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>J-3</td>
<td>10/18/2018</td>
<td>Operations Request</td>
<td>Corrected alarm descriptions and actions, deleted unnecessary information, and deleted unneeded references.</td>
</tr>
<tr>
<td>J-2</td>
<td>10/16/2017</td>
<td>Operations Request</td>
<td>Page 2 modified immediate actions; [3] replaced &quot;IF Feed Sampling is in progress, STOP any rinsing or flushing of sampler from proceeding.&quot; with &quot;IF Slurry Sampling or Sample Cabinet flushing is in progress, EXIT this ARP.&quot; [4] struck out &quot;IF Feed Sampling is not in progress,&quot; [5] added &quot;attempt to&quot; [6] added &quot;PERFORM the following: NOTIFY Shift Manager SHUTDOWN the Evaporator per TO-600-060</td>
</tr>
<tr>
<td>J-1</td>
<td>06/26/2017</td>
<td>Periodic Review</td>
<td>Page 4 – Possible Causes: PC Line Rad HI (RI-CA1-1) was struck out. EC1 CONDENSER PC RAD HI/FAIL (RSH-CA1-1) was struck out.</td>
</tr>
<tr>
<td>J-0</td>
<td>08/13/2015</td>
<td>Periodic Review</td>
<td>No Changes</td>
</tr>
<tr>
<td>I-8</td>
<td>12/02/2014</td>
<td>Operations Request</td>
<td>Corrected alarm descriptions, deleted steps and combined pages.</td>
</tr>
</tbody>
</table>

242-A EVAPORATOR GRAPHIC #301 ALARM INDEX

<table>
<thead>
<tr>
<th>Alarm #</th>
<th>Description</th>
<th>Color</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDS-SMPL1</td>
<td>FEED SAMPLER ENCLOSURE LEAK</td>
<td>YELLOW</td>
<td>2</td>
</tr>
<tr>
<td>II-AW-102</td>
<td>P-AW-102 FEED PUMP CURRENT LOW</td>
<td>WHITE</td>
<td>3</td>
</tr>
<tr>
<td>YSAW102IL</td>
<td>P-AW-102 HARDWARE INTERLOCK STATUS</td>
<td>YELLOW</td>
<td>4</td>
</tr>
<tr>
<td>PDI-220</td>
<td>AW-102 TANK PRESSURE HIGH</td>
<td>YELLOW</td>
<td>5</td>
</tr>
<tr>
<td>YS-AW102</td>
<td>P-AW-102 FEED PMP MOTOR CONFIRM</td>
<td>YELLOW</td>
<td>7</td>
</tr>
</tbody>
</table>

RECORDS

No records are generated during the performance of this procedure.
Respond to P-AW-102 and Slurry Sampler Graphic #301 Alarm at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 301  Alarm #: N/A

Source: LDE-SMPL-1  Setpoint: Leak detector has detected liquid.

Alarm Class: Environmental

Alarm Description: FEED SAMPLER ENCLOSURE LEAK (F0/5); the leak detector has detected liquid in the Feed Sampler Enclosure.

Automatic Actions: None

Immediate Actions:

[1] NOTIFY Shift Manager.
[2] CHECK Feed Sampler Enclosure Leak (G301, F0/5) for alarm condition.
[3] IF Slurry Sampling or Sample Cabinet flushing is in progress, EXIT this ARP.
[4] REQUEST the Backside Operator ensure Raw Water Valve RWV-11 is CLOSED.
[5] IF RWV-11 is CLOSED, attempt to IDENTIFY the leak location through the AMU Room viewing windows.
[6] IF evidence of leakage is present, PERFORM the following:
   [6.1] NOTIFY Shift Manager
   [6.2] SHUTDOWN the Evaporator per TO-600-060.
[7] IF LDE-SMPL-1 is determined to be inoperable, NOTIFY Shift Manager.

Supplemental Actions

[8] REQUEST Shift Manager to evaluate the need to notify the on-call Environmental Representative per TF-REC-001 or TFC-ESHQ-ENV_FS-C-01.

Possible Causes:

1. Plugged drain in Feed sampler drip tray.
2. Feed Sampler Enclosure leak.
3. Ongoing maintenance PM.

References:

Drawings: H-2-98988, Sheet 2; H-2-99085, Sheets 3 and 10
Documents: HNF-15279, “Technical Safety Requirements for the 242-A Evaporator”
           TF-REC-001, “Response to Environmental Condition”
           TFC-ESHQ-ENV_FS-C-01,” Environmental Notification”
### Facility: 242-A Evaporator

<table>
<thead>
<tr>
<th>Graphic: 301</th>
<th>Alarm #: N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel: N/A</td>
<td>II-AW-102</td>
</tr>
<tr>
<td>Source: Feed Pump P-AW-102</td>
<td>Setpoint: 12 amps</td>
</tr>
</tbody>
</table>

**Alarm Class:** Plant Stability  
**Alarm Description:** P-AW-102 FEED PUMP CURRENT LOW

**Immediate Actions:**

- **NOTE** - Feed Pump P-AW-102 will automatically shutdown when pump motor current drops below 5 amps.

