241-AW-271 Building Alarm Index

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RECORDS

No records are generated during the performance of this procedure.
Facility: 241-AW-271 Building

Panel: ANN-106

Source: AW06C-WSTA-WFT-136

Alarm Class: Area Status

Alarm Description: Liquid level in the leak detection pit has increased to alarm setpoint.

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

Immediate Actions:

[1] CHECK status of following annunciators:
   - Panel ANN-106 alarm 04, annulus leak detected tank 106 (WSTA-LDA-156).


Supplemental Actions:


   [6.1] IF annulus leak detectors show increased level in the annulus.

      [6.1.1] Shift Manager EVALUATE TF-AOP-005 entry criteria.

      [6.1.2] Shift Manager NOTIFY Maintenance to perform leak detection verification per 6-LDD-485.

(Continued on Next Page)
Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 01

Source: AW06C-WSTA-WFT-136  Setpoint: 37 inches above pit floor

Possible Causes:

1. Condensate, rainwater, or snowmelt has accumulated in the pit.
2. A waste leak from the primary tank to the annulus and then from the annulus to the leak detection pit.
3. A dip tube in the pit is plugged or has a purge air problem.

References:

Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 02

Source: AW06C-WST-PT-116  Setpoint: - 0.5 inches WG

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

Alarm Description: Tank 241-AW-106 vapor space has an increasing pressure (Low Vacuum).

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. Activates Audible Warning Alarm, "AW TANKS HI PRESSURE", to notify farm occupants of pressurization.

Immediate Actions:
[1] EVACUATE personnel from aw farm to a protected or upwind area.
[3] CHECK AW farm tank pressures on TFMCS.
[4] CHECK primary exhaust train is running AND
   IF exhauster has shut down, NOTIFY Shift Manager of alarms and actions.

Supplemental Actions:
[7] CONTINUE TO MONITOR SYSTEM PARAMETERS AND
   NOTIFY Shift Manager of changing indications.

(Continued on Next Page)
Facility: 241-AW-271 Building

Panel: ANN-106
Alarm #: 02

Source: AW06C-WST-PT-116
Setpoint: - 0.5 inches WG

Possible Causes:
1. Loss of primary ventilation.
2. Hot waste entering tank during transfer raises the pressure through evaporation.
3. Open riser, open pit drain, and/or missing sealing media on pit cover block seams/penetrations, admits too much air.
4. Failure of pressure transmitter or pressure alarm switch.
5. Gas release event.
6. Plugged HEPA filters.
7. Failed closed exhaust damper duct valve.

References:
Drawings: H-14-020602.
Documents: OSD-T-151-00007, Operating Specifications for Double Shell Storage Tanks
TF-AOP-021, Response to Tank Farm Ventilation Upset
TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP)
HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements.
Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 03

Source: AW06C-WST-PT-116  Setpoint: - 3.5 inches WG

Alarm Class: Plant Stability

Alarm Description: Low Pressure Tank 241-AW-106 (Hi Vacuum).

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

- Loss of instrument/compressed air will cause the tank pressure charts to fail to the low pressure (HI VACUUM) position.

Immediate Actions:

[1] CHECK status of the compressed air system AND
   IF compressed air system was down, RECOMMEND to Shift Manager response per TF-AOP-002.

[2] CHECK status of the following annunciators:
   • Panels ANN-101 through ANN-105 alarm 03, low pressure tank 10X, (HI VACUUM), (WST-PAL-11X).

[3] CHECK tank pressure strip chart recorder, located on alarm panel just below alarm windows, AW271-WST-PR-116 (red colored trace), in 271-AW.

[4] CHECK AW farm tank pressures on TFMCS.

[5] IF DIRECTED by the Shift Manager/OE, PERFORM any/all of the following:
   [5.1] MONITOR tank pressure on TFMCS.
   [5.2] ADJUST exhauster stack flow set point per TO-060-107.
   [5.3] REMOVE any ice buildup or obstructions from AW-106 inlet station.
   [5.4] REMOVE tape from valve pits.

NOTE - The port controller should float freely. During a high vacuum condition the vacuum breaker should open.


[7] ENSURE AW-106 inlet station 12” isolation valve (AW106-VTP-V-206) is OPEN.
Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 03

Source: AW06C-WST-PT-116  Setpoint: - 3.5 inches WG

Supplemental Actions:

[8] NOTIFY Shift Manager of actions and findings.

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. Loss of air compressor.
5. Port controller binding.
6. Vacuum breaker is stuck shut.

References:

Drawings:  H-14-020102 and H-14-020602.

Documents:  OSD-T-151-00007, Operating Specifications for Double Shell Storage Tanks TO-060-107, Operate AW Tank Farm Primary Ventilation System (VTP) TF-AOP-002, Response to Loss of Compressed Air.
Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 04

Source: AW106-WSTA-LDT-151  Setpoint: 0.25 inches above the annulus bottom
AW106-WSTA-LDT-152
AW106-WSTA-LDT-153

Alarm Class: Environmental

Alarm Description: One or more of the three leak detectors in the tank 241-AW-106 annulus is in alarm status. This is a common alarm, annunciating when any one of the three leak detectors in the annulus reaches the setpoint.

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] IF a transfer is in progress into or out of 241-AW-105, REQUEST MBD Operator shut down transfer.
   • Enraf local alarms.(HA indication will be in display for an alarm condition)
   • Enraf level readings.
   [5.1] IF annulus leak detectors show increased level in the annulus.
      [5.1.1] Shift Manager EVALUATE TF-AOP-005 entry criteria.
      [5.1.2] Shift Manager NOTIFY maintenance to perform leak detection verification per 6-LDD-485.

