# Tank Farm Plant Operating Procedure

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### Change History (≤ Last 5 Rev-Mods)

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<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<tr>
<td>J-6</td>
<td>11/27/2018</td>
<td>Operations request - FFAPR implementation in AW Farm</td>
<td>Added steps for Air Lift Circulator Operation and ensuring farms are posted in accordance Risk Classification 3 and Waste Disturbing Activities in TFC-OPS-OPER-C-08.</td>
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<tr>
<td>J-5</td>
<td>11/21/2017</td>
<td>Operations request</td>
<td>Updated Reader board information, added a signature sheet, and updated the records section.</td>
</tr>
<tr>
<td>J-4</td>
<td>08/31/2017</td>
<td>Operations Request</td>
<td>Updated field preparations and specified when to record airlift circulator data. Added Data Sheets to the procedure and to the records section. Added a step to ensure reader boards activated per the Industrial Hygiene Strategy.</td>
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<tr>
<td>J-3</td>
<td>04/06/2017</td>
<td>Inconsequential Change to an AW procedure which needs to be TO-230</td>
<td>Changed procedure number from TO-200-040 to TO-230-040. Previous Records documents will be under TO-200-040.</td>
</tr>
<tr>
<td>J-2</td>
<td>08/16/2016</td>
<td>Operations request - The valves were removed from the table on a previous change so this note no longer applies.</td>
<td>Step 5.1.7 delete the note “{P} Denotes Power Operator valve lineup checks” after the table.</td>
</tr>
</tbody>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for the operation and flushing of the airlift circulators in tank 241-AW-102.

1.2 Scope

This procedure involves operating and flushing the airlift circulators in tank 241-AW-102 using the valving, instrumentation and gauges located in the following locations:

- 241-AW-271 Instrument Building
- 241-AW-801 Water Service Building
- AW102-IA-ENCL-101 Specific Gravity Instrument Enclosure
- 241-AW-273 Compressor Building
- 241-AW Flush Pit.

2.0 INFORMATION

2.1 Terms and Definitions

- ALC  -  -  Air Lift Circulators
- SCFM  -  -  Standard Cubic Feet Per Minute
- WG  -  -  Water Gauge.
2.2 General Information

2.2.1 The airlift circulators are used to blend the supernatant liquids in tank 241-AW-102 to provide a uniform feed for the Evaporator and also dilute and remove radiolytic hydrogen from the vapor space.

2.2.2 Tank 241-AW-102 has two ALCs. One is 16 inches in diameter, and one is 24 inches in diameter. Both ALCs are part of a single assembly that is installed in 42 inch RISER-012 in the 241-AW-02A central pump pit (Ref. Drawing H-2-70548). The key components on the ALCs are the air lines, air distributor cones, and draft tubes. The bottoms of both draft tubes are 31 inches above the primary tank bottom. The draft tube on the 24 inch ALC is 17 feet long. The draft tube on the 16 inch ALC is 12 feet long. Each ALC air line discharges through 1/8 inch diameter holes in the top of the distributor cone, and through an open ended 1 ½ inch pipe. The top of the distributor cone is 43 inches above the primary tank bottom. The bottom of the open pipe is 12 inches lower.

2.2.3 The combination of liquid and air bubbles in the Air Lift Circulators (ALC) draft tube is less dense than the liquid outside the draft tube. Because of this density difference, the hydrostatic pressure beneath the ALC draft tube is significantly lower than the hydrostatic pressure in the nearby liquid. This hydrostatic pressure differential and the ALC draft tube diameter result in a fairly high liquid flow rate up the draft tube. The density difference is the primary force driving the flow, not the lifting or dragging effect on the liquid by the individual air bubbles.

