Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Tank Farm Alarm Response Procedure

USQ # TF-19-0004-S Rev. 0

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-4</td>
<td>01/03/2019</td>
<td>Engineering request and PER 2018-2642</td>
<td>Modified Set points on IO Cabinet Temperature (Low) alarm from “45” to “20” °F. Modified Set points on IO Cabinet Temperature (High) alarm from “118” to “135” °F. Tank # PDI Narrow (Low) alarm, alarm description: struck out &quot;too low for continued&quot; added &quot;below range of normal&quot; Modified steps: [3] struck out &quot;CHECK history of all tank pressure transmitters on TFMCS.&quot; replaced with &quot;IF directed by the Shift Manager/OE, PERFORM any/all of the following:&quot; [3.1] struck out &quot;NAVIGATE to “AW Farm – Tank Pressure Transmitters”,&quot; replaced with &quot;MONITOR tank pressure on TFMCS. &quot;, [3.2] struck out &quot;CLICK on tank pressure readings on TFMCS screen “AW Tank Farm” to display pressure history graph.&quot; replaced with &quot;ADJUST exhauster stack flow set point per TO-060-107.&quot; [3.3] struck out &quot;CLICK on faceplate graph icon to display pressure graph.&quot; replaced with &quot;REMOVE any ice buildup or obstructions from AW-106 inlet station&quot; added new step [3.4] &quot;REMOVE tape from valve pits.&quot; Moved &quot;NOTIFY Shift Manager/OE of actions and findings.&quot; to Supplemental Actions, Struck out [5]&quot;CHECK the air inlets for obstructions AND REMOVE as necessary.&quot; added new step [5] &quot;ENSURE inlet station 12” isolation valve (see Table 1 for proper valve numbers) (AW10X VTP FCV 20X) is OPEN.&quot;. Struck out [8] IF directed by Shift Manager/OE, PERFORM the following: [8.1] OPEN any isolated inlet station valves. [8.2] ADJUST tank vacuum by adjusting airflow of the inlet filters on 241-AW tanks[,] [8.3] IF directed by Shift Manager, CHECK stack flow set points and adjust per TO 060 107. [8.4] IF the above steps do not restore the tank pressure to the proper range NOTIFY Shift Manager/OE.</td>
</tr>
<tr>
<td>F-3</td>
<td>07/17/2018</td>
<td>Engineering request</td>
<td>Changes in support of software updates on the AN and AW VTP systems consistent with ECN-714198 and ECN-713680.</td>
</tr>
<tr>
<td>F-2</td>
<td>01/10/2018</td>
<td>To address ECN-14-000162 changes</td>
<td>Deleted De-Entrainer Seal Pot (Low Low) Level alarm response and the De-Entrainer Seal Pot OE alarm on page 64. Deleted additional De-entrainer alarms on pages 87, 88, and 89.</td>
</tr>
<tr>
<td>F-1</td>
<td>01/02/2018</td>
<td>Engineering request</td>
<td>Modified response steps to CAM Transmitter Failure on page 18. Alarm does not shutdown exhauster.</td>
</tr>
<tr>
<td>F-0</td>
<td>09/15/2016</td>
<td>Periodic Review</td>
<td>No changes identified.</td>
</tr>
</tbody>
</table>

241-AW VTP TFMCS Alarm Index

<table>
<thead>
<tr>
<th>Alarm Description</th>
<th>Color/Alarm Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM Hi-Hi Radiation (Message: Alarm)</td>
<td>RED (TSR)</td>
<td>4</td>
</tr>
<tr>
<td>HEPA Filter 1 Differential Pressure</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Document No.</th>
<th>Rev/Mod</th>
<th>Release Date</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFERENCE</td>
<td>ARP-T-231-EXH(A)</td>
<td>F-4</td>
<td>01/03/2019</td>
<td>1</td>
</tr>
<tr>
<td>Alarm Description</td>
<td>Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEPA Filter 2 Differential Pressure (Message: Low Low)</td>
<td>RED (TSR) .................. 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank # PDI Narrow (Message: High High)</td>
<td>RED (TSR) .................. 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank # PDI Narrow (Message: Object Error (OE))</td>
<td>RED (TSR) .................. 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAM Transmitter Failure (Message: Alarm)</td>
<td>RED (TSR) .................. 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Alarms</td>
<td>RED (TSR) .................. 16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Alarm Not Specifically Addressed</td>
<td>RED (Equipment Status) .......... 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEPA Filter 1 Differential Pressure (Message: High High)</td>
<td>RED (TSR) .................. 18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEPA Filter 2 Differential Pressure (Message: High High)</td>
<td>RED (TSR) .................. 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skid Seal Pot Level (Message: Low Low)</td>
<td>RED (TSR) .................. 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skid Seal Pot Level (Message: High High)</td>
<td>RED (TSR) .................. 24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shunt Trip (Immediate Stop) (Message: Alarm)</td>
<td>RED (TSR) .................. 26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual Volumetric Flow Rate (Message: Low Low)</td>
<td>RED (TSR) .................. 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual Volumetric Flow Rate (Message: High High)</td>
<td>RED (TSR) .................. 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank # PDI Narrow (Message: Low Low)</td>
<td>RED (TSR) .................. 32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCS Power Supply Failure (Message: Alarm)</td>
<td>RED (Env. Impact) .......... 35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAM Sample Flow (Message: Low Low)</td>
<td>RED (TSR) .................. 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAM Sample Flow (Message: High)</td>
<td>RED (TSR) .................. 38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Record Sample Flow (Message: Low Low)</td>
<td>RED (TSR) .................. 40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Record Sample Flow (Message: High)</td>
<td>RED (TSR) .................. 42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAM Buzzer ON (Message: N/A)</td>
<td>RED (Equipment Status) .......... 43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhauster Fan VFD Enable (Message: Object Error (OE))</td>
<td>RED (TSR) .................. 44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhauster Fan VFD (Message: Object Error (OE))</td>
<td>RED (TSR) .................. 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Header Pressure (Message: Low Low)</td>
<td>RED (TSR) .................. 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Header Pressure (Message: Low)</td>
<td>RED (Equipment Status) .......... 48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Header Pressure (Message: High High)</td>
<td>RED (TSR) .................. 49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Tank Level (Message: Low Low)</td>
<td>RED (TSR) .................. 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Tank Level (Message: High)</td>
<td>RED (Equipment Status) .......... 52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Heater Temperature (Message: High High)</td>
<td>RED (TSR) .................. 53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycol Heater Transmitter Fail (Message: Alarm)</td>
<td>RED (TSR) .......... 54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet Temp-Heat Exch Out Temp (Message: N/A)</td>
<td>RED (TSR) .................. 55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Exchanger Outlet Temperature (Message: High High)</td>
<td>RED (TSR) .................. 56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Filter Differential Pressure (Message: High)</td>
<td>RED (Equipment Status) .......... 58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEPA Filter 1 Differential Pressure (Message: High)</td>
<td>RED (Env. Impact/Equip. Status) 59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEPA Filter 2 Differential Pressure (Message: High)</td>
<td>RED (Env. Impact/Equip. Status) 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skid Seal Pot Level (Message: Low)</td>
<td>RED (Equipment Status) .......... 61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

DCS Cabinet Temperature (Message: Low) RED (Equipment Status)............ 62
DCS Cabinet Temperature (Message: High) RED (Equipment Status)........... 63
IO Cabinet Temperature (Message: Low) RED (Equipment Status)............. 64
IO Cabinet Temperature (Message: High) RED (Equipment Status)............ 65
Tank # PDI Narrow (Message: Low) RED (Equipment Status).................. 66
Object Error (Message: N/A) RED (Equipment Status)......................... 69
CROSSOVER – Failed to stop this train (Message: CROSSOVER - Failed) RED (Equipment Status)............. 70
CROSSOVER - Warning, this train stopped abnormally (Message: CROSSOVER - Failed) RED (ES)................. 71
CROSSOVER - Failed, other train failed to run (Message: CROSSOVER - Failed) RED (ES).......................... 73
Control Equipment or Exh Stack Flow Failure (Message: Alarm) RED (TSR)........................................... 74
De-Entrainer Not Only One Set (Message: Alarm) RED (Equipment Status)........ 76
IO Card Failure (Message: Alarm) RED (TSR)........................................ 77
CI860 HW Failure detected (Message: Alarm) RED (TSR).......................... 78
A Train - All Tank PDIs Failure detected (Message: Alarm) RED (TSR)............. 79

Table 1 – Inlet Station Components........................................................................................................ 82
Table 2 - System Alarm Table for ABB Services...................................................................................... 83

RECORDS

No records are generated during the performance of this procedure.
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-RT-554  Setpoint: 300 dpm/ft³ Slow
Tag: AWA-RAHH-554  7000 dpm/ft³ Fast
Message: Alarm  3000 CPM

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

Alarm Description: Continuous Air Monitor (CAM) Rad alarm

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.
- System interlock and alarm enabled 2 minutes after exhauster running

Automatic Actions:
1. Active primary exhaust train shuts down (if not in CAM bypass).
2. Red beacon (AW241-VTP-YA-550) for operating train illuminates.

