Remove Bulk Standing Water From LERF Basins 42, 43, and 44

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

<table>
<thead>
<tr>
<th>CHANGE HISTORY (≤ LAST 5 REV-MODS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev-Mod</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>A-7</td>
</tr>
<tr>
<td>A-6</td>
</tr>
<tr>
<td>A-5</td>
</tr>
<tr>
<td>A-4</td>
</tr>
<tr>
<td>A-3</td>
</tr>
</tbody>
</table>

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for the removal of standing water from the top of LERF Basins 42, 43, and 44.

1.2 Scope

This procedure involves the removal of standing water from the top of LERF Basins 42, 43, and 44 through the following tasks:
- Remove bulk standing water from basin covers
- Winterization/draining pumping manifold and filter skid.

2.0 INFORMATION

2.1 Terms and Definitions
- dP – Differential Pressure
- EFR – Environmental Field Representative
- GPM – Gallons Per Minute
- PPM – Parts Per Million
- Psi – Pound Per Square Inch.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 When the crane is operating, hearing protection is required within 25 ft of the back of the crane.

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.

3.2.2 When disconnecting, breaching or opening systems or system components that currently contain or previously contained radioactive material, the following actions apply:
   - HPT coverage is required
   - Pre-job and post-job HPT surveys are required
   - Contamination controls shall be implemented in accordance with ETF-02-001, until radiological verifications have been performed.

3.3 Environmental Compliance

3.3.1 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 may be needed to perform this procedure:
   - Generators, portable
   - Catch containers.

4.2 Field Preparation

4.2.1 **ENSURE** hoses and filter skid have been hydrostatically tested.
5.0 PROCEDURE

Special Instructions

Sections of this procedure may be performed concurrently or in any logical order.

5.1 Remove Bulk Standing Water from Basin 42 Cover

5.1.1 **ENSURE** all potential leak points in the system are positioned over surfaces that automatically drain back to the basin (preventing an overflow condition).

5.1.2 **ENSURE** connected Submersible pump is off.

5.1.3 **ENSURE** drain hose H-15 is connected to valve V-7 and routed to Basin 42 cover, or as directed by SOM.

5.1.4 **ENSURE** drain hose H-4 is connected to valve V-17 and routed to Basin 42 cover, or as directed by SOM.

5.1.5 **IF** submersible pump needs to be repositioned, **NOTIFY** HPT of intent to reposition pump.

5.1.5.1 **REPOSITION** with crane/ropes.

5.1.6 **ENSURE** the following valves are OPEN:

<table>
<thead>
<tr>
<th>V-3</th>
<th>V-6</th>
<th>V-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-12</td>
<td>V-16</td>
<td>V-17</td>
</tr>
<tr>
<td>V-27</td>
<td>V-28</td>
<td>60M-223</td>
</tr>
<tr>
<td>60M-224</td>
<td>60M-225</td>
<td>HV-42-30</td>
</tr>
</tbody>
</table>

5.1.7 **ENSURE** the following valves are CLOSED:

<table>
<thead>
<tr>
<th>V-4</th>
<th>V-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-15</td>
<td>V-20</td>
</tr>
<tr>
<td>V-23</td>
<td>V-26</td>
</tr>
<tr>
<td>60M-222</td>
<td>60M-221</td>
</tr>
</tbody>
</table>
5.1 Remove Bulk Standing Water from Basin 42 Cover (Cont.)

5.1.8 THROTTLE valve 60M-221 to approximately 25% open.

5.1.9 START submersible pump.

5.1.10 AFTER water starts pouring out of H-4, CLOSE V-17.

5.1.11 AFTER water starts pouring out of H-15, CLOSE 60M-223 AND CLOSE valve 60M-224.

5.1.12 OBSERVE valve 60M-225 and drain hose H-15 for signs that all air has been purged from the filter AND THROTTLE valve 60M-222 to approximately 25% OPEN when all air is purged.


5.1.14 CLOSE valves V-6 and V-7.

5.1.15 OPEN valve 60M-221 to 100% OPEN.

5.1.16 OPEN valve 60M-222 to 100% OPEN.

5.1.17 UPON initial use of the pump,

OR

IMMEDIATELY AFTER repair, PERFORM a visual leak check for a minimum of ten minutes.

