Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Tank Farm Alarm Response Procedure

USQ # EV-18-0433-D Rev. 1

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**Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator**

| PDI-K1-311   | (LOW)...........HEPA FILTER 2 K1-6-5 DP.................................................. YELLOW .... 25 |
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| PDI-K1-313   | (LOW)...........HEPA FILTER 1 K1-6-1 DP.................................................. YELLOW .... 27 |
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**RECORDS**

No records are generated during the performance of this procedure.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22
Alarm #: N/A

Panel: N/A

Source: S-EFF-1
Setpoint: N/A

Alarm Class: Environmental Impact

Alarm Description: BACKUP BUILDING EXH FAN K1-5-2 (F43)

Automatic Actions: None

Immediate Actions:

NOTE - This alarm is a status indicator that the K1-5-2 Building Exhaust Fan is off.

- If building exhaust fans (primary or backup) are being shut down intentionally for routine scheduled maintenance activities, no operator response, other than notification of Environmental, is required.

[1] CHECK YS-K1-5-3 (F43) K1 PRIMARY BUILDING EXH FAN K1-5-3 FAN STATUS AND CONFIRM ON.


[6] REQUEST the Backside Operator to investigate the following possible causes of Electric Exhaust Fan K1-5-2 trip:

  - Possible trip of Breaker MCC-2, Cubicle A2
  - Possible trip at panel board A242-DP-L, located on exhauster pad
  - Possible fault light indicated on K1-5-2 VFD Controller located on the Exhauster Pad.

[7] AFTER the cause of Electric Exhaust Fan K1-5-2 trip is determined and eliminated, START Exhaust Fan K1-5-2 or K1-5-3 per TO-620-020.

[8] IF any unplanned shutdown of building exhaust fans occurs, NOTIFY Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 requirements.

(Continued on Next Page)
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: S-EFF-1  Setpoint: N/A

YELLOW

YS-K1-5-2

(Continued)

Probable Causes:

1. K1-5-2 Electric Exhaust Fan has tripped.
2. Electric Fan motor failure.
3. Loss of electric power to circuit.

References:

Drawings: H-2-830594, Sheets 2 and 5; H-2-92393, Sheets 2 and 3; H-2-99085, Sheets 10 and 17, H-14-108572

Documents: RPP-16922, “Environmental Specification Requirements”
TO-620-020, Operate the 242-A Evaporator Ventilation System
TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.
TFC-ESHQ-ENV_FS-C-01, Environmental Notification.
Facility: 242-A Evaporator

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<tr>
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<tr>
<td>Source</td>
<td>S-EFF-1</td>
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<td>Alarm Class:</td>
<td>Plant Stability</td>
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<tr>
<td>Alarm Description:</td>
<td>PRIMARY BUILDING EXH FAN K1-5-3 (F43)</td>
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</table>

**Automatic Actions:**

None

**Immediate Actions:**

NOTE - This alarm is a status indicator that the K1-5-3 Building Exhaust Fan is off.

1. **CHECK** YS-K1-5-2 (F43) K1 BUILDING EXH FAN K1-5-2 FAN STATUS AND CONFIRM ON.
2. **IF** YS-K1-5-2 is OFF, **GO TO** TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.
3. **CHECK** FI-K1-1 (F43) BLDG EXHAUST STACK FLOW for Stack Air Flow indication.
4. **CHECK** FI-K1-1 Current Trend 35 for recent low flow spikes.
5. **NOTIFY** SOE of exhauster status.
6. **REQUEST** the SOE/Backside Operator to investigate the following possible causes of Electric Exhaust Fan K1-5-3 trip:
   - Possible trip of the MCC-1 Cubicle E4
   - Possible trip at panel board A242-DP-L, located on exhauster pad
   - Possible fault light indicated on K1-5-3 VFD Controller located on the Exhauster Pad.
7. **IF** any unplanned shutdown of building exhaust fans occurs, **NOTIFY** Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 requirements.
8. **AFTER** the cause of Electric Exhaust Fan K1-5-3 trip is determined and eliminated, **START** Exhaust Fan K1-5-2 or K1-5-3 per TO-620-020.