2.2.4 All water usage shall be in accordance with TO-040-540, Water Surveillance and Usage.

2.2.5 The airlift circulators are supplied with air from air compressors CP-E-1 and CP-E-2 located in 242-A Evaporator.

2.2.6 Two rotameters in 271-AW Instrument Building measure airflow through the airlift circulators. AW271-SA-FI-101 monitors the 24 inch airlift circulator, and AW271-SA-FI-102 monitors the 16 inch airlift circulator. The actual air flow rate through these rotameters in SCFM is greater than the rotameter readings in SCFM. The total air flow required to operate both ALCs at capacity is 90 SCFM. At this flow rate, the sum of the two rotameter readings would only be 48 SCFM.

2.2.7 If a tank pressurization event occurs, the airlift circulators shall be shutdown per the applicable sections in this procedure.

2.2.8 Signature Sheet 1 - Signature and Initials Identification Sheet is provided for personnel who will be initialing and/or signing this procedure.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

**WARNING** - Operation of either airlift circulator with tank dome space high pressure condition can result in a tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

**WARNING** - Air blowing of the airlift circulators, when tank level is below 43 inches, could result in tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

3.1.1 AW102-IA-ENCL-101 has been evaluated by a qualified electrical worker. No Electrical Hazard Evaluation (EHE) is required for entry into this enclosure.

3.1.2 IH Sample Plan is required for ALC operations. Industrial Hygienist will assign sample plan.

3.1.3 When flexible hose system is in use and operable with quick disconnect fittings, use whip check tie-downs to secure the hose.

3.2 Radiation and Contamination Control

3.2.1 When this procedure is worked in radiological areas, an approved radiological work permit (RWP) is required. If radiological conditions or work performed falls outside the scope of the RWP, all work activities must be discontinued until a new or revised RWP has been issued in accordance with TFC-ESHQ-RP_RWP-C-03, ALARA Work Planning.

3.3 Environmental Compliance

3.3.1 In accordance with Air Operating Permit (Emission Unit IDs 855 and 856) the AW primary tank exhausters shall be operational during particulate generating activities such as operation of the ALCs.

3.3.2 Report all planned and unplanned exhauster shutdowns, problems with abatement control equipment and required stack monitoring to the Central Shift Office to be evaluated for reporting purposes per procedure TF-REC-001, "Response to Environmental Condition".
4.0 PREREQUISITES

4.1 Performance Documents

The following procedures may be needed to perform this procedure:
- TO-040-540, Water Surveillance and Usage
- IH Monitoring Plan (required).

4.2 Field Preparation

The following conditions must be met before this procedure may commence:

NOTE This procedure requires the primary tank ventilation system to be operating while the 241-AW-102 ALCs are operating. This requirement is for contamination control.

NOTE Steps within this section may be performed concurrently or in any logical order.

4.2.1 OBTAIN IHSP number from Industrial Hygienist AND INFORM IH&S of approximate date/time ALCs will start.

IH sample plan # ______________________________

4.2.2 VERIFY that AW-102 is designated as a Waste Group C tank in HNF-IP-1266, Table 5.A-1.

____________________________________ / ______________________ / ______________
Signature Print (First and Last) Date

Shift Manager /OE
4.2 Field Preparation (Cont.)

4.2.3 CONTACT Shift Manager AND

CONFIRM the following:
- 241-AW primary ventilation system’s Record Sampler and CAM are operating
- 241-AW primary ventilation system is operating.

4.2.4 VERIFY baseline information for the following approved ALCs
IH monitoring plan is complete.

____________________________________ / __________________________ / ____________
Signature                  Print (First and Last)                Date
Shift Manager /OE

Operate 241-AW-102 Airlift Circulator
5.0 PROCEDURE

Special Instructions

During the course of this activity, ENSURE Signature Sheet 1 - Signature and Initials Identification Sheet is completed by all personnel who initial and/or sign this procedure.

NOTE - This procedure encompasses the startup, operation, flushing and shutdown of two (2) Air Lift Circulators either of which can be started up, operated, flushed or shutdown independently or simultaneously. For this reason, it is permitted to execute sections of this procedure out of sequence or not perform them all as directed by the SOM/OE. However it is important to note, while it is authorized to execute sections of this procedure out of sequence or not perform them all, steps within each section are required to be performed in order.