1. **CHECK** Feed Pump current (II-AW-102) and flow (FIC-CA1-1) Current Trend display for recent fluctuations (red and white trace on Current Trend 0).
2. **NOTIFY** Shift Manager.
3. **CONTACT** engineering for suggested path forward.
4. **AS DIRECTED, SHUT DOWN** P-AW-102 (G301/7 or F0/1)

**Possible Causes:**

1. Mechanical or electrical problem with Feed Pump P-AW-102.
2. Instrument malfunction.

**References:**

- **Drawings:** H-2-70387; H-2-99949, Sheet 37; H-2-99059, Sheet 6
- **Documents:** None.
Respond to P-AW-102 and Slurry Sampler Graphic #301 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 301  Alarm #: N/A
Panel: N/A  Source: N/A  Setpoint: N/A

Alarm Class: Plant Stability  Alarm Description: P-AW-102 HARDWARE INTERLOCK STATUS (F0/3)

Automatic Actions: None

Immediate Actions:

[1]  IF P-AW-102 is intentionally being shutdown, NO Operator response is required.
[3]  CHECK P-AW-102 (G301/7, F0/1) FEED PUMP status.
   [3.1]  IF P-AW-102 status is OFF, PERFORM the following as directed by the Shift Manager.
      [3.1.1] ATTEMPT to clear interlock condition.
      [3.1.2]  RESTART per applicable Step in TO-600-030.

Possible Causes:

1. MCC_1 switch gear 241-AW-P-102-1 is in the open position.

References:

Drawings:  H-2-99949, Sheet 37
Facility: 242-A Evaporator

Graphic: 301  Alarm #: N/A
Panel: N/A
Source: PY-220  Setpoint: -1.00 in. WG

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, and LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)

Alarm Description: AW-102 TANK PRESSURE HIGH (G301)

Automatic Actions:

1. Activates Interlock #57, BLOCK BOT-DUMP
   - Closes valve HV-CA1-7
   - Closes valve HV-CA1-9
   - Opens valve HV-CA1-8.

Immediate Actions:

NOTE - This alarm is primarily used as an early warning to tank pressurization when the evaporator contents are being dumped to TK-102-AW. During a controlled evaporator dump, the Evaporator MCS will automatically close the dump valves to stop tank pressurization prior to reaching the Tank High Pressure alarm WST-PAH-112, set at -0.50 in. WG.

[1] IF performing a controlled evaporator dump per TO-600-060, EXIT this ARP AND CONTINUE with procedural steps specified in TO-600-060.


[3] IF TMACS pressure recorder indicates a tank pressure of greater than -0.5 in. WG, OR

   IF 102-AW Tank High Pressure alarm WST-PAH-112 is active, NOTIFY Shift Manager of alarm condition AND EXIT this ARP.

(Continued on Next Page)
Facility: 242-A Evaporator

Graphic: 301  Alarm #: N/A
Panel: N/A
Source: PY-220  Setpoint: -1.00 in. WG

Possible Causes:
1. Evaporator dump in progress.
2. Tank Primary Exhaust Fan Shutdown.
3. Instrument malfunction.
4. Ongoing maintenance PM.
5. Tank riser work being performed.
6. Pump Room sump liquid level too low.

References:
Drawings:  H-14-020102, Sheet 6
Documents:  HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
            TO-600-060, “Shut Down the 242-A Evaporator”
Respond to P-AW-102 and Slurry Sampler Graphic #301 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator  
**Graphic:** 301  
**Alarm #:** N/A  
**Panel:** N/A  
**Source:** M-PAW-102  
**Setpoint:** P-AW-102 SHUTDOWN  
**Alarm Class:** Plant Stability  
**Alarm Description:** P-AW-102 (G301, F0/1) FEED PMP MOTOR CONFIRM; Feed Pump P-AW-102 has shutdown.

### Automatic Actions:


### Immediate Actions:

1. **IF** P-AW-102 is intentionally being shutdown, **NO** Operator response is required.

2. **CHECK** P-AW-102 (G301/7, F0/1) FEED PUMP status.
   
   2.1. **IF** P-AW-102 status is OFF, **PERFORM** the following as directed by the Shift Manager.
      
      2.1.1. **ATEMP** to clear interlock condition.

      2.1.2. **RESTART** per applicable Step in TO-600-030.

3. **IF** P-AW-102 cannot be restarted, **AS** directed by Shift Manager, **SHUTDOWN** Evaporator per TO-600-060.

### Possible Causes:

1. An interlock condition associated with pump P-AW-102 exists. Following is the list of interlocks associated with Feed Pump (G51):
   
   - EVAP CA1 WF HI (LI-CA1-1, WFSH-CA1-1)
   - EVAP CA2 WF HI (LI-CA1-2, WFSH-CA1-2)
   - VESSEL VENT 1ST HEPA DP HI (PDSH-FC5-1)
   - VESSEL VENT B/G RAD HI (RSH-VVB/G)
   - EVAP LOWER DE-ENTRAINER DP HI (PDI-CA1-1, PDSH-CA1-1)
   - EVAP UPPER DE-ENTRAINER DP HI (PDI-CA1-2, PDSH-CA1-2).

### References:

**Drawings:** H-2-99059; H-2-99085, Sheet 18  
**Documents:** TO-600-060, “Shut Down the 242-A Evaporator”  
TO-600-030, “Start Up 242-A Evaporator”