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

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: S-EFF-1  Setpoint: N/A

Probable Causes:
1. K1-5-3 Electric Exhaust Fan has tripped.
2. Electric Fan motor failure.
3. Loss of electric power to circuit.

References:

Drawings: H-2-830594, Sheets 2 and 5; H-2-92393, Sheets 2 and 3; H-2-99085, Sheets 10 and 17, H-14-108572

Documents: TO-620-020, Operate the 242-A Evaporator Ventilation System
TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.
TFC-ESHQ-ENV_FS-C-01, Environmental Notification.
Facility: 242-A Evaporator

Graphic: 22  
Alarm #: N/A

Panel: N/A

Source: Ventilation Control System  
Setpoint: N/A

Alarm Class: Equipment Status

Alarm Description: K1/K2 SYSTEM TROUBLE STATUS (F43).

Automatic Actions:
None

Immediate Actions:
[1] CHECK the K1 and K2 ventilation systems for any additional alarms
[2] TAKE appropriate action per ARP-T-601-VCS for that alarm.

Probable Causes:
1. VCS Alarm has occurred.

References:

Drawings: H-14-108572

Documents: ARP-T-601-VCS, Respond to VCS Alarms at the 242-A Evaporator.
## Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator

**Graphic:** 22  
**Alarm #:** N/A

**Panel:**

**Source:** YA-K1-5-2  
**Setpoint:** N/A

**Alarm Class:** Equipment Status

**Alarm Description:** K1-5-2 FAULT ALARM (F43), VFD K1-5-2 failure on the K1 ventilation system.

### Automatic Actions:
1. Automatically shutdown the K1-5-2 fan.

### Immediate Actions:

1. **CONFIRM** the K1-5-2 fan has shutdown.
2. **IF** the K1-5-3 fan is the back-up, **CONFIRM** the K1-5-3 has started.
3. **NOTIFY** SOE of exhauster status.
4. **NOTIFY** Shift Manager of exhauster status.

### Probable Causes:

1. Over voltage or under voltage to fan.
2. Electric Fan motor failure.
3. Loss of electric power to circuit.

### References:

- **Drawings:** H-14-108572
- **Documents:** None.
Facility: 242-A Evaporator

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<td>Source: YA-K1-5-3</td>
<td>Setpoint: N/A</td>
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Alarm Class: Equipment Status
Alarm Description: K1-5-3 FAULT ALARM (F43). VFD K1-5.3 failure on the K1 ventilation system.

Automatic Actions:
1. Automatically shutdown the K1-5-3 fan.

Immediate Actions:
[1] CONFIRM the K1-5-3 fan has shutdown.
[2] IF the K1-5-2 fan is the back-up, CONFIRM the K1-5-2 has started.

Probable Causes:
1. Over voltage or under voltage to fan.
2. Electric Fan motor failure.
3. Loss of electric power to circuit.

References:
Drawings: H-14-108572
Documents: None.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: K1-ENCL-400
Source: TT-3  Setpoint: 45°F

Alarm Class: Equipment Status

Alarm Description: SAMPLE CAB HILO TEMP ALARM (F44). Sample cabinet “LOW” temperature detected.

Automatic Actions:
None

Immediate Actions:

[1] INFORM Shift Manager of low temperature at the monitoring cabinet.

Probable Causes:

1. Instrument malfunction or failure.
2. Seasonal temperature extremes.

References:

Drawings: H-14-108572
Documents: None.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: K1-ENCL-400  Setpoint: 115°F
Source: TT-3  TSHL-1-2

Alarm Class: Equipment Status
Alarm Description: SAMPLE CAB HILO TEMP ALARM (F44). Sample cabinet “HIGH” temperature detected.

Automatic Actions: None

Immediate Actions:
[1] INFORM Shift Manager of high temperature at the monitoring cabinet.

Probable Causes:
1. Instrument malfunction or failure.
2. Seasonal temperature extremes.

References:
Drawings: H-14-108572
Documents: None.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: K1-ENCL-400
Source: RM-1  Setpoint: N/A

Alarm Class: Environmental Impact
Alarm Description: BETA CAM FAILURE ALARM (F44).