- If a tank pressurization event occurs, the airlift circulators shall be shut down per the applicable sections in this procedure.

5.1 Prepare to Operate Tank 241-AW-102 Airlift Circulators

5.1.1 CONFIRM HI PRESSURE TANK 102 (WST-PAH-112) alarm, located in 271-AW, is not active.

5.1.2 IF operating 24 inch airlift circulator, VERIFY tank 241-AW-102 level is greater than 240 inches.

________________________________________ / __________________________ / ____________
Signature                  Print (First and Last)                      Date
Operator

5.1.3 IF operating 16 inch airlift circulator, VERIFY tank 241-AW-102 level is greater than 190 inches.

________________________________________ / __________________________ / ____________
Signature                  Print (First and Last)                      Date
Operator

5.1.4 CONTACT 242-A Control Room AND

VERIFY both CP-E-1 and CP-E-2 air compressors are operational if both the 16” and the 24” ALC will be operated simultaneously.

________________________________________ / __________________________ / ____________
Signature                  Print (First and Last)                      Date
Operator

5.1.5 NOTIFY 242-A Control Room of pending Airlift Circulator operations.
5.1 Prepare to Operate Tank 241-AW-102 Airlift Circulators (Cont.)

5.1.6 CONFIRM 241-AW Farm instruments are being supplied with air from 242-A Evaporator air compressors CP-E-1 and/or CP-E-2.

5.1.7 PERFORM the following valve alignment:

<table>
<thead>
<tr>
<th>VALVE NUMBER / LOCATION</th>
<th>POSITION</th>
<th>INITIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AW271-IA-V-123</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-IA-V-125</td>
<td>271-AW</td>
<td>OPEN</td>
</tr>
<tr>
<td>AW271-SA-V-116</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-117</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-118</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-120</td>
<td>271-AW</td>
<td>OPEN</td>
</tr>
<tr>
<td>AW271-SA-V-121</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-122</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-123</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-124</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-125</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-SA-V-126</td>
<td>271-AW</td>
<td>CLOSED</td>
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<tr>
<td>AW271-SA-V-127</td>
<td>271-AW</td>
<td>OPEN</td>
</tr>
<tr>
<td>AW271-RW-V-401</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-RW-V-403</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW271-RW-V-404</td>
<td>271-AW</td>
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<td>AW271-RW-V-408</td>
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<tr>
<td>AW271-RW-V-409</td>
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<td>CLOSED</td>
</tr>
<tr>
<td>AW271-AS-V-201</td>
<td>271-AW</td>
<td>CLOSED</td>
</tr>
<tr>
<td>AW102-RW-V-501</td>
<td>*IA-ENCL-101</td>
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<td>AW102-RW-V-503</td>
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<td>AW102-RW-V-508</td>
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</tbody>
</table>

* This is 102-AW Specific Gravity Instrument Enclosure (AW102-IA-ENCL-101)
5.1 Prepare to Operate Tank 241-AW-102 Airlift Circulators (Cont.)

NOTE - The 242-A compressors will be used to supply air to the ALCs

5.1.8 **ENSURE** valve AW271-IA-V-123 is OPEN.


5.1.9 **ENSURE** Service Air valves AW271-SA-V-116 and AW271-SA-V-117 are OPEN.

NOTE - The 36 to 44 psi limit for AW271-SA-PI-106 and AW271-SA-PI-107 applies when there is no flow through AW271-SA-PCV-101. During ALC operation, the limit is 20 to 44 psi.

5.1.10 **CONFIRM** pressure indicator AW271-SA-PI-106 reads 36 to 44 psi and pressure indicator AW271-SA-PI-107 reads 36 to 44 psi.

NOTE - Pressure indicator AW271-SA-PI-107 is located behind panel board.