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Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-165   Alarm #: 04

Source: AW106-WSTA-LDT-151   Setpoint: 0.25 inches above the annulus bottom
AW106-WSTA-LDT-152
AW106-WSTA-LDT-153

ANNULUS LEAK DETECTED
TANK 106 (WSTA-LDA-156)
04

(Continued)

Supplemental Actions:


Possible Causes:

1. Waste leaking from primary tank to annulus.
2. Condensate, rainwater, snowmelt, or other water has entered the annulus from outside.
3. Time delay relay or control relay fails.
5. Enraf performed a reset due to loss of power.

References:

Documents: RPP-16922, Environmental Specification Requirements
           OSD-T-151-00031, Operating Specifications for Tank Farm Leak Detection and
           Single Shell Tank Intrusion Detection, Table 3-1
           TF-AOP-005, Response to Unexpected Tank Temperature or Flammable Gas
           Increase or Level Change
           6-LDD-485, ENRAF Series 854 Annulus Leak Detection Gauges Calibration and
           Maintenance.
Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 09

Source: AW241-VTA-PDS-710  Setpoint: 1.5 inches WG

Low Air Flow A Train Annulus Exhaust.

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

- This alarm is caused when the fan differential pressure drops to 1.5 inches WG. Normally the fan has to stop for the differential pressure to drop this low.

Immediate Actions:

[1] CHECK if panel ANN-102 ALARM 9, HI RAD alarm annulus EXH stack (VTA-RAH-910C) is alarming.

[2] IF A-train annulus fan is not running, and panel ANN-102 ALARM 09, HI RAD alarm annulus EXH stack (VTA-RAH-910C) is not alarming, ATTEMPT to restart fan per TO-060-105.

[3] IF fan will not restart and B-train is operating, ENSURE VTA system is aligned to ventilate all six tank annuli per TO-060-105.

[4] IF fan will not restart and B-train is not operating, ENSURE that the VTA system is shutdown per TO-060-105.

Supplemental Actions:

[5] CHECK status of the following annunciators:


[7] REQUEST Shift Manager to evaluate need to notify environmental.

(Continued on Next Page)
Respond to Panel ANN-106 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-106
Source: AW241-VTA-PDS-710

Alarm #: 09
Setpoint: 1.5 inches WG

Possible Causes:

1. Mechanical problem with one of the fan's components.
2. Breaker to AW241-VTA-EF-003 has tripped/failed.
3. One fan ventilating all 6 annulus tanks.
4. Fan shut down by high annulus exhaust stack radiation.

References:

Documents: TO-060-105, Operate the 241-AW Annulus Ventilation System (VTA).
Facility: 241-AW-271 Building

Panel: ANN-106  Alarm #: 10

Source: AW241-VTA-PDS-810  Setpoint: 1.5 inches WG

Alarm Class: Environmental Impact

Alarm Description: Low Air Flow B Train Annulus Exhaust.

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

- This alarm is caused when the fan differential pressure drops to 1.5 inches WG. Normally the fan has to stop for the differential pressure to drop this low.

Immediate Actions:

[1] CHECK if panel ANN-102 alarm 09, HI RAD alarm annulus EXH stack (VTA-RAH-910C) is alarming.

[2] IF B-train annulus fan is not running, and panel ANN-102 alarm 09, HI RAD alarm annulus EXH stack (VTA-RAH-910C) is not alarming, ATTEMPT to restart fan per TO-060-105.

[3] IF fan will not restart and A-train is operating, ENSURE VTA system is aligned to ventilate all six tank annuli per TO-060-105.

[4] IF fan will not restart and A-train is not operating, ENSURE that the VTA system is shutdown per TO-060-105.

Supplemental Actions:

[5] CHECK status of the following annunciators:
   • Panels ANN-101 through ANN-106 alarm 04, annulus leak detected tank 10X, (WSTA-LDA-15X).


[7] REQUEST Shift Manager to evaluate need to notify environmental.

Possible Causes:

1. Mechanical problem with one of the fan's components.
2. Breaker to AW241-VTA-EF-003 has tripped/failed.
3. One fan ventilating all 6 annulus tanks.
4. Fan shut down by high annulus exhaust stack radiation.

(Continued on Next Page)
Facility: 241-AW-271 Building

Panel: ANN-106          Alarm #: 10

Source: AW241-VTA-PDS-810  Setpoint: 1.5 inches WG

References:


Documents: TO-060-105, Operate the 241-AW Annulus Ventilation System (VTA).
Figure 1 – 241-AW-271 Instrument Building Alarm Panel ANN-106

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<td>HI LEVEL LEAK DETECTOR PIT 06C (WSTA-WFA-136)</td>
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<td>HI PRESSURE TANK 106 (LOW VACUUM) (WST-PAH-116)</td>
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<td>LOW PRESSURE TANK 106 (HI VACUUM) (WST-PAL-116)</td>
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<tr>
<td>ANNULUS LEAK DETECTED TANK 106 (WSTA-LDA-156)</td>
</tr>
<tr>
<td>LOW AIR FLOW A TRAIN ANNULUS EXH (VTA-PDAL-710)</td>
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<tr>
<td>LOW AIR FLOW B TRAIN ANNULUS EXH (VTA-PDAL-810)</td>
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