Immediate Actions:
[1] EVACUATE personnel from AW Farm to a protected or upwind area.
[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
   [2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.

Supplemental Actions:
[6] SILENCE CAM buzzer XA-354 on TFMCS.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-RT-554  Setpoint: 300 dpm/ft³ Slow
Tag: AWA-RAHH-554          7000 dpm/ft³ Fast
Message: Alarm               3000 CPM

Possible Causes:
1. High radiation in primary exhaust air stream.
2. Setpoint on CAM is set too low and/or background radiation spikes have gone above the CAM alarm setpoint.
3. Breakthrough of primary and secondary HEPA filters.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
           TF-AOP-021, Response to Tank Farm Ventilation Upset
           RPP-16922, Environmental Specification Requirements
           HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-357
Tag: AWA-PDI-357
Message: Low Low

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

**Alarm Description:** Differential pressure across HEPA #1 is too low for continued operation

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- System interlock and alarm enabled 2 minutes after exhauster running.

**Automatic Actions:**

1. Active primary exhaust train shuts down.

**Immediate Actions:**

[1] **EVACUATE** personnel from AW Farm to a protected or upwind area.

[2] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

[2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.

[3] **NOTIFY** Shift Manager of alarms and actions **AND**

**REQUEST** Shift Manager respond per TF-AOP-021.

[4] **STOP** waste disturbing activities to AW Farm.

[5] **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107.

**Supplemental Actions:**

[6] **CONTINUE** to monitor system parameters **AND**

**NOTIFY** Shift Manager of changing indications.

(Continued on Next Page)
Panel: All TFMCS Stations
Source: AW241-VTP-PDI-357
Tag: AWA-PDI-357
Message: Low Low

Possible Causes:

1. The first stage HEPA filter has had a gross breakthrough due to a spray leak, high temperature, or high pressure condition.
2. Transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
            TF-AOP-021, Response to Tank Farm Ventilation Upset
            RPP-16922, Environmental Specification Requirements
            HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

HEPA Filter 2 Differential Pressure (Low Low)

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-358
Tag: AWA-PDI-358
Message: Low Low
Setpoint: $\leq 0.2$ in. H$_2$O

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

Alarm Description: Differential pressure across HEPA #2 is too low for continued operation

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- System interlock and alarm enabled 2 minutes after exhauster running.

Automatic Actions:

1. Active primary exhaust train shuts down.

Immediate Actions:

[1] EVACUATE personnel from AW Farm to a protected or upwind area.

[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

[2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.


Supplemental Actions:


(Continued on Next Page)
**RED**

**HEPA Filter 2**

**Differential Pressure**

*(Low Low)*

(Continued)

**Panel:** All TFMCS Stations

**Source:** AW241-VTP-PDI-358

**Tag:** AWA-PDI-358

**Message:** Low Low

**Setpoint:** \( \leq 0.2 \text{ in. H}_2\text{O} \)

**Possible Causes:**

1. The second stage HEPA filter has had a gross breakthrough due to a spray leak, high temperature, or high pressure condition.

2. Transmitter failure.

**References:**

**Drawings:** H-14-020102

**Documents:**
- TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
- TF-AOP-021, Response to Tank Farm Ventilation Upset
- RPP-16922, Environmental Specification Requirements
- HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

Tank # PDI Narrow (High High)

Panel: All TFMCS Stations (# = Tank Number)

Source: AW241-VTP-PDI-210, 211 (Tank AW101)
      AW241-VTP-PDI-220,221 (Tank AW102)
      AW241-VTP-PDI-230,231 (Tank AW103)
      AW241-VTP-PDI-240,241 (Tank AW104)
      AW241-VTP-PDI-250,251 (Tank AW105)
      AW241-VTP-PDI-260,261 (Tank AW106)

Tag: AWA-PDI-210, AWA-PDI-211
      AWA-PDI-220, AWA-PDI-221
      AWA-PDI-230, AWA-PDI-231
      AWA-PDI-240, AWA-PDI-241
      AWA-PDI-250, AWA-PDI-251
      AWA-PDI-260, AWA-PDI-261

Message: High High

Setpoint: ≥ -0.3`` in. H2O

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

Alarm Description: Tank vapor space pressure too high

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[1] EVACUATE personnel from the AW Farm to a protected or upwind area.
[2] CHECK primary exhaust train is running.
   [2.1] IF exhauster has shut down, NOTIFY Shift Manager of alarms and actions AND REQUEST Shift Manager respond per TF-AOP-021.

Supplemental Actions:

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**RED**

Tank # PDI Narrow (High High)

**Panel:** All TFMCS Stations

**Source:**
- AW241-VTP-PDI-210, 211 (Tank AW101)
- AW241-VTP-PDI-220, 221 (Tank AW102)
- AW241-VTP-PDI-230, 231 (Tank AW103)
- AW241-VTP-PDI-240, 241 (Tank AW104)
- AW241-VTP-PDI-250, 251 (Tank AW105)
- AW241-VTP-PDI-260, 261 (Tank AW106)

**Tag:** AWA-PDI-210, AWA-PDI-211
- AWA-PDI-220, AWA-PDI-221
- AWA-PDI-230, AWA-PDI-231
- AWA-PDI-240, AWA-PDI-241
- AWA-PDI-250, AWA-PDI-251
- AWA-PDI-260, AWA-PDI-261

**Message:** High High

(Continued)

**Possible Causes:**

1. Both Primary A and B Train fans OFF.
2. Hot waste entering tank during transfer raises the pressure through evaporation (more likely with jetted transfers).
3. Dome intrusive work or open riser, open pit drain, and/or missing sealing media on pit cover block cracks/seams/penetrations, admits too much air.
4. Failure of pressure transmitter.
5. Gas release event if accompanied by level and temperature anomalies.
6. Plugged HEPA filters.
7. Failed closed exhaust damper duct valve.
8. HEPA filter(s) of active primary exhaust train plugged or saturated.

**References:**

**Drawings:**
- H-14-020102

**Documents:**
- TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
- TF-AOP-021, Response to Tank Farm Ventilation Upset
- RPP-16922, Environmental Specification Requirements
- HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

**Type** | **Document No.** | **Rev/Mod** | **Release Date** | **Page**
---|---|---|---|---
REFERENCE | ARP-T-231-EXH(A) | F-4 | 01/03/2019 | 11 of 84
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations  (# =Tank Number)

Source: AW241-VTP-PDI-210, 211(Tank AW101)
AW241-VTP-PDI-220,221(Tank AW102)
AW241-VTP-PDI-230,231(Tank AW103)
AW241-VTP-PDI-240,241(Tank AW104)
AW241-VTP-PDI-250,251(Tank AW105)
AW241-VTP-PDI-260,261(Tank AW106)

Setpoint: N/A

Tag: AWA-PDI-210, AWA-PDI-211
AWA-PDI-220, AWA-PDI-221
AWA-PDI-230, AWA-PDI-231
AWA-PDI-240, AWA-PDI-241
AWA-PDI-250, AWA-PDI-251
AWA-PDI-260, AWA-PDI-261

Message: Object Error (OE)

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

Alarm Description:  Tank vapor space pressure transmitter failed

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:  
None

Immediate Actions:  
[1] CHECK primary exhaust train is running.
   [1.1] IF exhauster has shut down, NOTIFY Shift Manager of alarms and actions AND REQUEST Shift Manager respond per TF-AOP-021.


Supplemental Actions:  

(Continued on Next Page)
RED

Panel: All TFMCS Stations  (# = Tank Number)

Source: AW241-VTP-PDI-210, 211 (Tank AW101)
AW241-VTP-PDI-220,221 (Tank AW102)
AW241-VTP-PDI-230,231 (Tank AW103)
AW241-VTP-PDI-240,241 (Tank AW104)
AW241-VTP-PDI-250,251 (Tank AW105)
AW241-VTP-PDI-260,261 (Tank AW106)

Tag: AWA-PDI-210, AWA-PDI-211
AWA-PDI-220, AWA-PDI-221
AWA-PDI-230, AWA-PDI-231
AWA-PDI-240, AWA-PDI-241
AWA-PDI-250, AWA-PDI-251
AWA-PDI-260, AWA-PDI-261

Message: Object Error (OE)

Tank # PDI Narrow
(Object Error)

Setpoint: N/A

Possible Causes:
1. Failure of pressure transmitter.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-RT-554
Tag: AWA-RAX-554
Message: Alarm

Setpoint: N/A

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

Alarm Description: Continuous Air Monitor (CAM) indicates instrument failure

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:

[1] IF TFMCS displays alarm “CAM Hi Hi Radiation”, GO TO CAM HI-HI Radiation alarm response.

