Sump Pump</td>
<td>POR385 Sump</td>
<td></td>
</tr>
<tr>
<td>Splitter Box</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY-02A Pump Pit</td>
<td>Manifold to Nozzles U5, U12, U14, A, B, C, E, U14 and Sump Pump (U8, F Capped/Plugged)</td>
<td>AY02A Sump</td>
<td></td>
</tr>
<tr>
<td>AY-01A Pump Pit</td>
<td>Manifold to Nozzles A, B, and U13 and AY-101 Slurry Distributor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature / Print (First & Last) / Date

Operator

Signature / Print (First & Last) / Date

Shift Manager /OE

* Rigid jumper is half metal and half EPDM jumper.
## Checklist 4 - Pre-Transfer Cover Inspection

<table>
<thead>
<tr>
<th>Pit Cover Location</th>
<th>Operator Check</th>
<th>Date Inspection Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY-01A Pump Pit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY-02A Pump Pit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-DB-001 Splitter Box</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cover Installation checks
1) Cover is correctly installed on a structure consistent with its design, such that it will prevent the direct release of a spray to the atmosphere.
2) Covers must fit their supporting structure.
3) Cover plugs and seals must also be correctly installed.

_________________________ / ______________________ / _____________  
Signature  Print (First & Last)  Date 
Operator

_________________________ / ______________________ / _____________  
Signature  Print (First & Last)  Date 
Shift Manager /OE
## Checklist 5 - Splitter Box POR385-WT-DB-001 Valve Line-up

<table>
<thead>
<tr>
<th>Valve</th>
<th>Position</th>
<th>Tamper Seal Number</th>
<th>Operator Initials</th>
<th>Independent Verifier Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>POR385-WT-V-106</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-107</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-108</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-109</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-110</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-111</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-112</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-113</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-114</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-115</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-116</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-117</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-118</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-119</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-120</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POR385-WT-V-121</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-111</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-101</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-102</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-105</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-106</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-109</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AYO2A-WT-V-110</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Valves positioned per Attachment 1.

---

Operator

Print (First & Last) / Initials / Date

---

Independent Verifier

Print (First & Last) / Initials / Date

---

Shift Manager /OE

Print (First & Last) / Date
### Checklist 6 - Instrument Operability, Pump Pit AY02A

<table>
<thead>
<tr>
<th>Instrument Nomenclature</th>
<th>Instrument Location</th>
<th>Operable (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POR399-WT-LDA-103 (AY102-WT-LDE-103)</td>
<td>POR399 (AY102 Control Room) (AY-102 Slurry Pump Pit)</td>
<td>✓</td>
</tr>
<tr>
<td>POR399-WT-LDXA-101</td>
<td>POR399 (AY102 Control Room) LDE Trouble</td>
<td>✓</td>
</tr>
<tr>
<td>ANNUNCIATOR POWER ON</td>
<td>POR399 (AY102 Control Room) POR399-WT-ANN-001</td>
<td>✓</td>
</tr>
<tr>
<td>AY01A-LD-310 (AY01A Pump Pit)</td>
<td>HMI Control Room</td>
<td>✓</td>
</tr>
</tbody>
</table>

(1) See Section 2.1 for definition of “operable.”
(2) Call Shift Manager to verify operability
(3) This alarm may be active or lit.

**Comments/Discrepancies (attach and sign additional sheets as needed):**

Instrumentation & equipment has been verified for operability and all discrepancies/deficiencies have been noted on this comment sheet.

---

**Signature** / **Print (First & Last)** / **Date**

Operator

• Signatures required only if discrepancies are noted.
• System Engineer signature required for verification only if it is agreed that:
  A. Discrepancies have been satisfactorily resolved and meet the requirements of the DSA.
  B. Failed or non-operable equipment has been repaired, replaced, or isolated and is adequate for the intended transfer.

**Signature** / **Print (First & Last)** / **Date**
System Engineer

**Signature** / **Print (First & Last)** / **Date**
Shift Manager /OE
## Operate 241-AY-102 Sump Pumps

### Checklist 7 - Sump Pump AY102-WT-P-103 Valve Line-up

<table>
<thead>
<tr>
<th>Date:</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Valve</th>
<th>Position</th>
<th>Tamper Seal Number</th>
<th>Operator Initials</th>
<th>Independent Verifier Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>241-AY02A Pump Pit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A-WT-V-101</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A -WT-V-111</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A -WT-V-102</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A WT-V-105</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A WT-V-106</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A-WT-V-107</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A-WT-V-108</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A-WT-V-109</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AY02A-WT-V-110</td>
<td>CLOSED</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Valves positioned per Attachment 1.

<table>
<thead>
<tr>
<th>Valve</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY01A-WT-V-101</td>
<td>BLOCK NOZZLE A</td>
</tr>
</tbody>
</table>

Valves positioned per Attachment 1.

