Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Tank Farm Alarm Response Procedure 242-A Evaporator

USQ # EV-18-0428-S, Rev. 2

CHANGE HISTORY (≤ LAST 5 REV-MODS)

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<th>Rev-Mod</th>
<th>Release Date</th>
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<th>Summary of Changes</th>
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<td>Page 16 Alarm FI-AS-5 Added &quot;IF the Facility is OPERATING&quot; to Step [2.1]</td>
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<td>Page 35 Alarm TI-HC1-2 added Step [2.5] &quot;NOTIFY Shift Manager of findings&quot;</td>
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<td>Page 39 Alarm TI-FC5-1 added Step [2.5] &quot;NOTIFY Shift Manager of findings&quot;</td>
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<tr>
<td>I-4</td>
<td>07/30/2018</td>
<td>Operations Request</td>
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<td>I-3</td>
<td>03/19/2018</td>
<td>Operations Request</td>
<td>Deleted Section 4 of page 3 and placed it back as Section 6 on page 4. Deleted Section 6 of page 4 and placed it back as section 4 on page 3. Updated graphics and set points for RSH-VVB/G alarms</td>
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<tr>
<td>I-2</td>
<td>02/22/2018</td>
<td>Operations Request</td>
<td>Removed references to Alpha Rad monitor and related alarms</td>
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<td>VESSEL VENT EXHAUST FLOW</td>
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<td>VES VENT PRE-FLTR DELTA P</td>
<td>HIGH</td>
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<td>VES VENT HEATER DELTA T CONTROLR</td>
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<td>TDIC-HC11</td>
<td>VES VENT HEATER DELTA T CONTROLR</td>
<td>LOW</td>
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<tr>
<td>PDI-FC5-1</td>
<td>VES VENT 1ST HEPA DELTA P</td>
<td>HIGH</td>
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<td>VES VENT 2ND-HEPA DELTA P</td>
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<td>VES VENT AMMONIA MONITOR FAIL</td>
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<td>TI-FC1-2</td>
<td>VES VENT HEATER OUTLET TEMP</td>
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<td>ZS-FC5-1</td>
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<tr>
<td>TI-FC5-1</td>
<td>VES VENT 2ND HEPA OUTLET TEMP</td>
<td>HIGH</td>
<td>YELLOW</td>
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<tr>
<td>II-EXC-1</td>
<td>VESSEL VENT EXHAUSTR CURRENT</td>
<td>LOW</td>
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RECORDS

No records are generated during the performance of this procedure.
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A  Setpoint: 100 cfm
Source: FT-AS-5  Plant Stability
Alarm Class: VESSEL VENT FLOW (LOW-LOW) (F20); vessel vent exhaust flow is below the low-low flow alarm setpoint.

Automatic Actions:
1. Shuts down TDIC-HC11, Vessel Vent Heater ΔT Controller.

Immediate Actions:

NOTE - This alarm will actuate whenever EX-C-1 is shut down.

[1] IF EX-C-1 has shut down intentionally for routine, scheduled maintenance activities, ENSURE Environmental has been notified per the On-Call list AND IF no further action is required, EXIT this response.

[2] CHECK EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR status is CF-ON.

[3] CHECK the status of ZS-FC5-1 (G20, F21) VES VENT 1ST HEPA INLET DAMPER and ZS-FC5-2 (G20, F21) VES VENT 2ND HEPA OUTLET DAMPER are OPEN.

NOTE - The shutdown of the EX-C-1 Exhauster will also cause the following actions:
- Shuts down Evaporator Feed Pump P-AW-102
- Closes HV-CA1-1 EVAP FEED VALVE
- Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
- Closes HV-EC2/3-1 VACUUM JETS STEAM VALVE
- Opens HV-EC1-1 VACUUM BREAKER VALVE
- Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 recirculation pump and possibly lead to an automatic pot dump 8 minutes after the shutdown.

[4] IF EX-C-1 is Shutdown, PERFORM the following:

[4.1] NOTIFY the Shift Manager

[4.2] REQUEST notification of Environmental per the On Call List.

[4.3] REQUEST Shift Manager complete associated action in TF-REC-001.


(Continued on Next Page)
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20 Alarm #: N/A
Panel: N/A
Source: FT-AS-5 Setpoint: 100 cfm

Immediate Actions (Cont.):

[6] IF ZS-FC5-1 OR ZS-FC5-2 status is CLOSED, SHUT DOWN EX-C-1:
   [6.1] SELECT EX-C-1 (G20/6, F20).
   [6.2] SHUTDOWN the Exhauster.
   [6.3] CHECK that EX-C-1 status changes to CF-OFF.

Probable Causes:

1. EX-C-1 is shut down.
2. Damper HV-FC5-1 or HV-FC5-2 is closed.
3. Ongoing maintenance PM.
5. Actual blockage in line

References:

Drawings: H-2-98998
Documents: TO-600-060, Shut Down 242-A Evaporator System
TF-AOP-EVAP-009, Response to Process Upset
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  
Alarms at the 242-A Evaporator

Panel: N/A

Source: TDIC-HC11  
Setpoint: 85 °F

Alarm Class: Plant Stability

Alarm Description: VES VENT HEATER DELTA T CONTROLR (TEMPERATURE HIGH-HIGH) (G20/5, F20); the Vessel Vent Heater ΔT is above the high-high alarm setpoint.

Automatic Actions:

None

Immediate Actions:

[1] CHECK TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR output.

[2] IF TDIC-HC11 output is greater than 0%, SET TDIC-HC11 output to 0%.

[2.1] SELECT TDIC-HC11 (G20/5, F20).

[2.2] IF TDIC-HC11 is in AUTO mode, SELECT “Manual” to place TDIC-HC11 in MANUAL mode.