[2] NOTIFY Shift Manager of alarms AND REQUEST permission to perform one of the following:
  • Switch to Standby Exhauster
    OR
  • Continue to run existing exhauster
    OR
  • Shutdown ventilation per TO-060-107.

[3] IF ventilation is shut down, REQUEST Shift Manager respond per TF-AOP-021.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-RT-554
Tag: AWA-RAX-554
Message: Alarm
Setpoint: N/A

Supplemental Actions:

[4] REQUEST HPT to investigate alarm per TF-OPS-005.

Possible Causes:

1. CAM failure.
2. Sampling head(s) disconnected.
3. Instrument malfunction.
4. Loss of power to CAM.
5. Setpoint out of adjustment.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-OPS-005, DST Daily CAM and Record Air Sampler Inspections
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** (See Table 2)

**Tag:** N/A  
**Setpoint:** N/A  
**Message:** (See Table 2)

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

**Alarm Description:** Various System Alarms

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

1. Automatic actions vary depending on the System Alarm.

**Immediate Actions:**

1. ACKNOWLEDGE alarm.
2. RESPOND to alarm per Table 2.
3. IF alarm clears, EXIT this ARP.
4. NOTIFY Shift Manager of alarms and actions AND REQUEST Shift Manager notify Engineering for assistance.

**Supplemental Actions:**

5. INITIATE work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. Failed equipment of the exhauster system.
2. Loss of power to servers, controllers, power supplies etc.
3. Maintenance and PM.

**References:**

- **Drawings:** None
- **Documents:** HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
### Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations  
**Source:** ABB Hardware or Software Alarm  
**Tag:** N/A  
**Setpoint:** N/A  
**Message:** Varies  
**Alarm Class:** Equipment Status  
**Alarm Description:** An exhauster TFMCS alarm on the Hardware Alarm screen that is not addressed by any other alarm already in this procedure.

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.  
- Exhauster TFMCS alarms not addressed in this ARP may occur on the System Hardware Alarm screen which are native to the ABB System (description cannot be changed) and will require evaluation by Engineering.

#### Automatic Actions:
1. Automatic actions vary depending on the System Alarm

#### Immediate Actions:
- **[1]** ACKNOWLEDGE alarm.  
- **[2]** IF alarm clears, EXIT this ARP.  
- **[3]** NOTIFY Shift Manager of alarms and actions AND REQUEST Shift Manager notify Engineering for assistance to evaluate and troubleshoot the malfunction.

#### Supplemental Actions:
- **[4]** INITIATE work order to troubleshoot and repair or replace degraded components.

#### Possible Causes:
1. An event has occurred that has created a degraded condition that must be evaluated.

#### References:
- **Drawings:** None  
- **Documents:** None

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**System Alarm Not Specifically Addressed**  
(See Note)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-357
Tag: AWA-PDI-357
Message: High High
Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)

Alarm Description: Differential pressure across HEPA #1 is too high for continued operation

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Active primary exhaust train shuts down.

Immediate Actions:
[1] EVACUATE personnel from AW Farm to a protected or upwind area.
[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
[2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.

Supplemental Actions:

Possible Causes:
1. The first stage HEPA filter has become plugged. An examination of historical data should show a gradual increase in the dP over time.
2. The first stage HEPA filter has become saturated with condensation. This is likely only if there is a problem with the heater.
3. Transmitter failure.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-357
Tag: AWA-PDI-357
Message: High High

Setpoint: ≥ 5.8 in. H₂O

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

(Continued)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-358
Tag: AWA-PDI-358
Message: High High

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

Alarm Description: Differential pressure across HEPA #2 is too high for continued operation

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Active primary exhaust train shuts down.

Immediate Actions:
[1] EVACUATE personnel from AW Farm to a protected or upwind area.
[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
[2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.

Supplemental Actions:

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-358
Tag: AWA-PDI-358
Message: High High

Setpoint: > 3.9 in. H₂O

Possible Causes:
1. The second stage HEPA filter has become plugged. An examination of historical data should show a gradual increase in the dP over time.
2. The second stage HEPA filter has become saturated with condensation. This is likely only if there is a problem with the heater.
3. Transmitter failure.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
            TF-AOP-021, Response to Tank Farm Ventilation Upset
            RPP-16922, Environmental Specification Requirements
            HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-LI-380
Tag: AWA-LI-380
Message: Low Low

Skid Seal Pot Level
(Low Low)

Setpoint: ≤ 20%

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Exhaust train seal pot level is too low for continued operation

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Active primary exhaust train shuts down.

Immediate Actions:

[1] EVACUATE personnel from AW Farm to a protected or upwind area.
[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
   [2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.
[5] IF directed by Shift Manager/OE;
   [5.1] REFILL seal pot per TO-060-107.
   [5.2] RESTART Primary ventilation per TO-060-107.

Supplemental Actions:
[7] INITIATE work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

Skid Seal Pot Level
(Low Low)

(Continued)

Possible Causes:

1. Evaporation not replenished by condensation.
2. Leaks in the seal pot and/or seal pot loop.
3. Instrument failure.

References:

Drawings: H-14-020102
Documents: OSD-T-151-00007, Operating Specifications for the Double Shell Storage Tanks
TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-LI-380
Tag: AWA-LI-380
Message: High High
Setpoint: \( \geq 90\% \)

**Skid Seal Pot Level**

(Red)

**Message:** High High

**Setpoint:** \( \geq 90\% \)

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

**Alarm Description:** Exhaust train seal pot level is too high for continued operation

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

1. Active primary exhaust train shuts down.

**Immediate Actions:**

1. **EVACUATE** personnel from AW Farm to a protected or upwind area.

2. **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

   [2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.

3. **NOTIFY** Shift Manager of alarms and actions **AND**

   REQUEST Shift Manager respond per TF-AOP-021.

4. **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107.

**Supplemental Actions:**

5. **EVALUATE** cause of seal pot high level.

6. **IF** freezing conditions exist, **CHECK** heat trace status.

7. **CONTINUE** to monitor system parameters **AND**

   **NOTIFY** Shift Manager of changing indications.

8. **INITIATE** work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**RED**

**Skid Seal Pot Level**

(Continued)

Panel: All TFMCS Stations
Source: AW241-VTP-LI-380
Tag: AWA-LI-380
Message: High High

Possible Causes:

1. Seal pot system valves not aligned properly.
2. Obstruction or ice in seal pot piping.
3. Overfilled seal pot.
4. Instrument loop failure.
5. Seal pot level transmitter out of calibration.

References:

Drawings: H-14-020102
Documents: OSD-T-151-00007, Operating Specifications for the Double Shell Storage Tanks
TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-HS-350,
Tag: AWA-BKR-350_PCC
Message: Alarm
Setpoint: N/A

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Hardwired exhauster emergency stop or TFMCS immediate stop has been activated

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:

1. Active primary exhaust train shuts down.

Immediate Actions:

NOTE - This alarm will not be displayed on affected exhaust train due to immediate power loss to train DCS upon alarm activation. This alarm will be visible on TFMCS ’s or TFMCS HMI of other primary exhauster, if it is powered up.

[1] EVACUATE personnel from AW Farm to a protected or upwind area.
[2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
[2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.

Supplemental Actions:

[8] INITIATE work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-HS-350,
Tag: AWA-BKR-350_PCC
Message: Alarm

Setpoint: N/A

Possible Causes:
1. Immediate stop button on TFMCS pushed.
2. Emergency stop button on disconnect switch box pushed.

References:
Drawings: H-14-030102, Sht. 1
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**RED**

**Actual Volumetric Flow Rate**
*(Low Low)*

**Panel:** All TFMCS Stations

**Source:** AW241-VTP-FI-551A

**Tag:** AWA-FI-551A  
**Setpoint:** ≤ 700 acfm

**Message:** Low Low

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

**Alarm Description:** Low Airflow through exhaust stack too low for continued operation

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- System interlock and alarm enabled 2 minutes after exhauster running.

**Automatic Actions:**

1. Active primary exhaust train shuts down.

**Immediate Actions:**

[1] **EVACUATE** personnel from AW Farm to a protected or upwind area.

[2] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

[2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.

[3] **NOTIFY** Shift Manager of alarms and actions **AND**

**REQUEST** Shift Manager respond per TF-AOP-021.

[4] **STOP** waste disturbing activities to AW Farm.


[6] **NOTIFY** Shift Manager/OE of actions and findings.

[7] **IF** directed by Shift Manager/OE, **PERFORM** the following;

[7.1] **RESTART** Primary ventilation per TO-060-107.

[7.2] **CHECK** both inlet and outlet MOVs fully open during startup.

- AW241-VTP-MOV-352 (Inlet) and AW241-VTP-MOV-361 (Outlet).