Automatic Actions:
None

Immediate Actions:

[1] REQUEST HPT to investigate alarm per TF-OPS-005.
[4] REQUEST Shift Manager notify Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 of all problems or abnormalities associated with the record sampling systems.

Probable Causes:

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

References:

Drawings: H-14-108572

Documents: TF-OPS-005, DST Daily CAM and Record Air Sampler Inspections. TFC-ESHQ-ENV_FS-C-01, Environmental Notification.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A

Panel: K1-ENCL-400

Source: RM-1  300 dpm/ft³ Slow
7000 dpm/ft³ Fast

Setpoint: 2000 cpm

Alarm Class: Environmental Impact

Alarm Description: STACK SAMPLE HI RAD ALARM (F44/1) the β/γ dose rate in the building exhaust is above the high alarm setpoint.

Automatic Actions:
1. Shuts down the in service Electric Exhaust Fan.
2. Prevents the backup building Exhaust Fan from operating.

Immediate Actions:
[1] IF multiple area radiation and/or continuous air monitor alarms occur, GO TO TF-ERP-EVAP-005, 242-A Respond to Evaporator High Radiological Release.
[2] PERFORM a controlled evacuation of all personnel from the hot side of the Evaporator Building.
[4] SECURE access into the hot side of the Evaporator Building to prevent unauthorized entry until released by HPT.
[5] CHECK that YS-K1-5-3 (F43/14) PRIMARY BUILDING EXH FAN K1-5-3 and YS-K1-5-2 (F43) BACKUP BUILDING EXH FAN status are both OFF.
[6] ENSURE sample pumps are secure, per TO-620-020.
[7] REQUEST the Backside Operator to ensure that the K1-5-1 Building Supply Fan is SHUT DOWN.
[8] CHECK the following points on Current Trend #36 for recent building radiation level changes:
   - RI-AR-C4, COND RM 4TH LEVLAREA RADN
   - RI-AR-CB, COND RM BASEMENTAREA RADN

(Continued on Next Page)
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22

Alarm #: N/A

Panel: K1-ENCL-400

Source: RM-1

Setpoint: 2000 cpm

Immediate Actions (Cont.):

[9] CHECK RI-1-2 (F44) process value for recent upward trend.

[9.1] IF RI-1-2 process value for recent upward trend, PERFORM the following:

[9.1.1] REQUEST HPT verify building exhaust stack cam is operating satisfactorily.

[9.1.2] CONFIRM excessive stack radiation is present.

[9.2] IF the HPT verifies the alarm is real, NOTIFY Shift Manager of plant conditions AND NOTIFY Shift Manager that emergency classifications/notifications need to be evaluated/Performed.

[10] IF the K1 Ventilation and/or Stack Radiation Monitoring Systems cannot be restored to service within 1 hour of receiving this Alarm, SHUT DOWN the Feed and Slurry Pumps per TO-600-060, “Shut Down 242-A Evaporator System.”

[11] IF any unplanned shutdown of building exhaust fans occurs or activation of the HI RAD ALARM, NOTIFY Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 requirements.

Probable Causes:

1. High Beta or Gamma radiation detected in the 242-A Building exhaust.
2. HEPA filter breakthrough.
3. Ongoing maintenance PM.
5. Loss of Evaporator confinement.

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Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator

**Graphic:** 22  
**Alarm #:** N/A

**Panel:** K1-ENCL-400

**Source:** RM-1  
**Setpoint:** 2000 cpm

- **RED**  
  **RSH-1**

(Continued)

**References:**

- **Drawings:** H-2-99085, Sheets 3 and 10; H-2-92393, Sheet 2 and 3, H-14-108572

- **Documents:** DOE-0223, Emergency Plan Implementing Procedures Recognizing & Classifying Emergencies.  
  TO-600-060, “Shut Down 242-A Evaporator System”.  
  TO-620-020, Operate the 242A Evaporator Ventilation System.  
  TFC-ESHQ-ENV_FS-C-01, Environmental Notification.  
  TF-ERP-EVAP-005, 242-A Respond to Evaporator High Radiological Release.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: K1-ENCL-400
Source: FITC-3  Setpoint: 1.7 scfm

Alarm Class: Environmental Impact
Alarm Description: RECORD LOOP LO FLOW ALARM (F44).