[2.3] PRESS OUTPUT, 0 AND ENTER.

[2.4] CHECK that TDIC-HC11 output changes to 0%.


NOTE - Typical Vessel Vent operation requires a TDIC-HC11 output of 60% to 70% to maintain a ΔT of 50 °F.

[4] IF TDIC-HC11 temperature reading begins to decrease, PERFORM the following:

[4.1] ADJUST TDIC-HC11 output manually until TDIC-HC11 has stabilized at 45 to 55 °F.


[4.3] EXIT this alarm response procedure (ARP).

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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20          Alarm #: N/A
Panel: N/A          Setpoint: 85 °F
Source: TDIC-HC11

Immediate Actions (Cont.):

NOTE - If the Evaporator is operating, shutting down of the EX-C-1 Exhauster will also cause the following actions:

- Shuts down Evaporator Feed Pump P-AW-102
- Closes HV-CA1-1 EVAP FEED VALVE
- Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
- Closes HV-EC2/3-1 VACUUM JETS STEAM VALVE
- Opens HV-EC1-1 VACUUM BREAKER VALVE.

Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 Recirculation pump and possibly lead to an automatic pot dump 8 minutes after the shutdown.

[5] IF TDIC-HC11 temperature does not decrease within 3 minutes, SHUT DOWN EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR.

[5.1] SELECT EX-C-1.

[5.2] SHUTDOWN the Exhauster.

[5.3] CHECK that EX-C-1 status changes to CF-OFF.

[6] IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.

[7] IF the Evaporator was not operating, NOTIFY Shift Manager AND EXIT this ARP.

Probable Causes:

1. Vessel Vent Heater H-C-1 malfunction
2. Ongoing maintenance PM
3. Instrument malfunction

References:

Drawings: H-2-98998
Documents: TO-600-060, Shut Down 242-A Evaporator System
           TF-AOP-EVAP-009, Response to Process Upset
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A
Source: TDIC-HC11  Setpoint: 30 °F
Alarm Class: Plant Stability
Alarm Description: VES VENT HEATER DELTA T CONTROLR (TEMPERATURE LOW-LOW) (F20); the Vessel Vent heater ΔT is below setpoint. This alarm is normally ON when the vessel vent system is shut down.

Automatic Actions:
None

Immediate Actions:

**Limit** - RPP-11413, 3.2 HEPA Filter Temperature Limits
Temperature Rise Across 242-A Vessel Ventilation System Heater, Minimum 18 °F.

[1] CHECK TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR output.

[2] IF TDIC-HC11 output is less than 60%, SET TDIC-HC11 output to 60%:
   [2.1] SELECT TDIC-HC11 (G20/5, F20).
   [2.2] IF TDIC-HC11 is in AUTO mode, SELECT “Manual” to place TDIC-HC11 in MANUAL mode.
   [2.3] PRESS OUTPUT, 60 AND ENTER.
   [2.4] CHECK that TDIC-HC11 output changes to 60%.

NOTE - Typical vessel vent operation requires a TDIC-HC11 output of 50% to 70% to maintain a ΔT of 50 °F.

[4] IF TDIC-HC11 temperature reading begins to increase, PERFORM the following:
   [4.1] ADJUST TDIC-HC11 output manually until TDIC-HC11 has stabilized at 45 °F to 55 °F.
   [4.3] EXIT this ARP.

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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A  Source: TDIC-HC11  Setpoint: 30 °F

Immediate Actions (Cont.):

NOTE - If the Evaporator is operating, shutting down of the EX-C-1 Exhauster will also cause the following actions:

- Shuts down Evaporator Feed Pump P-AW-102
- Closes HV-CA1-1 EVAP FEED VALVE
- Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
- Closes HV-EC2/3-1 VACUUM JETS STEAM VALVE
- Opens HV-EC1-1 VACUUM BREAKER VALVE.

- Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 recirculation pump and possibly lead to an automatic pot dump 8 minutes after the shutdown.

[5] IF TDIC-HC11 temperature does not increase within 3 minutes, REQUEST Shift Manager direction on shutdown of the vessel vent system.

[6] IF Shift Manager gives direction to shut down the vessel vent system, SHUT DOWN EX-C-1 VESSEL VENT EXHAUSTR:

[6.1] SELECT EX-C-1 (G20/6, F20).

[6.2] SHUTDOWN the Exhauster.

[6.3] CHECK that EX-C-1 status changes to CF-OFF.

[7] IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.

[8] IF the Evaporator was not operating, NOTIFY Shift Manager AND EXIT this ARP.

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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20 \hspace{1cm} \text{Alarm #: N/A}

Panel: N/A

Source: TDIC-HC11 \hspace{1cm} \text{Setpoint:} 30 \degree F

Probable Causes:
1. Vessel Vent Heater H-C-1 malfunction.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:
Drawings: H-2-98998
Documents: RPP-11413, Technical Basis for Ventilation System Requirements
TO-600-060, Shut Down 242-A Evaporator System
TF-AOP-EVAP-009, Response to Process Upset
Facility: 242-A Evaporator

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<th>Panel: N/A</th>
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<td>Source: TSHH-HC1-3</td>
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<th>Setpoint: 260 °F</th>
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Alarm Class: Plant Stability

Alarm Description: VESSEL VENT HEATER OVERTEMP

Automatic Actions:

1. The alarm automatically shuts down the Vessel Vent heater.

Immediate Actions:

1. [CONFIRM] the Vessel Vent Heater has shut down.
2. [NOTIFY] the Shift Manager.

Probable Causes:

1. Loss of normal 13.8 KV electrical power.
2. Ongoing maintenance PM.
3. High temperature downstream of H-C-1 (Vessel Vent Heater).
4. Loss of Vessel Vent Exhauster.