**Supplemental Actions:**

[8] **CONTINUE** to monitor system parameters AND

**NOTIFY** Shift Manager of changing indications.

[9] **INITIATE** work order to troubleshoot and repair or replace degraded components.

*(Continued on Next Page)*
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-FI-551A
Tag: AWA-FI-551A
Message: Low Low

Possible Causes:

1. Stack flow setpoints set too low.
2. Incorrect system valving.
3. Failed inlet or outlet MOV.
4. VFD failure.
5. Transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

RED

Actual Volumetric Flow Rate
(Low Low)

Setpoint: ≤ 700 acfm

(Continued)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-FI-551A
Tag: AWA-FI-551A
Message: High High

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

**Alarm Description:** Airflow through exhaust stack too high for continued operation

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Active primary exhaust train shuts down.

**Immediate Actions:**

1. **EVACUATE** personnel from AW Farm to a protected or upwind area.
2. **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
   
   2.1 **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.
3. **NOTIFY** Shift Manager of alarms and actions AND **REQUEST** Shift Manager respond per TF-AOP-021.
4. **STOP** waste disturbing activities to AW Farm.
5. **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107.

**Supplemental Actions:**

6. **CHECK** stack flow setpoints and adjust per TO-060-107.
7. **CONTINUE** to monitor system parameters AND **NOTIFY** Shift Manager of changing indications.

**Possible Causes:**

1. Stack flow setpoints set too high.
2. VFD failure.
3. Transmitter failure.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

Panel: All TFMCS Stations
Source: AW241-VTP-FI-551A
Tag: AWA-FI-551A
Message: High High

Setpoint: \( \geq 2940 \text{ acfm} \)

Actual Volumetric Flow Rate (High High)

(Continued)

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations  
(# = Tank Number)

**Source:**
- AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)
- AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)
- AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)
- AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)
- AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)
- AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

**Tag:**
- AWA-PDI-210 and 211,
- AWA-PDI-220 and 221,
- AWA-PDI-230 and 231,
- AWA-PDI-240 and 241,
- AWA-PDI-250 and 251,
- AWA-PDI-260 and 261

**Message:** Low Low

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

**Alarm Description:** Tank vapor space pressure too low for continued operation

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Active primary exhaust train shuts down.

**Immediate Actions:**
- [1] **EVACUATE** personnel from AW Farm to a protected or upwind area.
- [2] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
  - [2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.
  - [2.2] **NOTIFY** Shift Manager of alarms and actions **AND** **REQUEST** Shift Manager respond per TF-AOP-021.
  - [2.3] **STOP** waste disturbing activities to AW Farm.
- [3] **CHECK** TFMCS alarm display for other tank lo-lo pressure alarms active.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

Tank # PDI Narrow
(Low Low)

Panel: All TFMCS Stations

Source: AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)
AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)
AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)
AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)
AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)
AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

Tag: AWA-PDI-210 and 211,
AWA-PDI-220 and 221,
AWA-PDI-230 and 231,
AWA-PDI-240 and 241,
AWA-PDI-250 and 251,
AWA-PDI-260 and 261

Message: Low Low

Immediate Actions: (Cont.)

[4] CHECK history of all tank pressure transmitters on TFMCS:
   [4.1] CLICK on tank pressure readings on TFMCS screen “AW Tank Farm” to display pressure history graph.

   NOTE - Port controller should float freely. During a high vacuum condition vacuum breaker should be open if air inlet is obstructed and should return to closed position when obstruction is removed.

[5] CHECK the air inlets for obstructions AND REMOVE.

[6] CHECK the port controller (see Table 1 for proper valve numbers)
   (AW10X-VTP-FCV-20X) for binding.

Supplemental Actions:

[7] IF directed by Shift Manager/OE, PERFORM the following;
   [7.1] OPEN any isolated inlet station valves.
   [7.2] RESTART primary exhaust system per TO-060-107.
   [7.3] ADJUST tank vacuum by adjusting airflow of the inlet filters on 241-AW tanks.
   [7.4] IF the above steps do not restore the tank pressure to the proper range, NOTIFY Shift Manager/OE.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**RED**

Tank # PDI Narrow (Low Low)

**Panel:** All TFMCS Stations  
(# = Tank Number)

**Source:** AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)  
AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)  
AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)  
AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)  
AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)  
AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

**Tag:** AWA-PDI-210 and 211,  
AWA-PDI-220 and 221,  
AWA-PDI-230 and 231,  
AWA-PDI-240 and 241,  
AWA-PDI-250 and 251,  
AWA-PDI-260 and 261

**Setpoint:** ≤ -5.5 in. H₂O

**Message:** Low Low

(Continued)

**Supplemental Actions:** (Cont.)

- [8] CONTINUE to monitor system parameters AND  
  NOTIFY Shift Manager of changing indications.
- [9] REPORT actions and findings to Shift Manager/OE.
- [10] IF unable to correct the alarm condition, REQUEST the Shift Manager/OE to arrange for Vent and Balance to make the necessary adjustments.

**Possible Causes:**

1. Obstruction of air inlet (i.e., foreign object across inlet screen, frost/ice buildup on inlet, filter dirty).
2. Primary exhaust fan remained ON after backup fan started, with or without an open riser.
3. Vacuum or flow rates out of adjustment.
4. Port controller binding.
5. Vacuum breaker is stuck shut.

**References:**

- Drawings: H-14-020102
- Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)  
  TF-AOP-021, Response to Tank Farm Ventilation Upset  
  RPP-16922, Environmental Specification Requirements  
  HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: Power Supply A
Power Supply B

Tag: AWA-PWR-360A
AWA-PWR-360B

Message: Alarm

Alarm Class: Environmental Impact
Alarm Description: Power supply A or B fails

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Power supplies are configured with a voting module that automatically detects a loss from either power supply A or B. Upon failure, the backup power supply will automatically supply power to the system.

Immediate Actions:
[1] IF both power supplies fail and exhauster shuts down, PERFORM the following:
   [1.1] EVACUATE personnel from AW Farm to a protected or upwind area.
   [1.2] ENSURE primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
      [1.2.1] IF exhauster has not shut down, STOP exhauster by initiating a shutdown per TO-060-107.
[3] IF directed by Shift Manager, STOP waste disturbing activities to AW Farm.
[4] IF exhauster is still running and power supply indicates failure, NOTIFY Shift Manager/OE of status.

Supplemental Actions:
[6] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Fuse blown.
2. Bad Power Supply.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: Power Supply A
    Power Supply B

Tag: AWA-PWR-360A
    AWA-PWR-360B

Message: Alarm

Setpoint: N/A

DCS Power Supply Failure

References:

Drawings: H-14-020102

Documents: TF-AOP-021, Response to Tank Farm Ventilation Upset
RPP-16922, Environmental Specification Requirements
TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** AW241-VTP-FCV-556

**Tag:** AWA-FI-556

**Message:** Low Low

**Setpoint:** ≤ 1.87 SCFM

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

**Alarm Description:** Flow control valve indicates a very low CAM sample flow rate

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- CAM Sample Low Low flow alarm is disabled (hidden) until a vacuum pump has been running for 15 seconds.

**Automatic Actions:**

1. A swap from the primary to standby vacuum pump occurs if both Record Sample Low Low and CAM Sample Low Low flow alarms annunciate. This automatic swap will occur only once without a reset of the system.

**Immediate Actions:**

[1] **CHECK** CAM sample flow rate on TFMCS.

[2] **NOTIFY** Shift Manager of findings.

[3] **IF** directed by Shift Manager/OE, **CHECK** CAM sample valves are aligned per applicable valving table in TO-060-107.

[4] **IF** directed by Shift Manager/OE, **SWITCH** operating exhauster train per TO-060-107.

**Supplemental Actions:**

[5] **INITIATE** work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

RED

CAM Sample Flow (Low Low)

Panel: All TFMCS Stations
Source: AW241-VTP-FCV-556
Tag: AWA-FI-556
Message: Low Low

Setpoint: \( \leq 1.87 \) SCFM

Possible Causes:
3. CAM sample system valves not aligned properly.
5. CAM sample pump failure.
6. Control valve failure.

References:
- Drawings: H-14-020102
- Documents: RPP-16922, Environmental Specification Requirements
  TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
  HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

(Continued)

RED

CAM Sample Flow (High)

Panel: All TFMCS Stations
Source: AW241-VTP-FCV-556
Tag: AWA-FI-556
Message: High

Setpoint: \( \geq 2.13 \) SCFM

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Flow control valve indicates a high CAM sample flow rate

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
1. CHECK CAM sample flow rate on TFMCS.
2. REQUEST Shift Manager to NOTIFY Health Physics Technician to investigate problem.
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid


[4] IF directed by Shift Manager/OE, CHECK CAM sample valves are aligned per applicable valving table in TO-060-107.