- AW271-SA-PCV-101 is operated as follows:
  - Turn top handle to the right to increase outlet pressure
  - Turn top handle to the left to decrease outlet pressure.

5.1.11 **IF** AW271-SA-PI-106 or AW271-SA-PI-107 reads greater than 44 psi or less than or equal to 36 psi, **ADJUST** valve AW271-SA-PCV-101 to regulate pressure so pressure indicators, AW271-SA-PI-106 and AW271-SA-PI-107 read between 36 and 44 psi.

5.1.12 **IF** pressure cannot be adjusted to less than 44 psi or greater than 36 psi on AW271-SA-PI-106 and AW271-SA-PI-107, **PERFORM** the following:

5.1.12.1 **CLOSE** the following Service Air valves:
  - AW271-SA-V-116
  - AW271-SA-V-117.

5.1.12.2 **INFORM** Shift Manager of system shutdown.
5.2 Operate 16 Inch Airlift Circulator

**WARNING**
Operation of either airlift circulator with tank dome space high pressure condition can result in a tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

**NOTE** - The SCFM reading is obtained from metal scale attached alongside rotameter housing.
- The 16 and 24 inch airlift circulators can be operated simultaneously.
- The 16 inch airlift circulator shall be operated only when 241-AW-102 level is greater than 190 inches.

5.2.1 **ENSURE** reader boards to notify road traffic of Air Lift Circulator Operation are turned on (e.g., “Waste Disturbing Activity in Progress”).

5.2.2 **ENSURE** AW Farm access locations are posted in accordance with Farm Posting Process for Risk Classification 3 and Waste Disturbing Activities in TFC-OPS-OPER-C-08.

5.2.3 **ENSURE** Section 5.1 has been performed.

5.2.4 **OPEN** valve AW271-SA-V-126.

5.2.5 **ADJUST** valve AW271-SA-V-125 to maintain a 10 to 13 SCFM reading on flow indicator AW271-SA-FI-102.

5.2.6 **IF** airflow and 20 to 44 psi pressure on AW271-SA-PI-106 and AW271-SA-PI-107 cannot be maintained as specified in Steps 5.2.5 **SHUT DOWN** the airlift circulator per Section 5.6 **AND**

**NOTIFY** Shift Manager.

5.2.7 **RECORD** airlift circulator data approximately 30 minutes after startup per Data Sheet 1.
5.3 **Flush 16 Inch Circulator**

NOTE - Circulator Flushing will be directed by SM/OE.

5.3.1 **ENSURE** Section 5.1 has been performed.

5.3.2 **ENSURE** the following valves in Flush Pit AW-241 are closed:
- AWFP-RW-V-201
- AWFP-RW-V-202
- AWFP-RW-V-203.

5.3.3 **ENSURE** valve AW801-RW-V-112 is CLOSED.

5.3.4 **ENSURE** the following raw water valves in the AW Farm raw water service building are OPEN:
- AW801-RW-V-110

5.3.5 **ENSURE** valve AW271-RW-V-403 is CLOSED.

5.3.6 **ENSURE** valve AW271-SA-V-124 is CLOSED.

5.3.7 **CLOSE** the following Service Air valves:
- AW271-SA-V-125
- AW271-SA-V-126
- AW271-SA-V-120.

NOTE - Figure 3 provides information on how to read AW Farm flow meter totalizer AW801-RW-FQI-120.

5.3.8 **OBTAIN** beginning water meter reading from AW801-RW-FQI-120 water meter (located in AW-801 Water Service Building) AND **RECORD** on Water Surveillance Data Sheet.

5.3.9 **OPEN** valve AW271-RW-V-401.

5.3.10 **OPEN** valve AW271-RW-V-405 AND **WAIT** five minutes.

5.3.11 **CLOSE** valve AW271-RW-V-401.
5.3 Flush 16 Inch Circulator (Cont.)