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<td>TO-620-040, Operate 242-A Vessel Vent System</td>
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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20
Panel: N/A
Source: Calculated

Alarm #: N/A
Setpoint: 5 inches WG

Alarm Class: Plant Stability
Alarm Description: VV 1ST AND 2ND STAGE HEPAS DP (HIGH) (G20, F20); the $\Delta P$ across the vessel vent HEPA filters is above the high $\Delta P$ alarm setpoint.

Automatic Actions:
1. Activates software interlock #4:
   - Shuts down Evaporator Feed Pump P-AW-102
   - Closes HV-CA1-1 EVAP FEED VALVE
   - Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
   - Opens HV-EA1-3 REBOILER AIR PURGE VALVE
   - Closes HV-EC2/3-1 VACUUM JETS STEAM VALVE
   - Shuts Off EX-C-1 VESSEL VENT EXHAUST FAN
   - Opens HV-EC1-1 VACUUM BREAKER VALVE.

Immediate Actions:

Limit - RPP-11413, 3.1 Differential Pressure Limits
Exhaust HEPA Filter(s)-Multiple Filters In Series, Minimum 0.1 in. w.g.,
Maximum 5.9 in. w.g.

NOTE - Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 Recirculation pump and possibly lead to an automatic pot dump 8 minutes after the shutdown.

[1] IF EX-C-1 has shut down intentionally for routine, scheduled maintenance activities, ENSURE Environmental has been notified per the On-Call list AND IF no further action is required, EXIT this response.

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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A  Setpoint: 5 inches WG
Source: Calculated (PDI-FC5-1) + (PDI-FC5-2)

(Continued)

Immediate Actions (Cont.):

[2] ENSURE EX-C-1 (G20/6, F20) VESSEL VENT EXHAUST status is CF-OFF.
[3] IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.
[4] IF the Evaporator was not operating, NOTIFY Shift Manager AND EXIT this ARP.
[5] IF EX-C-1 is shutdown, PERFORM the following:
  [5.1] NOTIFY the Shift Manager.
  [5.2] REQUEST notification of Environmental per the On Call list.
  [5.3] REQUEST Shift Manager complete associated actions in TF-REC-001.

Probable Causes:

1. HEPA filter F-C5-1 and/or F-C5-2 plugged.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A

Source: RM-VV-2  300 dpm/ft³ Slow
Setpoint: 3000 cpm

Alarm Class: Environmental Impact

Alarm Description: VES VENT EXH STAK BETA/GAM RADN HI (F21); the β/γ radiation reading in the vessel vent exhaust stack is above the high alarm setpoint.

Automatic Actions:

1. Activates Interlock #20:
   - Shuts down P-AW-102 FEED PUMP
   - Closes HV-CA1-1 EVAP FEED VALVE
   - Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
   - Opens HV-EA1-3 REBOILER AIR PURGE VALVE
   - Shuts off HV-EC2/3-1 VACUUM JETS STEAM VALVE
   - Opens HV-EC1-1 VACUUM BREAKER VALVE
   - Shuts down EX-C-1 VESSEL VENT EXHAUSTR.

Immediate Actions:

NOTE - Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 Recirculation pump and possibly lead to an automatic pot dump 8 minutes after the shutdown.

[1] ENSURE EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR status is CF-OFF and INTERLOCK.

[2] IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.

[3] CHECK PDI-FC5-1 VESSEL VENT 1ST-HEPA DELTA P current trend display for recent HEPA filter ΔP changes:
   - [3.1] PRESS CURR TREND, 21 AND
   - ENTER.

   NOTE - A sudden drop in the PDI-FC5-1 ΔP indicates that the HEPA filter has broken through.

   [3.2] CHECK PDI-FC5-1 current trend trace for recent sudden ΔP decreases.

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Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  
Alarm #: N/A

Panel: N/A  
Setpoint: 3000 cpm

Source: RM-VV-2

300 dpm/ft³ Slow
7000 dpm/ft³ Fast

RED

RSH-VVB/G

(Continued)

Immediate Actions (Cont.):

[4]  
CHECK RI-VVB/G vessel vent exhaust stack beta/gamma radiation for recent changes:

[4.1]  
PRESS CURR TREND, 22 AND
ENTER.

[4.2]  
CHECK RI-VVB/G process value for recent upward trend.

[5]  
DIRECT HPT to perform the following actions:

[5.1]  
CHECK stack monitoring equipment.

[5.2]  
SURVEY HEPA filters.

[6]  
IF Evaporator was operating, PERFORM the following:

[6.1]  
NOTIFY Shift Manager.

[6.2]  
REQUEST notification of Environmental per the On Call List.

[6.3]  
REQUEST Shift Manager complete associated actions in TF-REC-001.

[7]  
IF the Evaporator was not operating, NOTIFY Shift Manager AND EXIT this ARP.

Probable Causes:

1. HEPA filter breakthrough.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings:  
H-2-98998, Sheet 1

Documents:  
TO-600-060, Shut Down 242-A Evaporator System
TF-AOP-EVAP-009, Response to Process Upset
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20    Alarm #: N/A
Panel: N/A    Setpoint: N/A
Source: YS-EXC3RL

Alarm Class: Equipment Status
Alarm Description: YS-EXC3RL

Automatic Actions: None

Immediate Actions:

NOTE - The local mode inhibits MCS control of the Vessel Vent Exhaust Fan; the Fan should only be in local mode while maintenance (e.g., Stack Flow monitoring or Filter Testing) is being performed.

- This is a status indicator for this switch
- If maintenance activities are ongoing, no operator actions are required.