Supplemental Actions:

[6] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. Instrument failure.
2. CAM sample pump problem.
3. Control valve failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) RPP-16922, Environmental Specification Requirements HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-FCV-555
Tag: AWA-FI-555  Setpoint: ≤ 85% Proportional Flow
Message: Low Low

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Flow control valve indicates a very low Record sample flow rate

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.
- Record Sample flow alarms are disabled (hidden) until VFD has been operating for 15 seconds.

Automatic Actions:
1. A swap from the primary to standby vacuum pump occurs if both Record Sample Low Low and CAM Sample Low Low flow alarms annunciate. This automatic swap will occur only once without a reset of the system.

Immediate Actions:
[1] CHECK Record sample flow rate on TFMCS.
[3] IF directed by Shift Manager/OE, CHECK Record Sample valves are aligned per applicable valving table in TO-060-107.

Supplemental Actions:
[5] INITIATE work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-FCV-555
Tag: AWA-FI-555
Message: Low Low

Possible Causes:

1. Record sample system valves not aligned properly.
2. Instrument failure.
3. Record sample pump failure.
4. Control valve failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
RPP-16922, Environmental Specification Requirements
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-FCV-555
Tag: AWA-FI-555 Setpoint: ≥ 115% Proportional Flow
Message: High

Record Sample Flow (High)

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Flow control valve indicates a high Record sample flow rate

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.
- Record Sample flow alarms are disabled (hidden) until VFD has been operating for 15 seconds

Automatic Actions:

None

Immediate Actions:

[1] CHECK Record sample flow rate on TFMCS.
[4] IF directed by Shift Manager/OE, CHECK Record Sample valves are aligned per applicable valving table in TO-060-107.

Supplemental Actions:

[6] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. Instrument failure.
2. Sample pump problem.
3. Control valve failure (sticking).

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) RPP-16922, Environmental Specification Requirements HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-XA-354
Tag: AWA-YA-354
Message: N/A
Setpoint: N/A

Alarm Class: Equipment Status

Alarm Description: On a CAM, this alarm activates when the buzzer sounds for any of the CAM alarms on high radiation.

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:

[1] IF CAM Hi-Hi Rad Alarm is also activated, RESPOND per “CAM Hi-Hi radiation”.
[2] IF CAM Transmitter Failure Alarm is also activated, RESPOND per “CAM Transmitter Failure”.

Supplemental Actions:

[5] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. CAM activates on high radiation.
2. CAM transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** AW241-VTP-SIC-009

**Tag:** AWA-EF-009-En

**Setpoint:** N/A

**Message:** Object Error (OE)

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

**Alarm Description:** This alarm indicates that the VFD ENABLE signal is not responding.

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

1. Selected primary exhaust train fails to start.

**Immediate Actions:**

[1] **NOTIFY** Shift Manager/OE of alarm and findings.

[2] **IF** directed by Shift Manager/OE, **START** Exhaust Train B per TO-060-107.

**Supplemental Actions:**

[3] **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. VFD failure.
2. Software fault.

**References:**

**Drawings:** H-14-020102

**Documents:** TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)  
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-SIC-009
Tag: AWA-EF-009

Setpoint: N/A

Message: Object Error (OE)

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

Alarm Description: This alarm indicates that the VFD has an object error.

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- VFD shuts down by object error which results in primary ventilation shutdown.

Automatic Actions:

1. Active primary exhaust train shuts down.

Immediate Actions:

[1] EVACUATE personnel from AW Farm to a protected upwind area.
[2] IF exhauster is not shutdown, SHUTDOWN exhauster per TO-060-107.
[4] IF directed by Shift Manager, STOP waste disturbing activities to AW Farm.

Supplemental Actions:


Possible Causes:

1. VFD failure.
2. Software fault.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Glycol Header Pressure (Low Low)**

**Panel:** All TFMCS Stations

**Source:** AW241-VTP-PI-371

**Tag:** AWA-PI-371

**Setpoint:** ≤ 3.0 psi

**Message:** Low Low

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

**Alarm Description:** Glycol system pressure too low for continued operation of the glycol system

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Glycol system shuts down (Heater and pump).

**Immediate Actions:**

1. **CHECK** glycol level and refill as needed, per TO-060-107.
2. **CHECK** valve line-up per TO-060-107 is correct.
3. **CHECK** glycol system for visible leaks.
4. **RESTART** glycol system per TO-060-107.
5. **NOTIFY** Shift Manager/OE of actions and findings.
6. **IF** Glycol Header Pressure (Low Low) alarm is still active **AND** directed by Shift Manager/OE, **SWITCH** primary exhaust trains per TO-060-107.

**Supplemental Actions:**

1. **IF** valve line-up is correct and lo-lo pressure alarm is still active, **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. Incorrect valve line-up.
2. Failing glycol pump.
3. Leaking glycol system components.
4. Low glycol tank level.
5. Faulty transmitter calibration.
6. Transmitter failure.

Continued on Next Page)
RED

Glycol Header Pressure
(Low Low)

Panel: All TFMCS Stations
Source: AW241-VTP-PI-371
Tag: AWA-PI-371
Message: Low Low
Setpoint: ≤ 3.0 psi

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Glycol Header Pressure (Low)

Panel: All TFMCS Stations

Source: AW241-VTP-PI-371
Tag: AWA-PI-371
Message: Low

Alarm Class: Equipment Status
Alarm Description: Glycol system pressure low

Setpoint: ≤ 5.0 psi

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions: None

Immediate Actions:

[1] CHECK glycol level and refill as needed, per TO-060-107.
[2] CHECK valve lineup per TO-060-107 is correct.
[5] IF Glycol Header Pressure (Low) alarm is still active AND
   IF directed by Shift Manager/OE, SWITCH primary exhaust trains per TO-060-107.

Supplemental Actions:

[6] IF valve line-up is correct and Low pressure alarm is still active, INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. Incorrect valve line-up.
2. Failing glycol pump.
3. Leaking glycol system components.
4. Low glycol tank level.
5. Faulty transmitter calibration.
6. Transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PI-371
Tag: AWA-PI-371
Message: High High

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

Alarm Description: Glycol system pressure too high for continued operation of the glycol system

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Glycol system shuts down (Heater and pump).

Immediate Actions:
[1] CHECK valve line-up per TO-060-107 is correct.
[4] IF Glycol Header Pressure (High High) alarm is still active AND IF directed by Shift Manager/OE, SWITCH primary exhaust trains per TO-060-107.

Supplemental Actions:
[5] IF valve line-up is correct and Hi-Hi Pressure Alarm returns, INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Incorrect valve line-up.
2. Plugged glycol system components.
3. Transmitter failure.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations  
Source: AW241-VTP-LI-370  
Tag: AWA-LI-370  
Message: Low Low

**RED**

<table>
<thead>
<tr>
<th>Glycol Tank Level (Low Low)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setpoint:</strong> ≤ 20%</td>
</tr>
</tbody>
</table>

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

**Alarm Description:** Glycol tank level too low for continued operation of the glycol system

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Glycol system shutdown (heater and pump).

**Immediate Actions:**

1. **CHECK** glycol pump AW241-VTP-P-371 and associated heater AW241-VTP-HTR-372 have shut down.
2. **CHECK** glycol system for obvious signs of leaking.
3. **CONFIRM** glycol level LI-370 on TFMCS screen “Exhauster ‘A’” is 20% or lower.
4. **NOTIFY** Shift Manager/OE of actions and findings.
5. **IF DIRECTED** by Shift Manager/OE;
   - [5.1] **FILL** glycol system to a safe level per TO-060-107.
   - [5.2] **RESTART** glycol system per TO-060-107.
6. **IF** Glycol Tank Level (Low Low) Alarm is still active AND IF directed by Shift Manager/OE, **SWITCH** primary exhaust trains per TO-060-107.

**Supplemental Actions:**

7. **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. Actual glycol level low.
2. Leaking glycol system.
3. Faulty transmitter calibration.

*(Continued on Next Page)*
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-LI-370
Tag: AWA-LI-370
Message: Low Low

RED

Glycol Tank Level
(Low Low)

Setpoint: ≤ 20%

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-LI-370
Tag: AWA-LI-370
Message: High
Alarm Class: Equipment Status
Alarm Description: Glycol tank level too high

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[1] CHECK glycol system valve line up per TO-060-107.
[2] CHECK if level is above 80% AND
   NOTIFY Shift Manager/OE of actions and findings.
[3] IF Glycol Tank Level (High) alarm is still active or returns AND
   IF directed by Shift Manager/OE, SWITCH primary exhaust trains per TO-060-107.

Supplemental Actions:
[4] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Actual glycol level high from overfilling.
2. Faulty transmitter calibration.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-TI-372
Tag: AWA-TI-372
Message: High High

**RED**

Glycol Heater Temperature (High High)

Setpoint: ≥ 209 °F

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

Alarm Description: Glycol heater temperature too high for continued operation of the glycol system

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Glycol heater shutdown.