5.1.17.1 IF a significant leak is found, STOP submersible pump AND NOTIFY the FWS, and HPT.

5.1.17.2 IF no leaks are found, CONTINUE pumping.

5.1.18 CONFIRM the inlet pressure PI-60M-228 is around 6 to 30 psi.

5.1.18.1 IF outside range, NOTIFY FWS.
5.1 Remove Bulk Standing Water from Basin 42 Cover (Cont.)

5.1.19 MONITOR filter dP between PI-60M-228 and PI-60M-229.

5.1.19.1 IF filter dP reaches 30 psi, NOTIFY FWS.

5.1.19.2 RECORD status change in Data Sheet 1.

5.1.20 IF submersible pump needs to be repositioned and/or the generator refueled, PERFORM the following:

5.1.20.1 IF repositioning pump, SHUT OFF submersible pump(s).

5.1.20.2 IF refueling, SHUT DOWN generator.

5.1.20.3 NOTIFY HPT of intent to reposition pump or refuel.

5.1.20.4 REPOSITION pump and/or REFUEL generator.

5.1.20.5 START submersible pump.

5.1.20.6 CONTINUE pumping.
5.1 Remove Bulk Standing Water from Basin 42 Cover (Cont.)

5.1.21 IF pumping is complete for the day, DRAIN system as follows:

5.1.21.1 ENSURE submersible pump is SHUT OFF.

5.1.21.2 SECURE generator.

5.1.21.3 ENSURE the following valves are OPEN:

At Basin 42

<table>
<thead>
<tr>
<th>V-3</th>
<th>V-6</th>
<th>V-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-12</td>
<td>V-16</td>
<td>V-17</td>
</tr>
<tr>
<td>V-26</td>
<td>V-27</td>
<td>V-28</td>
</tr>
<tr>
<td>60M-221</td>
<td>60M-222</td>
<td>60M-223</td>
</tr>
<tr>
<td>60M-224</td>
<td>60M-225</td>
<td>HV-42-30</td>
</tr>
</tbody>
</table>

5.1.21.4 OPEN valve V-4.

5.1.21.5 IF system has finished draining, CLOSE valve V-4.
5.2 Reserve For Future Use
5.3 Remove Bulk Standing Water from Basin 44 Cover

5.3.1 **ENSURE** all potential leak points in the system are positioned over surfaces that automatically drain back to the basin (preventing an overflow condition).

5.3.2 **ENSURE** connected submersible pump is off.

5.3.3 **ENSURE** drain hose H-15 is connected to valve V-7 and routed to basin 44.

5.3.4 **ENSURE** drain hose H-4 is connected to valve V-14 and routed to basin 44.

5.3.5 **ENSURE** hose H-6 is connected to valve V-12.

5.3.6 **IF** submersible pump needs to be repositioned, **NOTIFY** HPT of intent to reposition pump.

5.3.6.1 **REPOSITION** with crane/ropes.

5.3.7 **ENSURE** the following valves are OPEN:

At Basin 44

<table>
<thead>
<tr>
<th>Valve</th>
<th>Valve</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV-44-30</td>
<td>V-6</td>
<td>V-7</td>
</tr>
<tr>
<td>V-12</td>
<td>V-14</td>
<td>V-16</td>
</tr>
<tr>
<td>V-27</td>
<td>V-28</td>
<td>60B-223</td>
</tr>
<tr>
<td>60B-224</td>
<td>60B-225</td>
<td></td>
</tr>
</tbody>
</table>
5.3 Remove Bulk Standing Water from Basin 44 Cover (Cont.)

5.3.8 ENSURE the following valves are CLOSED:

<table>
<thead>
<tr>
<th>At Basin 44</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-2</td>
</tr>
<tr>
<td>V-13</td>
</tr>
<tr>
<td>V-19</td>
</tr>
<tr>
<td>V-23</td>
</tr>
<tr>
<td>60B-222</td>
</tr>
</tbody>
</table>

5.3.9 THROTTLE valve 60B-221 to approximately 25% OPEN.

5.3.10 START submersible pump.

5.3.11 AFTER water starts pouring out of drain hose H-4, CLOSE valve V-14.

5.3.12 AFTER water starts pouring out of drain hose H-15, CLOSE valves 60B-223 and 60B-224.

5.3.13 OBSERVE valve 60 B-225 and drain hose H-15 for signs that all air has been purged from the filter AND

THROTTLE valve 60B-222 to approximately 25% OPEN when all air is purged.

5.3.14 OPEN valve V-26.

5.3.15 CLOSE valve V-6 and V-7.

5.3.16 OPEN valve 60B-221 to 100% OPEN.

5.3.17 OPEN valve 60B-222 to 100% OPEN.
5.3 Remove Bulk Standing Water from Basin 44 Cover (Cont.)

5.3.18 UPON initial use of the pump,

**OR**

IMMEDIATELY AFTER repair, **PERFORM** a visual leak check for a minimum of ten minutes.

