TSR Compliance

Respond to Panel ANN-101 Alarms at 271-AW

Tank Farm Alarm Response Procedure

AW Farm

USQ # TF-19-0012-S, Rev. 0

CHANGE HISTORY (≤ LAST 5 REV-MODS)

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


[8] CHECK air inlet station opening for obstructions AND REMOVE.


[10] IF the above steps do not restore tank pressure to proper range, NOTIFY Shift Manager AND IF directed, PERFORM the following:


2. OR Both Primary A and B Train exhaust fans were being operated for a job involving another tank.

Added new immediate action with substeps

1. IF directed by the Shift Manager/OE, PERFORM any/all of the following:

   1. MONITOR tank pressure on TFMCS.

   2. ADJUST exhauster stack flow set point per TO-060-107.

   3. REMOVE any ice buildup or obstructions from AW-101 inlet station.

   4. REMOVE tape from valve pits

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<tr>
<td>I-2</td>
<td>10/09/2018</td>
<td>Operations request and TF Automation / DSA changes</td>
<td>Removed/Replaced references to LCO 3.5. Removed steps that CHECK magnahelic pressure gauge.</td>
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<tr>
<td>I-1</td>
<td>08/30/2017</td>
<td>PER-17-1176</td>
<td>Updated annulus leak detector information and added additional information regarding LCO 3.5 into the ARP.</td>
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<tr>
<td>I-0</td>
<td>05/25/2016</td>
<td>Periodic Review</td>
<td>No changes identified during periodic review.</td>
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<tr>
<td>H-0</td>
<td>06/05/2014</td>
<td>Periodic Review revisions</td>
<td>Add possible cause for HI Level LD Pit 01C. Add reference documents as identified. Add immediate actions to HI Pressure Tank 101 and delete possible cause. Add immediate actions to Low Pressure Tank 101. Remove Set Point variance for Annulus Leak Detected Tank 101 for WSTA-LDA-151.</td>
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REFERENCE

ARPT-231-00101

I-3

01/03/2019

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RECORDS

No records are generated during the performance of this procedure.
Respond to Panel ANN-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101  Alarm #: 01

Source: AW01C-WSTA-WFT-131  Setpoint: 37 inches above pit floor

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 the following annunciators:
   - Panel ANN-101 alarm 04, ANNULUS LEAK DETECTED TANK 101 (WSTA-LDA-151).


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-101  Alarm #: 01

Source: AW01C-WSTA-WFT-131  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:
Respond to Panel ANN-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101   Alarm #: 02

Source: AW01C-WST-PT-111   Setpoint: - 0.5 inches WG


Alarm Description: Tank 241-AW-101 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:


(Continued on Next Page)
TSR Compliance

Respond to Panel ANN-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101  Alarm #: 02
Source: AW01C-WST-PT-111  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 the 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-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101   Alarm #: 03

Source: AW01C-WST-PT-111   Setpoint: - 3.5 inches WG

Alarm Class: Plant Stability

Alarm Description: Low Pressure (High Vacuum) in Tank 241-AW-101.

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-102 through ANN-106 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-111 (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-101 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.


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

Panel: ANN-101     Alarm #: 03

Source: AW01C-WST-PT-111     Setpoint: - 3.5 inches WG

Immediate Actions (Cont.):

[7] ENSURE AW-101 inlet station 12” isolation valve (AW101-VTP-V-201) is OPEN.

Supplemental Actions:

[8] NOTIFY Shift Manager of actions and findings.

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Respond to Panel ANN-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101  Alarm #: 03

Source: AW01C-WST-PT-111  Setpoint: - 3.5 inches WG

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.
Respond to Panel ANN-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101  Alarm #: 04
Source: AW101-WSTA-LDT-151  Setpoint: 0.25 inches above the
AW101-WSTA-LDT-152  annulus bottom
AW101-WSTA-LDT-153

Alarm Class: Environmental

Alarm Description: One or more of the three leak detectors in the tank 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-101, 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-101 Alarms at 271-AW

Facility: 241-AW-271 Building

Panel: ANN-101  Alarm #: 04

Source: AW101-WSTA-LDT-151  Setpoint: 0.25 inches above the annulus bottom
AW101-WSTA-LDT-152
AW101-WSTA-LDT-153

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
TO-040-590, Leak Detection Wells, Annulus Leak Detection Systems
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
Facility: 241-AW-271 Building

Panel: ANN-101. Alarm #: 09

Source: AW801-WT-RE-801. Setpoint: 5 mrem/hr high, 0.1 mrem/hr fail

Alarm Class: Area Status

Alarm Description: High Radiation Alarm or instrument failure in Service Pit

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] IF a transfer is in progress, REQUEST Shift Manager verify if AW service pit and/or flush pit is physically connected to transfer route.

[1.1] IF AW service pit and/or flush pit is physically connected, SHUTDOWN transfer.


Possible Causes:

1. Waste or contaminated water has back flowed into service pit from a transfer line through a miss-positioned valve or stuck open backflow preventer, or was washed in during a flush from the other end of a transfer line.

2. Radiation element has failed electronically.

3. Setpoint is too low and background radiation level spikes set it off.

References:


Documents: None.
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Figure 1 - 241-AW-271 Instrument Building Alarm Panel ANN-101

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