**WARNING**
Air blowing of the airlift circulator, when the tank level is below 43 inches, could result in a tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

5.3.12 **OPEN** valve AW271-SA-V-124 for five minutes to blow water out of vertical pipe.

5.3.13 **CLOSE** valve AW271-SA-V-124.

5.3.14 **CLOSE** valve AW271-RW-V-405.

5.3.15 **OPEN** valve AW271-SA-V-120.

**NOTE**
Steps 5.3.16 and 5.3.17 may be skipped if circulator is not operating.

5.3.16 **OPEN** AW271-SA-V-126.

5.3.17 **OPEN** AW271-SA-V-125 to adjust system airflow to operational settings of 10 to 13 SCFM on AW271-SA-FI-102.

5.3.18 **CLOSE** the following valves in AW Water Service Building:
- AW801-RW-V-110

5.3.19 **OPEN** valve AWFP-RW-V-201 in Flush Pit 241-AW AND **WAIT** five (5) minutes.

5.3.20 **CLOSE** valve AWFP-RW-V-201.

**NOTE**
Figure 3 provides information on how to read AW Farm flow meter totalizer AW801-RW-FQI-120.

5.3.21 **OBTAIN** ending water meter reading from AW801-RW-FQI-120 water meter AND **RECORD** on Water Surveillance Data Sheet.
5.4 Operate 24 Inch Airlift Circulator

**WARNING**

Operation of either airlift circulator with tank dome space high pressure condition can result in a tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

**NOTE** - The 24 inch airlift circulator shall be operated only when 241-AW-102 level is greater than 240 inches.

5.4.1 **ENSURE** reader boards to notify road traffic of Air Lift Circulator Operation are turned on (e.g., “Waste Disturbing Activity in Progress”).

5.4.2 **ENSURE** AW Farm access locations are posted in accordance with Farm Posting Process for Risk Classification 3 and Waste Disturbing Activities in TFC-OPS-OPER-C-08.

5.4.3 **ENSURE** Section 5.1 has been performed.

5.4.4 **OPEN** valve AW271-SA-V-123.

**NOTE** - The 16 and 24 inch airlift circulators can be operated simultaneously.

- The SCFM reading is obtained from metal scale attached alongside rotameter housing.

5.4.5 **ADJUST** valve AW271-SA-V-122 to ensure flow indicator AW271-SA-FI-101 reads per the following table:

<table>
<thead>
<tr>
<th>241-AW-102 LEVEL RANGE</th>
<th>AW271-SA-FI-101 ROTAMETER READING RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 - 260 inches</td>
<td>21 - 24 SCFM</td>
</tr>
<tr>
<td>260 - 300 inches</td>
<td>24 - 27 SCFM</td>
</tr>
<tr>
<td>300 - 356 inches</td>
<td>27 - 31 SCFM</td>
</tr>
<tr>
<td>356 - 422 inches</td>
<td>31 - 35 SCFM</td>
</tr>
</tbody>
</table>

5.4.6 **IF** airflow and 20 to 44 psi pressure on AW271-SA-PI-106 and AW271-SA-PI-107 cannot be maintained as specified in Steps 5.4.5 **SHUT DOWN** airlift circulator per Section 5.7 **AND**

**NOTIFY** Shift Manager.

5.4.7 **RECORD** airlift circulator data approximately 30 minutes after startup per Data Sheet 1.
5.5 Flush 24 Inch Airlift Circulator

NOTE - Circulator Flushing will be directed by SM/OE.

5.5.1 ENSURE Section 5.1 has been performed.

5.5.2 ENSURE the following valves in Flush Pit AW-241 are CLOSED:
   - AWFP-RW-V-201
   - AWFP-RW-V-202
   - AWFP-RW-V-203.