5.3.18.1 IF a significant leak is found, **STOP** submersible pump **AND** **NOTIFY** the FWS and HPT.

5.3.18.2 IF no leaks are found, **CONTINUE** pumping.

5.3.19 **CONFIRM** the inlet pressure PI-60B-228 is around 6 to 30 psi.

5.3.19.1 IF outside range, **NOTIFY** FWS.

5.3.20 **MONITOR** for leaks on hoses and filtration system.

5.3.20.1 **NOTIFY** SOM/FWS of any anomaly.

5.3.21 **MONITOR** filter dP between PI-60B-228 and PI-60B-229.

5.3.21.1 IF filter dP reaches 30 psi, **NOTIFY** FWS.

5.3.21.2 **RECORD** status change in Data Sheet 3.
5.3 Remove Bulk Standing Water from Basin 44 Cover (Cont.)

5.3.22 IF submersible pump needs to be repositioned and/or the generator refueled, PERFORM the following:

5.3.22.1 IF repositioning pump, SHUT OFF submersible pump(s).
5.3.22.2 IF refueling, SHUT DOWN generator.
5.3.22.3 NOTIFY HPT of intent to reposition pump or refuel.
5.3.22.4 REPOSITION pump and/or REFUEL generator.
5.3.22.5 START submersible pump.
5.3.22.6 CONTINUE pumping.

5.3.23 IF pumping is complete for the day, DRAIN system as follows:

5.3.23.1 ENSURE submersible pump is SHUT OFF.
5.3.23.2 SECURE generator.
5.3.23.3 ENSURE the following valves are OPEN.

At Basin 44

<table>
<thead>
<tr>
<th>HV-44-30</th>
<th>V-6</th>
<th>V-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-12</td>
<td>V-14</td>
<td>V-16</td>
</tr>
<tr>
<td>V-26</td>
<td>V-27</td>
<td>V-28</td>
</tr>
<tr>
<td>60B-221</td>
<td>60B-222</td>
<td>60B-223</td>
</tr>
<tr>
<td>60B-224</td>
<td>60B-225</td>
<td></td>
</tr>
</tbody>
</table>

5.3.23.4 OPEN valve V-4.

5.3.23.5 IF system has finished draining, CLOSE valve V-4.
5.4 Records

5.4.1 **PERFORM** the following for records identified within this procedure.

5.4.1.1 **RECORD** the number of times the record was generated in applicable column

**OR**

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

5.4.1.2 **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><strong>Data Sheets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Sheet 1 – Basin 42 Bulk Standing Water Data Sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Sheet 2 – Basin 43 Bulk Standing Water Data Sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Sheet 3 – Basin 44 Bulk Standing Water Data Sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FWS/OE/Shift Manager <strong>SEND</strong> the completed records to the Central Shift Office for records retention.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_________________________ / __________________________ / ____________

Signature Print (First & Last) Date

FWS/OE/Shift Manager

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.
### Data Sheet 1 – Basin 42 Bulk Standing Water Data Sheet

<table>
<thead>
<tr>
<th>Basin Number</th>
<th>42</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount Pumped (GAL):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dP Reading:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Drained (Y/N):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Comments:**
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
_________________________________________________________________________________
____________________________________________________________________________________

____________________ / ____________________________ / ____________
Signature                  Print (First & Last)                           Date
NCO

____________________ / ____________________________ / ____________
Signature                  Print (First & Last)                           Date
SOM/FWS
### Data Sheet 2 – Basin 43 Bulk Standing Water Data Sheet

<table>
<thead>
<tr>
<th>Basin Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>

**Date:**

**Amount Pumped (GAL):**

**dP Reading:**

**Fuel:**

**System Drained (Y/N):**

---

Additional Comments:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Signature / Print (First & Last) / Date

NCO

Signature / Print (First & Last) / Date

SOM/FWS

---
# Data Sheet 3 – Basin 44 Bulk Standing Water Data Sheet

<table>
<thead>
<tr>
<th>Basin Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td></td>
</tr>
</tbody>
</table>

**Date:**

**Amount Pumped (GAL):**

**dP Reading:**

**Fuel:**

**System Drained (Y/N):**

Additional Comments:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Signature / Print (First & Last) / Date

NCO

Signature / Print (First & Last) / Date

SOM/FWS