Automatic Actions:
None

Immediate Actions:

[1] CHECK that either of the ventilation exhaust fans K1-5-2 or K1-5-3 is running.
[3] CHECK that one of the K1 sample pumps P-1 or P-2 is running.
  [3.1] IF neither sample pump P-1 or P-2 is running, RESTART per TO-620-020.
[4] REQUEST HPT, CHECK building exhaust stack CAM and record sampling system are working satisfactorily.
[6] REQUEST Shift Manager notify Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 of all problems or abnormalities associated with the record sampling systems.

Probable Causes:

1. Instrument malfunction or failure.
2. Valves in the system closed or restricted.
3. Ventilation exhaust fans K1-5-2 or K1-5-3 are not running.
4. Neither sample pump P-1 or P-2 is running.
5. Ongoing maintenance work.
6. Particulate Filter is plugged/needs replacing.

References:

Drawings: H-2-830594, H-14-108572

            TO-620-020, Operate the 242A Evaporator Ventilation System.
            TFC-ESHQ-ENV_FS-C-01, Environmental Notification.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22
Panel: K1-ENCL-400
Source: FITC-2

Alarm #: N/A
Setpoint: 1.7 scfm

Alarm Class: Environmental Impact
Alarm Description: BETA CAM LOOP LO FLOW ALARM (F44)

Automatic Actions: None

Immediate Actions:

[1] CHECK that either of the ventilation exhaust fans K1-5-2 or K1-5-3 is running.
[3] CHECK that one of the K1 sample pumps P-1 or P-2 is running.
[3.1] IF neither sample pump P-1 or P-2 is running, RESTART per TO-620-020.
[6] REQUEST Shift Manager notify Environmental per the Environmental On-Call list in accordance with TFC-ESHQ-ENV_FS-C-01 of all problems or abnormalities associated with the record sampling systems.

Probable Causes:

1. Instrument malfunction or failure.
2. Valves in the system closed or restricted.
3. Ventilation exhaust fans K1-5-2 or K1-5-3 are not running.
4. Neither sample pump P-1 or P-2 is running.
5. Ongoing maintenance work.
6. Filter is plugged/needs replacing.
7. Loss of power to the Continuous Air Monitor.

References:

Drawings: H-2-830594, H-14-108572
TO-620-020, Operate the 242A Evaporator Ventilation System.
TFC-ESHQ-ENV_FS-C-01, Environmental Notification.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAH-K1-307  Setpoint: 4.0 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 1 K1-6-3 DP (F43); ΔP across Filter K1-6-3 in Exhaust Filter Train “A” is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

Automatic Actions:
None

Immediate Actions:

[1] REQUEST Operator to confirm the high ΔP on local pressure indicating transmitter PDIT-K1-307 located on filter train “A”. (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.)

[2] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:

1. Plugged HEPA Filter K1-6-3.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

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<th>242-A Evaporator</th>
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<tr>
<td>Panel:</td>
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<tr>
<td>Source:</td>
<td>PDAL-K1-307</td>
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<tr>
<td>Alarm #:</td>
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</tr>
<tr>
<td>Setpoint:</td>
<td>0.2 inches WG</td>
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**Alarm Description:** HEPA FILTER 1 K1-6-3 DP (F43); ΔP across Filter K1-6-3 in Exhaust Filter Train “A” is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

**Automatic Actions:** None

**Immediate Actions:**

1. **IF** multiple low differential pressure alarms across the building HEPA filters has occurred, **GO TO** TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.
2. **REQUEST** Operator to confirm the low ΔP on local pressure indicating transmitter PDIT-K1-307 located on filter train “A”.
3. **REQUEST** Shift Manager permission to switch to the standby filter train per TO-620-020.
4. **REQUEST** Shift Manager arrange for a filter change.