5.5.3 ENSURE valve AW801-RW-V-112 is CLOSED.

5.5.4 ENSURE the following raw water valves in the AW Farm raw water service building are OPEN:
   - AW801-RW-V-110

5.5.5 ENSURE valve AW271-RW-V-403 is CLOSED.

5.5.6 CLOSE the following Service Air valves:
   - AW271-SA-V-122
   - AW271-SA-V-123
   - AW271-SA-V-120.

5.5.7 ENSURE valve AW271-SA-V-121 is CLOSED.

NOTE - Figure 3 provides information on how to read AW Farm flow meter totalizer AW801-RW-FQI-120.

5.5.8 OBTAIN beginning water meter reading from AW801-RW-FQI-120 water meter (located in AW-801 Water Service Building) AND RECORD on Water Surveillance Data Sheet.

5.5.9 OPEN the following raw water valves:
   - AW271-RW-V-401

5.5.10 WAIT five minutes AND CLOSE valve AW271-RW-V-401.
5.5 Flush 24 Inch Airlift Circulator (Cont.)

**WARNING**

Air blowing of the airlift circulator, when the tank level is below 43 inches, could result in a tank pressurization and possible uncontrolled exposure of personnel to airborne contamination.

5.5.11 **OPEN** valve AW271-SA-V-121 for five minutes to blow water out of vertical pipe.

5.5.12 **CLOSE** valve AW271-SA-V-121.

5.5.13 **CLOSE** valve AW271-RW-V-404.

5.5.14 **OPEN** valve AW271-SA-V-123.

5.5.15 **OPEN** valve AW271-SA-V-120.

5.5.16 **OPEN** valve AW271-SA-V-122 to adjust airflow to prior specified settings.

<table>
<thead>
<tr>
<th>241-AW-102</th>
<th>AIR FLOWRATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 - 260 inches</td>
<td>21 - 24 SCFM</td>
</tr>
<tr>
<td>260 - 300 inches</td>
<td>24 - 27 SCFM</td>
</tr>
<tr>
<td>300 - 356 inches</td>
<td>27 - 31 SCFM</td>
</tr>
<tr>
<td>356 - 422 inches</td>
<td>31 - 35 SCFM</td>
</tr>
</tbody>
</table>

5.5.17 **CLOSE** the following valves in AW Water Service Building:
- AW801-RW-V-110

5.5.18 **OPEN** valve AWFP-RW-V-201 in Flush Pit 241-AW.

5.5.19 **WAIT** five (5) minutes **AND**

**CLOSE** valve AWFP-RW-V-201.

**NOTE** - Figure 3 provides information on how to read AW Farm flow meter totalizer AW801-RW-FQI-120.

5.5.20 **OBTAIN** ending water meter reading from AW801-RW-FQI-120 water meter **AND**

**RECORD** on Water Surveillance Data Sheet.
5.6 Shutdown 16 Inch Airlift Circulator

5.6.1 ENSURE valve AW271-SA-V-124 is CLOSED.
5.6.2 CLOSE valve AW271-SA-V-125.
5.6.3 CLOSE valve AW271-SA-V-126.

5.7 Shutdown 24 Inch Airlift Circulator

5.7.1 ENSURE valve AW271-SA-V-121 is CLOSED.
5.7.2 CLOSE valve AW271-SA-V-122.
5.7.3 CLOSE valve AW271-SA-V-123.

5.8 Isolate Service Air from Airlift Circulators

5.8.1 ENSURE valve AW271-IA-V-123 is CLOSED.
5.8.2 ENSURE valve AW271-SA-V-118 is CLOSED.
5.8.3 CLOSE valve AW271-SA-V-116.
5.8.4 CLOSE valve AW271-SA-V-117.
5.8.5 ENSURE the following valve alignment:

<table>
<thead>
<tr>
<th>VALVE NUMBER</th>
<th>POSITION</th>
<th>INITIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AW271-RW-V-404</td>
<td>CLOSED</td>
<td></td>
</tr>
<tr>
<td>AW271-RW-V-405</td>
<td>CLOSED</td>
<td></td>
</tr>
<tr>
<td>AW271-RW-V-403</td>
<td>CLOSED</td>
<td></td>
</tr>
<tr>
<td>AW271-RW-V-401</td>
<td>CLOSED</td>
<td></td>
</tr>
<tr>
<td>AW271-AS-V-201</td>
<td>CLOSED</td>
<td></td>
</tr>
</tbody>
</table>

5.8.6 ENSURE AW Farm access locations are down-posted in accordance with Farm Posting Process for Risk Classication 3 and Waste Disturbing Activities in TFC-OPS-OPER-C-08.