[1] IF planned maintenance activities are occurring, EXIT this ARP.
[2] IF no maintenance activities are ongoing, REQUEST the Backside Operator to place this switch, located on the vessel vent panel in the Condenser Room, in the REMOTE position.

Probable Causes:
1. Vessel Vent Exhauster EX-C-1 switched to local mode.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings:    H-2-98998
Documents:    None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A
Source: FT-AS-5  Setpoint: 800 cfm

Alarm Class: Plant Stability
Alarm Description: VESSEL VENT EXHAUST FLOW (HIGH) (F20); the vessel vent exhaust flow is high.

Automatic Actions:
None

Immediate Actions:
NOTE - A low ΔP across a HEPA filter could result in a higher flow through the vessel vent system.

[1] CHECK PDI-FC5-1 Vessel Vent 1st HEPA ΔP and PDI-FC5-2 Vessel Vent 2nd HEPA ΔP current trend displays for ΔP changes:
  [1.1] PRESS CURR TREND, 21 AND ENTER.
  [1.2] CHECK PDI-FC5-1 and PDI-FC5-2 for recent ΔP changes.

[2] IF PDI-PC5-1 indicates a blown filter (low dP), PERFORM the following:
  [2.1] IF the Facility is OPERATING, SHUT DOWN the Evaporator per TO-600-060.
  [2.2] NOTIFY Shift Manager.


[4] IF directed by Shift Manager, ADJUST valve 3-1 to reduce flow to less than 800 cfm.


Probable Causes:
1. Tear in HEPA filter.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:
Drawings: H-2-92505
          H-2-98998
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A
Source: FT-AS-5  Setpoint: 450 cfm

Alarm Class: Plant Stability
Alarm Description: VESSEL VENT EXHAUST FLOW (LOW) (F20); vessel vent exhaust flow is low. This alarm is normally ON when the vessel vent system shuts down.

Immediate Actions:

1. CHECK PDI-FC5-1 VESSEL VENT 1st-HEPA DELTA P and PDI-FC5-2 VESSEL VENT 2nd-HEPA DELTA P current trend displays for recent changes:
   1.1 [PRESS CURR TREND, 21 AND ENTER.
   1.2 CHECK PDI-FC5-1 and PDI-FC5-2 for recent ΔP increases.
2. CHECK that EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR status is CF-ON.
3. CHECK that status of ZS-FC5-1 (G20, F21) VES VENT 1st HEPA INLET DAMPER and ZS-FC5-2 (G20, F21) VES VENT 2nd HEPA OUTLET DAMPER is OPEN.
4. CHECK that PDI-DUC1 (G20, F20) VESSEL VENT DE-ENTRN DELTA P and PDI-FC6-1 (G20, F20) VESSEL VENT PRE-FLTR DELTA P are NOT in alarm status.
5. CHECK the position of Valve 3-1, vessel vent air inlet valve AND ADJUST flow as necessary to increase flow to greater than 450 cfm.
6. NOTIFY Shift Manager of all findings.

Probable Causes:

1. EX-C-1 is shut down or has malfunctioned.
2. Damper HV-FC5-1 or HV-FC5-2 is closed.
3. High differential pressure across DU-C-1, F-C-6 or HEPA filters.
4. Ongoing maintenance PM.
5. Instrument malfunction.

References:

Drawings: H-2-92505, H-2-98998
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20

Alarm #: N/A

Panel: N/A

Source: PDT-DUC1-1

Setpoint: 2 inches WG

Alarm Class: Plant Stability

Alarm Description: VES VENT DE-ENTRN DELTA P (HIGH) (F20); the vessel vent de-entrainer $\Delta P$ is high. This alarm often occurs when the vacuum steam jets are started.

Automatic Actions:

None

Immediate Actions:

[1] IF the Evaporator is operating and the vacuum steam jets are not being brought online, PERFORM the following actions:

[1.1] MONITOR vessel vent flow and HEPA filter DPs.

[1.2] NOTIFY Shift Manager.

[2] IF the Evaporator is already shut down, PERFORM the following actions:

[2.1] MONITOR vessel vent flow and HEPA filter DPs.

[2.2] NOTIFY Shift Manager.

Probable Causes:

1. Clogged de-entrainment unit DU-C-1.

2. Ongoing maintenance PM.

3. Instrument malfunction.

References:

Drawings: H-2-98998

Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20                      Alarm #: N/A

Panel: N/A                       Setpoint: 2 inches WG

Source: PDT-FC6-1               Alarm Class: Plant Stability

Alarm Description: VES VENT PRE-FLTR DELTA P (HIGH) (F20); the vessel vent pre-filter ΔP is high. This alarm often occurs when the vacuum steam jets are started.

Automatic Actions:
None

Immediate Actions:
[1] IF the Evaporator is operating and the vacuum steam jets are not being brought on-line, PERFORM the following actions:
   [1.1] MONITOR vessel vent flow and HEPA filter DPs using current trends #21 and 22.
   [1.2] NOTIFY Shift Manager.
[2] IF the Evaporator is already shut down, PERFORM the following actions:
   [2.1] MONITOR vessel vent flow and HEPA filter DPs using current trends #21 and 22.
   [2.2] NOTIFY Shift Manager.

Probable Causes:
1. Clogged pre-filter/demister F-C-6.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:
Drawings: H-2-98998
Documents: None
## Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator

**Graphic:** 20  
**Alarm #:** N/A  
**Panel:** N/A  
**Source:** TDIC-HC11  
**Setpoint:** 65 °F

### Alarm Class:

Plant Stability

### Alarm Description:

VES VENT HEATER DELTA T CONTROLR (TEMPERATURE HIGH) (G20/5, F20); the vessel vent heater ΔT controller temperature is high.