**Immediate Actions:**
1. **CHECK** associated heater AW241-VTP-HTR-372 has shut down.
2. **CHECK** glycol tank temperature TI-373 on TFMCS screen “Exhauster ‘A’”.
3. **NOTIFY** Shift Manager/OE of actions and findings.
4. **IF** directed by Shift Manager/OE, **RESTART** glycol heater.
5. **MONITOR** glycol temperature TI-373 on TFMCS screen “Exhauster ‘A’”.
6. **IF** Glycol Heater Temperature (High) alarm is still active or returns, **OR**
   **IF** directed by Shift Manager/OE, **SWITCH** primary exhaust trains per TO-060-107.

**Supplemental Actions:**
1. **NOTIFY** Engineering of possible need to adjust differential temperature (DT) setpoints.
2. **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**
1. Electrical fault in heating system.
2. Faulty transmitter calibration.

**References:**
- Drawings: H-14-020102
- Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
  HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-TE-372. Glycol Heater Outlet Temperature
Tag: AWA-TI-372_TransFail
Message: Alarm

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: Glycol tank temperature too high for continued operation of the glycol system.

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Glycol heater shutdown

Immediate Actions:
[6] IF Glycol Heater Outlet Temperature (High-High) alarm is still active or returns,

   OR

   IF directed by Shift Manager/OE, SWITCH primary exhaust trains per TO-060-107

Supplemental Actions:
[8] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Electrical fault in heating system.
2. Faulty transmitter calibration.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** Temperature difference between
AW241-VTP-TI-353
and TI-355 (TDI-007)

**Tag:** AWA-TDI-007

**Message:** Low Temperature Differential

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

**Alarm Description:** The differential temperature across the heat exchanger is too low

**Setpoint:** ≤ 16 °F

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

- Low heater differential temperature alarm not enabled until exhauster has ran for 20 minutes.

**Automatic Actions:**

None

**Immediate Actions:**

[1] CHECK glycol system is operating normally.

[2] CHECK the temperature difference on TFMCS screen, TDI-007, for operating exhauster is ≤ 16 °F.


**Supplemental Actions:**

[5] INITIATE work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. Glycol system malfunction.
2. Faulty transmitter calibration.

**References:**

Drawings: H-14-020102

Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-TI-355
Tag: AWA-TI-355
Message: High High

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

**Alarm Description:** Heater temperature too high for continued operation of the heating system and HEPAs

**Setpoint:** ≥ 165 °F

**Heat Exchanger Outlet Temperature (High High)**

**RED**

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

1. Glycol heater shutdown.

**Immediate Actions:**

[6] IF Heat Exchanger Outlet Temperature (High High) alarm is still active or returns, "OR"

IF directed by Shift Manager/OE, SWITCH primary exhaust trains per TO-060-107.

**Supplemental Actions:**

[8] INITIATE work order to troubleshoot and repair or replace degraded components.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-TI-355
Tag: AWA-TI-355
Message: High High

Possible Causes:
1. Electrical fault in heating system.
2. Faulty transmitter calibration.

References:
Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
**Respond to A-Train Alarms at 241-AW VTP Exhaust Skid**

**Panel:** All TFMCS Stations  
**Source:** AW241-VTP-PDI-356  
**Tag:** AWA-PDI-356  
**Message:** High  
**Setpoint:** ≥ 1.0 in. H₂O  
**Alarm Class:** Equipment Status  
**Alarm Description:** Differential pressure across Pre-Filter is too high

**NOTES** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

- None

**Immediate Actions:**

1. **CHECK** TFMCS alarm display for Pre-Filter differential pressure ≥ 1.0 in. H₂O.
2. **NOTIFY** Shift Manager of actions and findings.
3. **IF** directed by Shift Manager/OE, **SWITCH** to other primary exhaust train per TO-060-107.

**Supplemental Actions:**

4. **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. The Pre-Filter has become plugged. An examination of historical data should show a gradual increase in the dP over time.
2. The Pre-Filter has become saturated with condensation. This is likely only if there is a problem with the heater.
3. Transmitter failure.

**References:**

- **Drawings:** H-14-020102
- **Documents:** TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-357
Tag: AWA-PDI-357
Message: High
Alarm Class: Environmental Impact/Equipment Status
Alarm Description: Differential pressure across HEPA #1 is too high

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:

[1] CHECK TFMCS alarm display HEPA #1 high differential pressure is between 4.0 and 5.8 in. H2O.

[1.1] IF HEPA #1 differential pressure (High) is ≥ 5.8 in. H2O, RESPOND per HEPA Filter 1 Differential Pressure (High High).


[3] IF directed by Shift Manager/OE, SWITCH to other primary exhaust train per TO-060-107.

Supplemental Actions:

[4] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. The first (downstream) HEPA filter has become plugged. An examination of historical data should show a gradual increase in the dP over time.

2. The first (downstream) HEPA filter has become saturated with condensation. This is likely only if there is a problem with the heater.

3. Transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) RPP-16922, Environmental Specification Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-PDI-358
Tag: AWA-PDI-358
Message: High

Alarm Class: Environmental Impact/Equipment Status
Alarm Description: Differential pressure across HEPA #2 is too high

Setpoint: ≥ 2.8 in. H₂O

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions: None

Immediate Actions:

[1] CHECK TFMCS alarm display HEPA #1 high differential pressure is between 2.8 and 3.9 in. H₂O.

[1.1] IF HEPA #2 differential pressure (High) is ≥ 3.9 in. H₂O, Respond per HEPA Filter 2 Differential Pressure (High High) alarm.


[3] IF directed by Shift Manager/OE, SWITCH to other primary exhaust train per TO-060-107.

Supplemental Actions:

[4] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:

1. The second (downstream) HEPA filter has become plugged. An examination of historical data should show a gradual increase in the dP over time.

2. The second (downstream) HEPA filter has become saturated with condensation. This is likely only if there is a problem with the heater.

3. Transmitter failure.

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
RPP-16922, Environmental Specification Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-LI-380
Tag: AWA-LI-380
Message: Low
Alarm Class: Equipment Status
Alarm Description: Exhaust train seal pot level is too low

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
1. CHECK operating exhauster seal pot level (LI-380) on TFMCS is between 20% and 30%.
   1.1 IF exhauster seal pot level is ≤ 20%, RESPOND per Skid Seal Pot Level (Low) alarm.
2. EVALUATE cause of seal pot low level.
3. NOTIFY Shift Manager/OE of actions and findings.
4. IF directed by Shift Manager/OE;
   4.1 REFILL operating exhauster seal pot per TO-060-107.
   4.2 SWITCH to other primary exhaust train per TO-060-107.

Supplemental Actions:
5. INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Evaporation not replenished by condensation.
2. Leaks in the seal pot and/or seal pot loop.
3. Instrument failure.

References:
Drawings: H-14-020102
Documents: OSD-T-151-00007, Operating Specifications for the Double Shell Storage Tanks TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: AW241-VTP-TI-110
Tag: AWA-TI-110
Message: Low
Alarm Class: Equipment Status
Alarm Description: Controller enclosure senses Low temperature

Setpoint: ≤ 45 °F

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[3] NOTIFY Shift Manager/OE.

Supplemental Actions:
[4] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. Low ambient temperature conditions.
2. Loss of cabinet heater.

References:
Drawings: H-14-020102
Documents:
### DCS Cabinet Temperature

**Message:** High

**Setpoint:** ≥ 118°F

- **Panel:** All TFMCS Stations
- **Source:** AW241-VTP-TI-110
- **Tag:** AWA-TI-110
- **Message:** High

**Alarm Class:** Equipment Status

**Alarm Description:** Controller enclosure senses high temperature

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

### Automatic Actions:

None

### Immediate Actions:

1. **ACKNOWLEDGE** alarm.
2. **MONITOR** temperature inside controller enclosure.
3. **NOTIFY** Shift Manager/OE.

### Supplemental Actions:

4. **INITIATE** work order to troubleshoot and repair or replace degraded components.

### Possible Causes:

1. High ambient temperature conditions.
2. Loss of cooling/AC.

### References:

- **Drawings:** H-14-020102
- **Documents:**
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** AW241 VTP TI-118

**Tag:** AWA-TI-118

**Message:** Low

**Alarm Class:** Equipment Status

**Alarm Description:** I/O enclosure senses Low temperature

**Setpoint:** ≤ 20 °F

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

None

**Immediate Actions:**

1. [1] **ACKNOWLEDGE** alarm.
3. [3] **NOTIFY** Shift Manager/OE.

**Supplemental Actions:**

4. [4] **INITIATE** work order to troubleshoot and repair or replace degraded components.