**Probable Causes:**

1. Tear in HEPA Filter K1-6-3.
2. Instrument malfunction.

**References:**

**Drawings:**
- H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51
- H-14-108570, Sht. 2, H-14-108572, Sht. 1

**Documents:**
- TO-620-020, Operate the 242 A Evaporator Ventilation System.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22

Panel: N/A

Source: PDAH-K1-308

Setpoint: 2.5 inches WG

Alarm Class: Equipment Status

Alarm Description: HEPA FILTER 2 K1-6-6 DP (F43); ΔP across Filter K1-6-6 in Exhaust Filter Train “A” is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

Automatic Actions:

None

Immediate Actions:

[1] REQUEST Operator to confirm the high ΔP on local pressure indicating transmitter PDIT-K1-308 located on filter train “A”, (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.)

[2] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:

1. Plugged HEPA Filter K1-6-6.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51

H-14-108570, Sht. 2, H-14-108572, Sht. 1


TO-620-020, Operate the 242 A Evaporator Ventilation System.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms
at the 242-A Evaporator

Facility: 242-A Evaporator
Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAL-K1-308  Setpoint: 0.2 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 2 K1-6-6 DP (F43); ΔP across Filter K1-6-6 in Exhaust Filter Train “A” is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

Automatic Actions:
None

Immediate Actions:

[1] IF multiple low differential pressure alarms across the building HEPA filters has occurred, GO TO TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.

[2] REQUEST Operator to confirm the low ΔP on local pressure indicating transmitter PDIT-K1-308 located on filter train “A”.

[3] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:

1. Tear in HEPA Filter K1-6-6.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone C-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

TO-620-020, Operate the 242 A Evaporator Ventilation System.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAH-K1-310  Setpoint: 4.0 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 1 K1-6-2 DP (F43); \( \Delta P \) across Filter K1-6-2 in Exhaust Filter Train “B” is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

Automatic Actions:
None

Immediate Actions:

[1] REQUEST Operator to confirm the high \( \Delta P \) on local pressure indicating transmitter PDIT-K1-310 located on filter train “B”. (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.)

[2] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:
1. Clogged HEPA Filter K1-6-2.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone C-6; H-2-99949, Sheet 51; H-2-99085, Sheet 3 H-14-108570, Sht. 2, H-14-108572, Sht. 1

Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator

**Graphic:** 22  
**Alarm #:** N/A  
**Source:** PDAL-K1-310  
**Setpoint:** 0.2 inches WG

**Alarm Class:** Plant Stability  
**Alarm Description:** HEPA FILTER 1 K1-6-2 DP (F43); ΔP across Filter K1-6-2 in Exhaust Filter Train “B” is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

**Automatic Actions:**  
None

**Immediate Actions:**

1. **IF** multiple low differential pressure alarms across the building HEPA filters has occurred, **GO TO** TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.

2. **REQUEST** Operator to confirm the low ΔP on local pressure indicating transmitter PDIT-K1-310 located on filter train “B”.

3. **REQUEST** Shift Manager permission to switch to the standby filter train per TO-620-020.

4. **REQUEST** Shift Manager arrange for a filter change.

**Probable Causes:**

1. Tear in HEPA Filter K1-6-2.
2. Instrument malfunction.

**References:**

**Drawings:**  
H-2-830594, Sheets 2 and 5, Zone C-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51  
H-14-108570, Sht. 2, H-14-108572, Sht. 1

**Documents:**  
TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.  
TO-620-020, Operate the 242 A Evaporator Ventilation System.
Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAH-K1-311  Setpoint: 2.5 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 2 K1-6-5 DP (F43); ΔP across Filter K1-6-5 in Exhaust Filter Train “B” is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

Automatic Actions: None

Immediate Actions:

[1] REQUEST Operator to confirm the high ΔP on local pressure indicating transmitter PDIT-K1-311 located on filter train “B”. (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.)

[2] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:

1. Plugged HEPA Filter K1-6-5.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAL-K1-311  Setpoint: 0.2 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 2 K1-6-5 DP (F43); ΔP across Filter K1-6-5 in Exhaust Filter Train “B” is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

Automatic Actions:
None

Immediate Actions:

[1] IF multiple low differential pressure alarms across the building HEPA filters has occurred, GO TO TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.