### Automatic Actions:

None

### Immediate Actions:

1. **LOWER** TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR output to lower temperature:
   
   1.1  **SELECT** TDIC-HC11 (G20/5, F20).
   
   1.2  **IF** TDIC-HC11 is not in MANUAL mode, **PRESS** AUTO/MAN twice to place TDIC-HC11 in MANUAL mode.
   
   1.3  **LOWER** TDIC-HC11 output until temperature stabilizes between 40 F to 60 F.
   
   1.4  **NOTIFY** Shift Manager of temperature controller failure.

### Probable Causes:

1. Vessel Vent Heater H-C-1 malfunction.
2. Ongoing maintenance PM.
3. Instrument malfunction.

### References:

**Drawings:**  
H-2-98998

**Documents:**  
None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A  
Source: TDIC-HC11  Setpoint: 35 °F

Alarm Class: Plant Stability
Alarm Description: VES VENT HEATER DELTA T CONTROLR (TEMPERATURE LOW) (G20/5, F20); the vessel vent heater ΔT controller temperature is low. This alarm is normally ON when the vessel vent system is shut down.

Automatic Actions: None

Immediate Actions:

1. RAISE TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR output to raise temperature:
   1.1 SELECT TDIC-HC11 (G20/5, F20).
   1.2 IF TDIC-HC11 is not in MANUAL mode, PLACE TDIC-HC11 in MANUAL mode.
   1.3 RAISE TDIC-HC11 output until temperature stabilizes between 40 °F to 60 °F.
   1.4 NOTIFY Shift Manager of temperature controller failure.

2. MONITOR TDIC-HC11 temperature AND ADJUST output to maintain TDIC-HC11 temperature 40 °F to 60 °F.

Probable Causes:

1. Vessel Vent Heater H-C-1 malfunction.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

- Drawings: H-2-98998
- Documents: RPP-11413, Technical Basis for Ventilation System Requirements
Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A

Panel: N/A  Setpoint: 3 inches WG

Source: PDT-FC5-1

Alarm Class: Plant Stability

Alarm Description: VES VENT 1ST HEPA DELTA P (HIGH) (F20); the vessel vent 1st HEPA filter \( \Delta P \) is high.

Automatic Actions:

None

Immediate Actions:

- **Limit** - RPP-11413, 3.1 Differential Pressure Limits
  - Exhaust HEPA Filter-First In Series, Minimum 0.1 in. w.g., Maximum 5.9 in. w.g.

  1. CHECK PDT-FC5-1 VESSEL VENT 1ST-HEPA DELTA P current trend displays for recent changes:
     1.1 PRESS CURR TREND, 21 AND ENTER.
     1.2 CHECK PDT-FC5-1 for recent \( \Delta P \) increases.

  2. CHECK current trend #22 for increased radiation readings.

  3. NOTIFY Shift Manager of HEPA filter \( \Delta P \) reading.

Probable Causes:

1. Clogged HEPA filter.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998
Documents: RPP-11413, Technical Basis for Ventilation System Requirements

TO-600-060, Shut Down 242-A Evaporator System

TO-620-040, Operate 242-A Vessel Vent System
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A

Source: PDT-FC5-1  Setpoint: 0.25 inch WG

Alarm Class: Plant Stability

Alarm Description: VES VENT 1ST HEPA DELTA P (LOW) (F20); the vessel vent 1st HEPA filter ΔP is low. This alarm is normally on when the vessel vent system is shut down.

Automatic Actions:

None

Immediate Actions:

[1] CHECK FI-AS-5 VESSEL VENT FLOW, and RI-VVB/G VES VENT EXH STAK BETA/GAM RADN current trends displays for recent changes:

[1.1] PRESS CURR TREND, 22 AND ENTER.

[1.2] CHECK FI-AS-5 for recent flow decreases.

[1.3] CHECK RI-VVB/G for increases in β/γ radiation.


Probable Causes:

1. Tear in HEPA filter F-CS-1.
2. Low flow through vessel vent.
3. Ongoing maintenance PM.

References:

Drawings: H-2-98998
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A  Setpoint: 4.0 inches WG
Source: PDSHL-FC5-1  Alarm Class: Plant Stability

Alarm Description: VES VENT 1ST HEPA DELTA P HIGH (F20); the ΔP across the vessel vent 1st HEPA filter is above the high alarm setpoint. This alarm is a hardwired backup to the software alarm. This alarm should only come into use if PDI-FC5-1 fails to shut down the Vessel Vent Exhauster on a high ΔP.

Automatic Actions:
   1. Activates Interlock #4:
      • Shuts down P-AW-102 FEED PUMP
      • Closes HV-CA1-1 EVAP FEED VALVE
      • Closes FV-EA1-1 REBOILER STEAM FLOW VALVE
      • Opens HV-EA1-3 REBOILER AIR PURGE VALVE
      • Shuts off HV-EC2/3-1 VACUUM JETS STEAM VALVE
      • Opens HV-EC1-1 VACUUM BREAKER VALVE
      • Shuts down EX-C-1 VESSEL VENT EXHAUSTR.

Immediate Actions:

Limit -  RPP-11413, 3.1 Differential Pressure Limits
Exhaust HEPA Filter-First In Series, Minimum 0.1 in. w.g., Maximum 5.9 in. w.g.

NOTE - Pressure fluctuations occurring from opening HV-EC1-1 could also result in the weight factor instrumentation reading low-low, which will shut down the PB-1 Recirculation pump and possibly lead to an automatic pot dump 8 minutes after shutdown.

[1]  ENSURE that EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR status is CF-OFF.
[2]  IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.