5.8.7 ENSURE reader boards that notified traffic of DST transfer are turned off.
5.9 Records

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

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

**OR**

5.9.1.2 **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>4.2 Field Preparation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4.2.1</td>
<td></td>
<td></td>
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<tr>
<td>Step 4.2.2</td>
<td></td>
<td></td>
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<tr>
<td>Step 4.2.4</td>
<td></td>
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</tr>
<tr>
<td><strong>5.1 Prepare to Operate Tank 241-AW-102 Airlift Circulators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.1.2</td>
<td></td>
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<td>Step 5.1.3</td>
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<td></td>
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<tr>
<td>Step 5.1.4</td>
<td></td>
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<tr>
<td>Step 5.1.6</td>
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</tr>
<tr>
<td><strong>5.8 Isolate Service Air from Airlift Circulators</strong></td>
<td></td>
<td></td>
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<tr>
<td>Step 5.8.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data Sheets</strong></td>
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</tr>
<tr>
<td>Data Sheet 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Signature Sheet</strong></td>
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<td></td>
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<tr>
<td>Signature Sheet 1</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 Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Data Sheet 1 – AW-102 Air Lift Circulator Operation

<table>
<thead>
<tr>
<th>Component Number/Condition</th>
<th>Normal Range</th>
<th>Limit (Basis)</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>AW271-SA-PI-107 Instrument Air Supply Pressure</td>
<td>20 to 44 PSIG</td>
<td>(ES)</td>
<td></td>
</tr>
<tr>
<td>AW271-SA-FI-101 Process Air Flow Rate 24&quot; (* (*))</td>
<td>SCFM</td>
<td>(ES)</td>
<td></td>
</tr>
<tr>
<td>AW271-SA-FI-102 Process Air Flow Rate 16&quot; (**)</td>
<td>10 to 13 SCFM</td>
<td>(ES)</td>
<td></td>
</tr>
</tbody>
</table>

* The 24 inch Process Air Flow Rate normal range varies with 241-AW-102 level.

** Read from gray metal scale attached to the rotometer housing.

<table>
<thead>
<tr>
<th>241-AW-102 LEVEL</th>
<th>AW271-SA-FI-101 Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>240-260 inches</td>
<td>21-24 SCFM</td>
</tr>
<tr>
<td>260-300 inches</td>
<td>24-27 SCFM</td>
</tr>
<tr>
<td>300-356 inches</td>
<td>27-31 SCFM</td>
</tr>
<tr>
<td>356-422 inches</td>
<td>31-35 SCFM</td>
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</tbody>
</table>

Performed By:

<table>
<thead>
<tr>
<th>Signature</th>
<th>Print (First and Last)</th>
<th>Date/Time</th>
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Reviewed By:

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<tr>
<th>Signature</th>
<th>Print (First and Last)</th>
<th>Date/Time</th>
</tr>
</thead>
</table>
Operate 241-AW-102 Airlift Circulator

Figure 1 – 241-AW-102 Airlift Circulator Diagram
Figure 2 - Reading Point on Rotameter Float
Figure 3 – AW Flow Meter Totalizer AW801-RW-FQI-120

Read this meter clockwise from top left zero:

0 0 0 0 0 1 5 2 gal

Red Pointers are used to derive values
# Signature Sheet 1 - Signature and Initials Identification Sheet

Participating personnel enter their signature, printed name, and initials below.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Print (First &amp; Last)</th>
<th>Initials</th>
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