**Possible Causes:**

1. Low ambient temperature conditions.
2. Loss of cabinet heater.

**References:**

- Drawings: H-14-020102
- Documents:
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations  
Source: AW241 VTP TI-118  
Tag: AWA-TI-118  
Message: High
Setpoint: ≥ 135 °F

Alarm Class: Equipment Status  
Alarm Description: I/O enclosure senses High temperature

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[3] NOTIFY Shift Manager/OE.

Supplemental Actions:
[4] INITIATE work order to troubleshoot and repair or replace degraded components.

Possible Causes:
1. High ambient temperature conditions.
2. Loss of cooling/AC.

References:
Drawings: H-14-020102
Documents:
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**RED**

Tank # PDI Narrow (Low)

**Setpoint:** \( \leq -3.5 \text{ in. H}_2\text{O} \)

**Panel:** All TFMCS Stations  
(\( # = \) Tank Number)

**Source:**  
AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)  
AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)  
AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)  
AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)  
AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)  
AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

**Tag:**  
AWA-PDI-210 and 211,  
AWA-PDI-220 and 221,  
AWA-PDI-230 and 231,  
AWA-PDI-240 and 241,  
AWA-PDI-250 and 251,  
AWA-PDI-260 and 261

**Message:** Low

**Alarm Class:** Equipment Status

**Alarm Description:** Tank vapor space pressure below range of normal operation

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

None

**Immediate Actions:**

[1] **CHECK** appropriate tank pressure on TFMCS is between - 5.5 and – 3.5 in. H\(_2\)O.

[1.1] **IF** tank pressure is \( \leq -5.5 \text{ in. H}_2\text{O} \), **RESPOND** per “Tank # PDI Narrow (Low Low)” alarm.

[2] **CHECK** TFMCS alarm display to determine if other tank low pressure alarms are active.

[3] **IF** directed by the Shift Manager/OE, **PERFORM** any/all of the following:

[3.1] **MONITOR** tank pressure on TFMCS.

[3.2] **ADJUST** exhauster stack flow set point per TO-060-107.

[3.3] **REMOVE** any ice buildup or obstructions from inlet stations.

[3.4] **REMOVE** tape from valve pits.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations  (# = Tank Number)

Source: AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)
AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)
AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)
AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)
AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)
AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

Tag: AWA-PDI-210 and 211,
AWA-PDI-220 and 221,
AWA-PDI-230 and 231,
AWA-PDI-240 and 241,
AWA-PDI-250 and 251,
AWA-PDI-260 and 261

Message: Low

(Continued)

Immediate Actions (Cont.):

NOTE - Port controller should float freely. During a high vacuum condition vacuum breaker should be open if air inlet is obstructed and should return to closed position when obstruction is removed.

[4] CHECK the port controller (see Table 1 for proper valve numbers) (AW10X-VTP-FCV-20X) for binding.

[5] ENSURE inlet station 12” isolation valve (see Table 1 for proper valve numbers) (AW10X-VTP-FCV-20X) is OPEN.

Supplemental Actions:


(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations (# = Tank Number)

**Source:**
- AW241-VTP-PDI-210 and 211 (Tank 241-AW-101)
- AW241-VTP-PDI-220 and 221 (Tank 241-AW-102)
- AW241-VTP-PDI-230 and 231 (Tank 241-AW-103)
- AW241-VTP-PDI-240 and 241 (Tank 241-AW-104)
- AW241-VTP-PDI-250 and 251 (Tank 241-AW-105)
- AW241-VTP-PDI-260 and 261 (Tank 241-AW-106)

**Tag:**
- AWA-PDI-210 and 211,
- AWA-PDI-220 and 221,
- AWA-PDI-230 and 231,
- AWA-PDI-240 and 241,
- AWA-PDI-250 and 251,
- AWA-PDI-260 and 261

**Message:** Low

**RED**

**Tank # PDI Narrow (Low)**

**Setpoint:** ≤ -3.5 in. H₂O

**Possible Causes:**

1. Obstruction of air inlet (i.e., foreign object across inlet screen, frost/ice buildup on inlet, filter dirty).
2. Primary exhaust fan remained ON after backup fan started, with or without an open riser.
3. Vacuum or flow rates out of adjustment.
4. Port controller binding.
5. Vacuum breaker is stuck shut.

**References:**

- **Drawings:** H-14-020102
- **Documents:** TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: ABB Controller (PLC) card cannot communicate with a Field Device
Tag: N/A
Message: N/A
Alarm Class: Equipment Status
Alarm Description: Field Device is Not Reporting

Object Error

Note - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[1] ACKNOWLEDGE alarm AND
   IF alarm clears, EXIT this ARP.
[2] IF the equipment has the letters “OE” next to it, NOTIFY Shift Manager.

Supplemental Actions:
[3] INITIATE work order to troubleshoot/repair or replace degraded components.

Possible Causes:
1. Equipment Failure.
2. Equipment Disconnected.

References:
Drawings: None
Documents: None
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: Automatic Crossover sequence
Tag: N/A
Setpoint: N/A
Message: CROSSOVER - Failed
Alarm Class: Equipment Status
Alarm Description: Crossover sequence failed to stop the train to be shutdown

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[1] SHUTDOWN exhauster identified to be shutdown per TO-060-107.
[2] ACKNOWLEDGE alarm AND IF alarm clears, EXIT this ARP.
[3] IF both exhausters continue to run, NOTIFY Shift Manager.

Supplemental Actions:
[4] INITIATE work order to troubleshoot/repair or replace degraded components.

Possible Causes:
1. Equipment in manual mode.
2. Shorted wiring.
3. Software.

References:
Drawings: None
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

**Panel:** All TFMCS Stations

**Source:** Automatic Crossover sequence  
**Tag:** N/A  
**Setpoint:** N/A  
**Message:** Crossover - Failed  
**Alarm Class:** Equipment Status (ES)  
**Alarm Description:** During crossover the train to be shutdown, shutdown prematurely

**NOTE** - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**

None

**Immediate Actions:**

1. **ENSURE** exhauster identified to be shutdown is shutdown per TO-060-107.
2. **ACKNOWLEDGE** alarm AND IF alarm clears, **EXIT** this ARP.
3. **IF** both exhausters shut down, **NOTIFY** Shift Manager of alarms and actions.
   
   [3.1] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.
   
   [3.2] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.
   
   [3.3] **REQUEST** Shift Manager respond per TF-AOP-021.
   
   [3.4] **STOP** waste disturbing activities to AW Farm.
   
   [3.5] **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107.

**Supplemental Actions:**

1. **INITIATE** work order to troubleshoot/repair or replace degraded components.

**Possible Causes:**

1. Equipment in manual mode.
2. Shorted wiring.
3. Software.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: Automatic Crossover sequence
Tag: N/A
Message: CROSSOVER - Failed

Setpoint: N/A

RED

(Continued)

References:

Drawings: None
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
CROSSOVER - Failed, other train failed to run

Panel: All TFMCS Stations
Source: Automatic Crossover sequence
Tag: N/A
Message: CROSSOVER - Failed
Alarm Class: Equipment Status (ES)
Alarm Description: During crossover the standby train failed to continue to run and original running train continues to run.

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[1] ENSURE exhauster that failed to continue to run is shutdown per TO-060-107.
[2] ACKNOWLEDGE alarm AND IF alarm clears, EXIT this ARP

Supplemental Actions:
[3] INITIATE work order to troubleshoot/repair or replace degraded components

Possible Causes:
1. Equipment in manual mode.
2. Shorted wiring.
3. Software.

References:
Drawings: None
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Tag: AWA-Transmitter-Fail
Message: Alarm

Alarm Class: Technical Safety Requirement (LCO 3.1, DST Primary Tank Ventilation Systems, LCO 3.4, DST Induced Gas Release Event Flammable Gas Control)
Alarm Description: HEPA filter, stack flow/temperature, or seal pot level transmitter failure

Setpoint: N/A

NOTE: Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Active primary exhaust train shuts down.

Immediate Actions:
[1] EVACUATE personnel from AW Farm to a protected upwind area.
[2] IF exhauster is not shutdown, SHUTDOWN exhauster per TO-060-107.
[4] IF directed by Shift Manager, STOP waste disturbing activities to AW Farm.

Supplemental Actions:

Possible Causes:
1. Transmitter failed.
2. Loss of 24VDC to Transmitter (including fuse).

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Tag: AWA-Transmitter-Fail
Message: Alarm

Control Equipment or Exh Stack Flow Failure

(Continued)

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) TF-AOP-021, Response to Tank Farm Ventilation Upset RPP-16922, Environmental Specification Requirements HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations
Source: De-Entrainer valves out of alignment
Tag: AWA-DeEntNotOneSet
Message: Alarm
Alarm Class: Equipment Status
Alarm Description: De-Entrainer valves misaligned

Setpoint: N/A

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
None

Immediate Actions:
[2] ACKNOWLEDGE alarm AND
   IF alarm clears, EXIT this ARP.
[3] IF alarm is still active, NOTIFY Shift Manager of findings.