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

Graphic: 20  Alarm #: N/A
Panel: N/A
Source: PDSHL-FC5-1  Setpoint: 4.0 inches WG

(Please review the Immediate Actions and Probable Causes sections for detailed responses)

Immediate Actions (Cont.):

[3] IF the Evaporator was not operating, CHECK PDI-FC5-1 VESSEL VENT 1ST-HEPA DELTA P and PDI-FC5-2 VESSEL VENT 2ND-HEPA DELTA P current trend displays for recent changes:

[3.1] PRESS CURR TREND, 21 AND ENTER.

[3.2] CHECK PDI-FC5-1 and PDI-FC5-2 current trend traces for recent ΔP increases.


Probable Causes:

1. Clogged HEPA filter.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998
Documents: RPP-11413, Technical Basis for Ventilation System Requirements
          TO-600-060, Shut Down 242-A Evaporator System
          TF-AOP-EVAP-009, Response to Process Upset
Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A
Source: PDSHL-FC5-1  Setpoint: 0.25 inch WG
Alarm Class: Plant Stability
Alarm Description: VES VENT 1ST HEPA DELTA P LOW (F20); the ΔP across the vessel vent 1st HEPA filter is below the Low ΔP alarm setpoint. This alarm is normally ON when the vessel vent system is shut down.

Automatic Actions:
None

Immediate Actions:

NOTE - Low ΔP may indicate filter breakthrough or reduced airflow.

[1] CHECK PDI-FC5-1 VES VENT 1ST HEPA DELTA P current trend display for recent ΔP changes:
   [1.1] PRESS CURR TREND, 21 AND ENTER.
   [1.2] CHECK PDI-FC5-1 for recent ΔP decreases.
   [1.3] CHECK PDI-FC5-2 for recent ΔP increases.

[2] CHECK FI-AS-5 VESSEL VENT FLOW, and RI-VVB/G VES VENT EXH STAK BETA/GAM RADN current trends displays for recent changes:
   [2.1] PRESS CURR TREND, 22 AND ENTER.
   [2.2] CHECK FI-AS-5 for recent flow increases.
   [2.3] CHECK RI-VVB/G for increases in β/γ radiation.


(Continued on Next Page)
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A
Source: PDSHL-FC5-1  Setpoint: 0.25 inch WG

Probable Causes:
1. Tear in HEPA filter.
2. Low flow through vessel vent.
3. Ongoing maintenance PM.

References:
- Drawings: H-2-98998
- Documents: None

(Continued)
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A  Setpoint: 2 inches WG

Source: PDT-FC5-2  Alarm Class: Plant Stability

Alarm Description: VES VENT 2ND HEPA DELTA P (HIGH) (F20); the ΔP across the vessel vent 2nd HEPA filter is above the high ΔP alarm setpoint.

Automatic Actions:
None

Immediate Actions:

Limit - RPP-11413, 3.1 Differential Pressure Limits
Exhaust HEPA Filter(s)-Any Filters After First Filter,, Minimum 0.1 in. w.g., Maximum 4.0 in. w.g.

[1] CHECK PDI-FC5-1 VESSEL VENT 1ST-HEPA DELTA P and PDI-FC5-2 VESSEL VENT 2ND-HEPA DELTA P current trend displays for recent changes:

[1.1] PRESS CURR TREND, 21 AND ENTER.

[1.2] CHECK PDI-FC5-1 and PDI-FC5-2 current trend traces for recent ΔP increases.


Probable Causes:

1. Clogged HEPA filter.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998
Documents: RPP-11413, Technical Basis for Ventilation System Requirements
Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A

Source: PDT-FC5-2  Setpoint: 0.25 inches WG

Alarm Class:  Plant Stability

Alarm Description:  VES VENT 2ND-HEPA DELTA P (LOW) (F20); the ΔP across the vessel vent 2nd HEPA filter is below the low ΔP alarm setpoint. This alarm is normally ON when the vessel vent system is shut down.

Automatic Actions:

None

Immediate Actions:

[1]  CHECK FI-AS-5 VESSEL VENT FLOW, and RI-VVB/G VES VENT EXH STAK BETA/GAM RADN current trends displays for recent changes:

[1.1]  PRESS CURR TREND, 22 AND ENTER.

[1.2]  CHECK FI-AS-5 for recent flow decreases.

[1.3]  CHECK RI-VVB/G for increases in β/γ radiation.


Probable Causes:

1.  Tear in HEPA filter.
2.  Low flow through vessel vent.
3.  Ongoing maintenance PM.

References:

Drawings:  H-2-98998
Documents:  None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20

Panel: N/A

Source: Calculated (PDI-FC5-1) + (PDI-FC5-2)

Setpoint: 4 inches WG

Alarm #: N/A

Alarm Class: Plant Stability

Alarm Description: VV 1ST & 2ND STAGE HEPAS DP (HIGH) (F20); the vessel vent 1st and 2nd HEPA filters' ΔP is high.

Automatic Actions:
None

Immediate Actions:

Limit - RPP-11413, 3.1 Differential Pressure Limits
Exhaust HEPA Filter(s)-Multiple Filters In Series, Minimum 0.1 in. w.g.,
Maximum 5.9 in. w.g.

[1] CHECK PDI-FC5-1 VESSEL VENT 1ST-HEPA DELTA P current trend displays for recent changes:
[1.1] PRESS CURR TREND, 21 AND
ENTER.
[1.2] CHECK PDI-FC5-1 for recent ΔP increases.

Probable Causes:

1. HEPA filter F-C-5-1 and/or F-C-5-2 plugged.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998

Documents: RPP-11413, Technical Basis for Ventilation System Requirements
TO-620-040, Operate the 242-A Evaporator Vessel Vent System
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A

Panel: N/A  Setpoint: N/A

Source: RM-VV-2  Alarms at the 242-A Evaporator

Alarm Class: Environmental Impact

Alarm Description: VES VENT EXH STAK BETA/GAM MON FAIL (F21); the vessel vent exhaust β/γ monitor has failed.