**Signature** / Print (First & Last) / Initials / Date

Operator

**Signature** / Print (First & Last) / Initials / Date

Independent Verifier

**Signature** / Print (First & Last) / Date

Shift Manager /OE
Operate 241-AY-102 Sump Pumps

Figure 1 – Sump Pump Transfer Routes

241-AY-102

Sluicer #1
AY-02B

AY-02A
Pump Pit
(see Figure 3 for details)

Sluicer #2
AY-02C

Sluicer #3
AY-02D

Sluicer #4
AY-02E

HIHTL

P-103
Sump Pump

Sump Pump

Splitter Box
POR385-WT-DB-001
(see Figure 2 for details)

241-AY-101

AY-01A
Pump Pit
(see Figure 4 for details)
Figure 2 - POR385-WT-DB-001 Splitter Box Details

NOTE: All valves have prefix POR385-WT-
Figure 3 – 241-AY-02A Pump Pit Details

NOTE: All valves have prefix AY02A-WT-
Figure 4 – 241-AY-01A Pump Pit Details
Attachment 1– Valve Positioning

1. Prepare for Valving

**Special Instructions**

The following steps may be performed in any logical order, all at one (1) time, individually, or as groups.

This attachment is an excerpt from TO-020-610. The intent of the attachment is to locate required steps into one (1) procedure so that two procedures are not required to be in the field while performing work unless an unusual condition exists. The user may refer to TO-020-610 for additional information.

Attachment 1, Section 1 is not required to be referred to during performance of valve alignment.

[1] **ENSURE** two operators are ASSIGNED to perform the “Initial Valve Positioning”. One to manipulate the valve and one to manage the documents.

[2] **DETERMINE** the valving method to be used for the valving listed in this procedure and use the appropriate section below to perform that method.

[3] **IF** at any time during performance of this attachment a transfer valve is identified as having an installed tamper seal **GO TO** Attachment 1, Section 2.

**Special Instructions**

Sections 2 through Section 4 may be performed in any logical order, in parallel, or may be omitted to the valves being positioned.

2. Transfer Valve with Tamper Seals

[1] **IF** transfer valve is in required position, **CONFIRM** tamper seal number and position matches the entry in the Transfer Valve Tamper Seal Log.

   [1.1] **DOCUMENT** tamper seal number in checklist, table or step of this procedure that directed this valve positioning.

[2] **IF** transfer valve is in the required position, but the tamper seal number does not match the entry in the Transfer Valve Tamper Seal Log, **NOTIFY** OE AND **GO TO** TO-020-610.

[3] **IF** transfer valve has an installed tamper seal **AND** is not in the required position, **NOTIFY** OE AND **GO TO** TO-020-610.

(Continued on Next Page)
3. **Operate Two-Way T-Handle Valve (Method 1)**

**Special Instructions**

After the initial closure and opening of any Two Way T-Handle valve per this method, Attachment 1, Section 3, it is not required to be referred to during the performance of any further Two Way T-Handle valve alignments during the rest of that shift by that work crew.

Different work crews or crews on a different shift must follow this section as continuous until performance of closing (1) Two Way T-Handle valve has been completed.

[1] IF placing the valve in the CLOSED position, **PERFORM** the following:

1.1 IF valve is in the CLOSED position, attempt to **ROTATE** the valve fully clockwise until mechanical stop is engaged.

1.2 IF valve is in the OPEN position, **ROTATE** the valve fully clockwise until mechanical stop is engaged.

1.3 **CONFIRM** proper indicator disk alignment with routing lines on cover block/plates.

1.4 IF directed by Shift Manager(s) or OE to install tamper seal **GO TO** TO-020-610.

[2] IF placing the valve in the OPEN position, **PERFORM** the following:

2.1 IF valve is in the OPEN position, **VERIFY** position by rotating valve clockwise **THEN**

2.2 **ROTATE** the valve fully counterclockwise until mechanical stop is engaged.

2.3 IF valve is in the CLOSED position, **ROTATE** the valve fully counterclockwise until mechanical stop is engaged.

2.4 **CONFIRM** proper indicator disk alignment with routing lines on cover block/plates.

2.5 IF directed by Shift Manager(s) or OE to install tamper seal **GO TO** TO-020-610.

(Continued on Next Page)
Attachement 1– Valve Positioning (Cont.)

4. Operate Three Way T-Handle Valves Excluding AN06A-WT-V-103 (Method 3)

[1] IF use of any torquing tools (e.g., torque wrench and adapter) is required, CONFIRM torque values provided in Table 1 of TO-020-610 are not exceeded.

[2] ROTATE the valve fully counterclockwise until mechanical stop is engaged

[3] IF placing valve in the full counterclockwise position, PERFORM the following:
   [3.1] ROTATE valve clockwise, THEN
   [3.2] CONFIRM the valve fully counterclockwise until mechanical stop is engaged.
   [3.3] CONFIRM proper indicator disk alignment with routing lines on cover blocks/plates.
   [3.4] IF directed by Shift Manager(s) or OE, INSTALL tamper seal per Attachment 3 of TO-020-610.

[4] IF placing valve in the mid position, PERFORM the following:
   [4.1] IF ROTATE valve clockwise, THEN
   [4.2] ROTATE the valve to proper alignment for mid position.
   [4.3] CONFIRM proper indicator disk alignment with routing lines on cover blocks/plates.
   [4.4] IF directed by Shift Manager(s) or OE, INSTALL tamper seal per Attachment 3 of TO-020-610.

[5] IF placing valve in the full clockwise position, PERFORM the following:
   [5.1] ROTATE the valve fully clockwise until mechanical stop is engaged.
   [5.2] CONFIRM proper indicator disk alignment with routing lines on cover blocks/plates.
   [5.3] IF directed by Shift Manager(s) or OE, INSTALL tamper seal per Attachment 3 of TO-020-610.