Supplemental Actions:
[5] INITIATE work order to troubleshoot/repair or replace degraded components.

Possible Causes:
1. Valve position sensor faulty.
2. Valve position sensor requires adjustment.
3. Loss of 24VDC to valve position sensor contacts.

References:
Drawings: None
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: ABB communication equipment
  CI801 or the CI854 failure

Tag: AWA_HW_Failure

Message: Alarm


Alarm Description: I/O communication module failure

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

Automatic Actions:
1. Active primary exhaust train shuts down.

Immediate Actions:
[1] IF exhauster is still running, INITIATE exhauster shutdown sequence per TO-060-107.
[2] ACKNOWLEDGE alarm AND
  IF alarm clears, EXIT this ARP.
[3] IF alarm is still active, NOTIFY Shift Manager of findings.

Supplemental Actions:
[4] INITIATE work order to troubleshoot/repair or replace degraded components.

Possible Causes:
1. Faulty ProfiBus communication cabling.
2. Faulty ProfiBus connections.
3. CI801 or the CI854 cards have failed.

References:

Drawings: None

Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
          HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements.
**Respond to A-Train Alarms at 241-AW VTP Exhaust Skid**

**Panel:** All TFMCS Stations  
**Source:** CI860 failure  
**Tag:** AWA_FF_HWFail  
**Message:** Alarm  
**Setpoint:** N/A  

**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:** Foundation Fieldbus hardware has failed

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.

**Automatic Actions:**
1. Active primary exhaust train shuts down

**Immediate Actions:**

[1] **EVACUATE** personnel from AW Farm to a protected or upwind area.

[2] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

[2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.

[3] **NOTIFY** Shift Manager of alarms and actions AND **REQUEST** Shift Manager respond per TF-AOP-021.

[4] **STOP** waste disturbing activities to AW Farm.

[5] **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107

**Supplemental Actions:**

[6] **INITIATE** work order to troubleshoot/repair or replace degraded components.

**Possible Causes:**

1. Faulty CI860 card.
2. Loss of power to controller card.

**References:**

Drawings: None  
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)  
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements.
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-PDI-210, 211(Tank AW101)
AW241-VTP-PDI-220,221(Tank AW102)
AW241-VTP-PDI-230,231(Tank AW103)
AW241-VTP-PDI-240,241(Tank AW104)
AW241-VTP-PDI-250,251(Tank AW105)
AW241-VTP-PDI-260,261(Tank AW106)

Tag: AWA_FF_HWFail
Message: Alarm

Setpoint: N/A

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

Alarm Description: All Foundation Field devices are not reporting

NOTE - Alarm Response Procedures are not designed for, nor intended to be applied to, "expected" alarms generated by approved work activities or procedures.
- Prior to shutting down the exhauster all of the PDIs will have an object error alarm. 30 seconds later the train will shut down and the tag will be AWA_FF_HWFail.

Automatic Actions:

1. Active primary exhaust train shuts down

Immediate Actions:

[1] **EVACUATE** personnel from AW Farm to a protected or upwind area.

[2] **ENSURE** primary exhaust system is shut down by noting on remote TFMCS screen that stack flow drops to approximately 0 SCFM.

[2.1] **IF** exhauster has not shut down, **STOP** exhauster by initiating a shutdown per TO-060-107.

[3] **NOTIFY** Shift Manager of alarms and actions **AND**

**REQUEST** Shift Manager respond per TF-AOP-021.

[4] **STOP** waste disturbing activities to AW Farm.

[5] **IF** directed by Shift Manager/OE, **RESTART** Primary ventilation per TO-060-107.

(Continued on Next Page)
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-PDI-210, 211(Tank AW101)
       AW241-VTP-PDI-220,221(Tank AW102)
       AW241-VTP-PDI-230,231(Tank AW103)
       AW241-VTP-PDI-240,241(Tank AW104)
       AW241-VTP-PDI-250,251(Tank AW105)
       AW241-VTP-PDI-260,261(Tank AW106)

Setpoint: N/A

(All Tank PDIs)
Object error and Foundation Fieldbus Hardware Failure Detected

Tag: AWA_FF_HWFail
Message: Alarm

Supplemental Actions:

Possible Causes:
1. Foundation Fieldbus communication failed.
2. Loss of power to controller card.
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Panel: All TFMCS Stations

Source: AW241-VTP-PDI-210, 211 (Tank AW101)  
AW241-VTP-PDI-220,221 (Tank AW102)  
AW241-VTP-PDI-230,231 (Tank AW103)  
AW241-VTP-PDI-240,241 (Tank AW104)  
AW241-VTP-PDI-250,251 (Tank AW105)  
AW241-VTP-PDI-260,261 (Tank AW106)  

Setpoint: N/A

Tag: AWA_FF_HWFail

Message: Alarm

References:

Drawings: H-14-020102
Documents: TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)  
TF-AOP-021, Response to Tank Farm Ventilation Upset  
RPP-16922, Environmental Specification Requirements  
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
Respond to A-Train Alarms at 241-AW VTP Exhaust Skid

Table 1 – Inlet Station Components

<table>
<thead>
<tr>
<th>TANK</th>
<th>INLET FILTER STATION 12&quot; ISOLATION BUTTERFLY VALVE</th>
<th>3&quot; BYPASS LINE BALL VALVE</th>
<th>Port Controller Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>241-AW-103</td>
<td>AW103-VTP-V-203</td>
<td>AW103-VTP-V-209</td>
<td>AW103-VTP-FCV-203</td>
</tr>
<tr>
<td>241-AW-104</td>
<td>AW104-VTP-V-204</td>
<td>AW104-VTP-V-210</td>
<td>AW104-VTP-FCV-204</td>
</tr>
<tr>
<td>241-AW-105</td>
<td>AW105-VTP-V-205</td>
<td>AW105-VTP-V-211</td>
<td>AW105-VTP-FCV-205</td>
</tr>
</tbody>
</table>
### Table 2 - System Alarm Table for ABB Services

<table>
<thead>
<tr>
<th>ALARM (Object Name)</th>
<th>CONDITION</th>
<th>MESSAGE</th>
<th>ALARM MEANING/ACTION</th>
</tr>
</thead>
</table>
| Various             | Inoperative          | Service Provider Not in Operational Status   | **MEANING:** An ABB Service has shut down on either the Primary or Secondary Server. Since the Servers are redundant, failure of the Primary will shift control to the Secondary server.  
**ACTION:** REQUEST Shift Manager contact Engineering for assistance. |
| Various TFMCS, Server, or Controller Names | Primary Connection Lost | Primary Connection Lost                      | **MEANING:** The primary network connection to the device has been lost.  
**NOTE:** The secondary connection will take over automatically.  
**ACTION:** CHECK the Farm graphics where the affected device is located AND CONFIRM no red X’s are present. |
|                     | Network Connection   | Secondary Connection Lost                    | **MEANING:** The secondary network connection has been lost.  
**NOTE:** If the primary connection is active, it will take over automatically.  
**ACTION:** IF both the Primary and Secondary are lost, REQUEST Shift Manager contact Engineering for assistance. |
|                     | Network Connection   | Network Connection Lost                      | **MEANING:** Both network connections to the device or Farm have been lost.  
**NOTE:** If red X’s are present, network connection has been lost to this device or Farm.  
**ACTION:** CHECK the Farm graphics to confirm no red X’s are present.  
**IF** red X’s are present, REQUEST Shift Manager contact Engineering for assistance. |

(Continued on Next Page)
### Table 2 - System Alarm Table for ABB Services (Cont.)

<table>
<thead>
<tr>
<th>ALARM (Object Name)</th>
<th>CONDITION</th>
<th>MESSAGE</th>
<th>ALARM MEANING/ACTION</th>
</tr>
</thead>
</table>
| Various Controllers (PLCs) and ABB card names. | Channel Error | HW Error | MEANING: An input or output field device has lost connection to the ABB card. 
ACTION: CHECK the Farm graphics to confirm no red X’s are present. 
IF red X’s are present, IDENTIFY the instrument that has lost connection AND REQUEST Shift Manager contact Engineering for assistance. |
| | Underflow | | MEANING: An input field device is reporting less than the lower limit to the ABB card. The device may have been disconnected or turned off. 
ACTION: CHECK the Farm graphics to confirm no red X’s are present. 
IF red X’s are present, IDENTIFY the instrument that is reporting the Underflow AND REQUEST Shift Manager contact Engineering for assistance. |
| | Overflow | | MEANING: An input field device is reporting more than the upper limit to the ABB card due to an instrument malfunction. 
ACTION: CHECK the Farm graphics to confirm no red X’s are present. 
IF red X’s are present, IDENTIFY the instrument that is reporting the Overflow AND REQUEST Shift Manager contact Engineering for assistance. |