Automatic Actions: None

Immediate Actions:
[1] CHECK EX-C-1 (G20/6, F20) VESSEL VENT EXHAUST status.
[3] REQUEST notification of Environmental per the On Call List.

Probable Causes:
1. Ongoing maintenance PM.
2. Instrument malfunction.

References:
Drawings: H-2-99085
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A
Source: General alarm  Setpoint: N/A

Alarm Class: Environmental Impact
Alarm Description: VES VENT RAD SYSTEM FAIL (F21); one or more components of the Vessel Vent Exhaust Radiation Monitoring System has failed.

Automatic Actions:
None

Immediate Actions:
[1] CHECK EX-C-1 (G20/6, F20) VESSEL VENT EXHAUSTR status.
[3] REQUEST notification of Environmental per the On Call List.

Probable Causes:
2. Beta/gamma flow low (FSL-VV-2).
3. Record sample flow low (FSL-VV-3).
4. Ongoing maintenance PM.
5. Instrument malfunction.

References:
Drawings: H-2-92505
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20 Alarm #: N/A
Panel: N/A
Source: AM-VV-1 Setpoint: 1200 ppm

Alarm Class: Environmental Impact

Alarm Description: VESSEL VENT AMMONIA MONITOR (HIGH) (F21); the ammonia concentration in the vessel vent exhaust is above the high alarm setpoint. If this alarm is confirmed, a new Process Memo and/or IH Monitoring Plan may be needed to change operating parameters to closely control the ammonia concentration such that the 100 lb/day ammonia release limit is not exceeded.

Automatic Actions:
None

Immediate Actions:

[1] CHECK AI-NH3-1 VESSEL VENT AMMONIA MONITOR current trend display for recent ammonia concentration increases:

[1.1] PRESS CURR TREND, 22 AND ENTER.

[1.2] CHECK AI-NH3-1 for recent vessel vent ammonia concentration increases.

[2] IF AI-NH3-1 current trend display shows recent increases in vessel vent ammonia concentrations, NOTIFY Shift Manager.


[4] IF 242-A is in OPERATION mode, REQUEST Shift Manger to contact IH Technician to evaluate conditions both inside and outside.

[5] IF 242-A is in OPERATION mode, REQUEST Shift Manager evaluate for continued operation of process AND REQUEST notification of Environmental per the On Call List.

Probable Causes:

1. High ammonia concentration in the vessel vent exhaust.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:
Drawings: H-2-85060
Documents: TO-600-060, Shut Down 242-A Evaporator System
**Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator**

**Facility:** 242-A Evaporator

**Graphic:** 20  
**Alarm #:** N/A

**Panel:** N/A  
**Setpoint:** N/A

**Source:** AM-VV-1  
**Alarm Class:** Environmental Impact

**Alarm Description:** VES VENT AMMONIA MONITOR FAIL (F21); the vessel vent exhaust ammonia monitor has failed.

**Automatic Actions:**
None

**Immediate Actions:**

1. **CHECK** AI-NH3-1 VESSEL VENT AMMONIA MONITOR current trend display for the last known ammonia concentration:
   1.1 **PRESS CURR TREND, 22 AND ENTER.**
   1.2 **CHECK** AI-NH3-1 for the last vessel vent ammonia concentration.

2. **NOTIFY** Shift Manager of the last known ammonia concentration and request maintenance troubleshooting on the ammonia monitor.

3. **IF** 242-A is in OPERATION mode, **REQUEST** Shift Manager to contact IH Technician to evaluate conditions both inside and outside.

4. **IF** 242-A is in OPERATION mode, **REQUEST** Shift Manager evaluate for continued operation of process **AND**
   **REQUEST** notification of Environmental per the On Call List.

**Probable Causes:**

1. Ammonia monitor failure.
2. Ongoing maintenance PM.
3. Instrument malfunction.

**References:**

- **Drawings:** H-2-85060
- **Documents:** TO-620-040, Operate the 242-A Evaporator Vessel Vent System
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A  TI-HC1-2
Source: TE-HC1-1  Setpoint: 190 °F

Alarm Class: Plant Stability

Alarm Description: VES VENT HEATER OUTLET TEMP (HIGH) (F21); the vessel vent heater outlet temperature is high.

Automatic Actions:
None

Immediate Actions:

Limit - RPP-11413, 3.2 HEPA Filter-Temperature Limits
Flanders HEPA Filter Inlet Temperature (Based on Periodic Operations) Maximum 230 °F.

[1] CHECK TI-HC1-2 VES VENT HEATER OUTLET TEMP current trend display for recent changes:
[1.1] PRESS CURR TREND, 23 AND ENTER.
[1.2] CHECK TI-HC1-2 current trend trace for recent temperature increases.

[2] LOWER TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR output to lower temperature:
[2.1] SELECT TDIC-HC11 (G20/5, F20).
[2.2] IF TDIC-HC11 is not in MANUAL mode, PRESS AUTO/MAN twice to place TDIC-HC11 in MANUAL mode.
[2.3] LOWER TDIC-HC11 output.
[2.4] IF temperature will not decrease, OPEN vessel vent heater circuit breaker H-C-1 on MCC-1.
[2.5] NOTIFY Shift Manager of findings.

[3] IF directed by Shift Manager, SHUT DOWN the Evaporator to recirculation without vacuum per TO-600-060.