[2] REQUEST Operator to confirm the low ΔP on local pressure indicating transmitter PDIT-K1-311 located on filter train “B”.

[3] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:
1. Tear in HEPA Filter K1-6-5.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone C-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAH-K1-313  Setpoint: 4.0 inches WG

Alarm Class: Equipment Status
Alarm Description: HEPA FILTER 1 K1-6-1 DP (F43); ΔP across Filter K1-6-1 in Exhaust Filter Train ‘C’ is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

Automatic Actions:
None

Immediate Actions:

[1] REQUEST Operator to confirm the high ΔP on local pressure indicating transmitter PDIT-K1-313 located on filter train “C”. (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.)

[2] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:
1. Plugged HEPA Filter K1-6-1.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22                      Alarm #: N/A
Panel: N/A
Source: PDAL-K1-313               Setpoint: 0.2 inches WG

Alarm Class:                     Equipment Status
Alarm Description:               HEPA FILTER 1 K1-6-1 DP (F43); ΔP across Filter K1-6-1 in Exhaust Filter Train “C’ is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

Automatic Actions:
None

Immediate Actions:

[1] IF multiple low differential pressure alarms across the building HEPA filters has occurred, GO TO TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.

[2] REQUEST Operator to confirm the low ΔP on local pressure indicating transmitter PDIT-K1-313 located on filter train “C”.

[3] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:
1. Tear in HEPA Filter K1-6-1.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

TO-620-020, Operate the 242 A Evaporator Ventilation System.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

**Facility:** 242-A Evaporator

**Graphic:** 22

**Alarm #:** N/A

**Panel:** N/A

**Source:** PDAH-K1-314

**Setpoint:** 2.5 inches WG

**PDI-K1-314**

**Alarm Class:** Equipment Status

**Alarm Description:** HEPA FILTER 2 K1-6-4 DP (F43); ∆P across Filter K1-6-4 in Exhaust Filter Train “C” is above the “HIGH” Alarm setpoint, indicating that the Filter is plugged.

**Automatic Actions:**

None

**Immediate Actions:**

[1] **REQUEST** Operator to confirm the high ∆P on local pressure indicating transmitter PDIT-K1-314 located on filter train “C”. (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.)

[2] **REQUEST** Shift Manager permission to switch to the standby filter train per TO-620-020.

[3] **REQUEST** the Shift Manager arrange for a filter change.

**Probable Causes:**

1. Plugged HEPA Filter K1-6-4.

2. Instrument malfunction.

**References:**

**Drawings:** H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51; H-14-108570, Sht. 2, H-14-108572, Sht. 1

**Documents:** RPP-11413, Technical Basis for Ventilation System Requirements. TO-620-020, Operate the 242 A Evaporator Ventilation System.
Respond to Radiation Monitoring K1 Ventilation Graphic #22 Alarms at the 242-A Evaporator

Facility: 242-A Evaporator

Graphic: 22  Alarm #: N/A
Panel: N/A
Source: PDAL-K1-314  Setpoint: 0.2 inches WG

Alarm Class: Equipment Status

Alarm Description: HEPA FILTER 2 K1-6-4 DP (F43); ΔP across Filter K1-6-4 in Exhaust Filter Train “C” is below the “LOW” Alarm setpoint, indicating that the Filter is torn or ruptured.

Automatic Actions:
None

Immediate Actions:

[1] IF multiple low differential pressure alarms across the building HEPA filters has occurred, GO TO TF-AOP-EVAP-004, Response to 242-A Evaporator Loss of K1 Ventilation System.

[2] REQUEST Operator to confirm the low ΔP on local pressure indicating transmitter PDI-K1-314 located on filter train “C”.

[3] REQUEST Shift Manager permission to switch to the standby filter train per TO-620-020.


Probable Causes:

1. Tear in HEPA Filter K1-6-4.
2. Instrument malfunction.

References:

Drawings: H-2-830594, Sheets 2 and 5, Zone A-6; H-2-99085, Sheet 3; H-2-99949, Sheet 51 H-14-108570, Sht. 2, H-14-108572, Sht. 1

TO-620-020, Operate the 242 A Evaporator Ventilation System.