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

Graphic: 20 Alarm #: N/A

Panel: N/A

Source: TE-HC1-1 Setpoint: 190 °F

Probable Causes:

1. Vessel Vent Heater H-C-1 malfunction.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998, H-2-69330, Sheet 2
Documents: RPP-11413, Technical Basis for Ventilation System Requirements
TO-600-060, Shut Down 242-A Evaporator System
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 20  Alarm #: N/A
Panel: N/A
Source: ZS-FC5-1  Setpoint: N/A

Alarm Class: Equipment Status

Alarm Description: VES VENT 1ST HEPA INLET DAMPER (CLOSED) (F21); the inlet damper on the vessel vent #1 HEPA filter is closed.

Automatic Actions:
None

Immediate Actions:

NOTE - This damper should never be closed during Evaporator operation, as it completely isolates the HEPA filter and the Vessel Vent system.

- This alarm is a status indicator for this damper. If the damper is being closed intentionally, no operator action is required.

[1] IF the vessel vent 1st HEPA inlet damper is being closed intentionally, EXIT this Alarm response.

[2] CHECK ZS-FC5-1 (F21) VES VENT 1ST HEPA INLET DAMPER status.

[3] REQUEST the Backside Operator to check the position of the damper locally AND IF damper is CLOSED, REOPEN.


Probable Causes:

1. HEPA filter damper HV-FC5-1 is CLOSED.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:

Drawings:  H-2-98998
Documents: None
Facility: 242-A Evaporator

Graphic: 20  
Alarm #: N/A

Panel: N/A

Source: ZS-FC5-2  
Setpoint: N/A

Alarm Class: Equipment Status

Alarm Description: VES VENT 2ND HEPA OUTLET DAMPER (CLOSED) (F21); the outlet damper on Vessel Vent HEPA Filter #2 is closed.

Automatic Actions:
None

Immediate Actions:

NOTE - This damper should never be closed during Evaporator operation, because it completely isolates the HEPA filter and the Vessel Vent system.

- This alarm is a status indicator for this damper. If the damper is being closed intentionally, no operator action is required.

[1]  
IF the vessel vent 2nd HEPA outlet damper is being closed intentionally, EXIT this Alarm response.

[1]  
CHECK ZS-FC5-2 (F21) VES VENT 2ND HEPA OUTLET DAMPER status.

[2]  
REQUEST the Backside Operator to check the position of the damper locally AND IF damper is CLOSED, REOPEN.

[3]  
NOTIFY Shift Manager.

Probable Causes:

1. HEPA Filter Damper HV-FC5-2 is CLOSED.
2. Ongoing Maintenance PM.
3. Instrument malfunction.

References:

Drawings: H-2-98998
Documents: None
Respond to Vessel Vent Graphic #20 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 20  Alarm #: N/A
Panel: N/A
Source: TE-FC5-1  Setpoint: 190° F
Alarm Class: Plant Stability
Alarm Description: VES VENT 2ND HEPA OUTLET TEMP (HIGH) (F21); the vessel vent 2nd HEPA filter outlet temperature is high.

Automatic Actions:
None

Immediate Actions:

Limit - RPP-11413, 3.2 HEPA Filter-Temperature Limits
Flanders HEPA Filter Inlet Temperature (Based on Periodic Operations) Maximum 230 °F.

[1] CHECK TI-HC1-1 VES VENT HEATER INLET TEMP Current Trend display for recent changes:
[1.1] PRESS CURR TREND, 23 AND ENTER.
[1.2] CHECK TI-HC1-1 for recent temperature increases.

[2] LOWER TDIC-HC11 (G20/5, F20) VES VENT HEATER DELTA T CONTROLR Output to lower temperature:
[2.1] SELECT TDIC-HC11 (G20/5, F20).
[2.2] IF TDIC-HC11 is not in MANUAL mode, PRESS AUTO/MAN twice to place TDIC-HC11 in MANUAL mode.
[2.3] LOWER TDIC-HC11 Output.
[2.4] IF Temperature will not decrease, OPEN Vessel Vent Heater Circuit Breaker H-C-1 on MCC-1.
[2.5] NOTIFY Shift Manager of findings.

[3] IF directed by Shift Manager, SHUT DOWN the Evaporator to recirculation without Vacuum per TO-600-060.

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

Graphic: 20  Alarm #: N/A

Panel: N/A

Source: TE-FC5-1  Setpoint: 190° F

Probable Causes:
1. Vessel Vent Heater H-C-1 malfunction.
2. Ongoing maintenance PM.
3. Instrument malfunction.

References:
Drawings: H-2-98998
Documents: TO-600-060, Shut Down 242-A Evaporator System
RPP-11413, Technical Basis for Ventilation System Requirements
Facility: 242-A Evaporator

Graphic: 20

Panel: N/A

Source: IY-AS-1

Setpoint: 1 amp

Alarm Class: Equipment Status

Alarm Description: VESSEL VENT EXHAUSTR CURRENT (LOW) (F20); the Vessel Vent Exhauster motor current is low. This Alarm should be ON when the Vessel Vent Exhauster is shut down.

Automatic Actions: None

Immediate Actions:

NOTE - The Vessel Vent Exhauster may be shut down by Interlock #4 and/or by Interlock #20.

[1] CHECK EX-C-1 VESSEL VENT EXHAUSTR (G20/6, F20) status.

[2] IF the Evaporator was operating, GO TO TF-AOP-EVAP-009.

[3] IF the Evaporator was not operating, NOTIFY Shift Manager AND EXIT this ARP.

Probable Causes:

1. Vessel Vent Exhauster shut down from activation of Interlock #4 or Interlock #20.
2. Vessel Vent Exhauster shut down manually.
3. Ongoing maintenance PM.

References:

Drawings: H-2-69330, H-2-98998
Documents: TF-AOP-EVAP-009, Response to Process Upset