Respond to Monitor Control System Graphic #13 Recirc AZ2 Alarms

Tank Farm Alarm Response Procedure

USQ # TF-17-1323-D, Rev. 0

CHANGE HISTORY (≤ LAST 5 REV-MODS)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-1</td>
<td>09/20/2017</td>
<td>Change to TFC-PLN-167</td>
<td>Inconsequential Change to update the White Label statement to latest changes to TFC-PLN-167.</td>
</tr>
<tr>
<td>I-0</td>
<td>08/11/2016</td>
<td>Periodic review</td>
<td>Added the White Label program statement.</td>
</tr>
<tr>
<td>H-0</td>
<td>07/22/2014</td>
<td>Periodic review</td>
<td>No comments generated. Updated Rev/Mod, release date and Next due date.</td>
</tr>
<tr>
<td>G-2</td>
<td>05/02/2013</td>
<td>Global Change per ARP-T-251-00003 G-1. Inconsequential change to change procedure use type to Reference.</td>
<td>Change procedure use type in the footer to Reference.</td>
</tr>
</tbody>
</table>

GRAPHIC #13 RECIRC AZ2 ALARM INDEX

<table>
<thead>
<tr>
<th>Alarm</th>
<th>Description</th>
<th>Color</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MK-AZ102K4-1, Re-circ. Fan Inlet Damper MK-AZ102K4-1 (OE)</td>
<td>Yellow</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>MK-AZ102K4-2, Re-circ. Fan Outlet Damper MK-AZ102K4-2 (OE)</td>
<td>Yellow</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>MK-AZ102K4-3, Return Damper MK-AZ102K4-3 (OE)</td>
<td>Yellow</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>MK-AZ102K4-4, Bypass Damper MK-AZ102K4-4 (OE)</td>
<td>Yellow</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>AZ102-K4-5-1, AZ102K4-5-1 Re-circulation Fan (OE)</td>
<td>Yellow</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>PDI-AZ2-K45-1, HI, Recirc Fan AZ102K4-5-1 Diff. Pressure (HI)</td>
<td>Yellow</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>PDI-AZ2-K48-1, LO, Recirc Condenser AZ102K4-8-1 Diff. Pressure (LO)</td>
<td>Yellow</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>PDI-AZ2-K48-1, HI, Recirc Condenser AZ102K4-8-1 Diff. Pressure (HI)</td>
<td>Yellow</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>ZA-AZ2-K4-1A, AZ102 Tank Damper Lineup (Fault)</td>
<td>Yellow</td>
<td>12</td>
</tr>
</tbody>
</table>

RECORDS

No records are generated during the performance of this procedure.
1.0 PURPOSE

1.1 This attachment provides guidance to operators for responding to alarms associated with the AY/AZ ventilation system.

1.2 Section 3.0 provides guidance to operators for starting up the Monitor and Control System so that they may determine current alarm status if the system is not on line when they report to the control room.

2.0 PRECAUTIONS AND LIMITATIONS

2.1 Personnel Safety

2.1.1 Non-electrical worker accessing electrical enclosures must ensure the following:

- The enclosure must have a white label indicating that it has been evaluated.
- The work activity within the enclosure does not involve:
  - Reaching around or moving electrical equipment
  - Contacting electrical connectors/connections
  - By-passing protective shielding/barriers.

2.1.1.1 Stop and notify management if these conditions cannot be met, or if discrepancies exist (e.g. conflicting or missing labels, missing or damaged protective barriers).

3.0 OPERATION

3.1 IF system does not respond and appears to be locked, REFER to procedure TO-060-356 for instructions on re-setting and re-booting system AND RETURN to this procedure.

3.2 OPERATE system in accordance with procedure TO-060-356.
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 1

Source: MK-AZ102K4-1  Setpoint: N/A

Alarm Class: Equipment Status
Alarm Description: AZ102 Re-circ. Fan Inlet Damper MK-AZ102K4-1 Fault

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] REQUEST operator to FIELD CHECK position of damper MK-AZ102K4-1 per operating mode.

<table>
<thead>
<tr>
<th>VALVE No.</th>
<th>MODE OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK-AZ102K4-1</td>
<td><img src="https://iiif.org/api/presentation/tests/resources/tables/DamperModes.png" alt="" /></td>
</tr>
</tbody>
</table>

[2] IF damper MK-AZ102K4-1 is not in the correct position, REPOSITION per the operating mode.


Possible Causes:

1. Damper MK-AZ102K4-1 is not fully open or fully closed, but in some mid position.
2. Failed limit switch.
3. Instrument error

References:

Drawings: H-14-020107, Sht 2
Respond to Monitor Control System Graphic #13 Recirc AZ2 Alarms

Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13                      Alarm #: 2
Source: MK-AZ102K4-2            Setpoint: N/A

Alarm Class: Equipment Status
Alarm Description: AZ102 Re-circ. Fan Outlet Damper MK-AZ102K4-2 Fault

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] REQUEST operator to FIELD CHECK position of damper MK-AZ102K4-2 per operating mode.

<table>
<thead>
<tr>
<th>VALVE No.</th>
<th>MODE OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK-AZ102K4-2</td>
<td>RECIRC</td>
</tr>
<tr>
<td>OPEN</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

[2] IF damper MK-AZ102K4-2 is not in the correct position, RE-POSITION per the operating mode.


Possible Causes:

1. Damper MK-AZ102K4-2 is not fully open or fully closed, but in some mid position.
2. Failed limit switch.
3. Instrument error.

References:

Drawings: H-14-020107, Sht 2
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 3

Source: MK-AZ102K4-3  Setpoint: N/A

Alarm Class: Equipment Status
Alarm Description: AZ102 Return Damper MK-AZ102K4-3 Fault

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] REQUEST operator to FIELD CHECK position of damper MK-AZ102K4-3 per operating mode.

<table>
<thead>
<tr>
<th>VALVE No.</th>
<th>MODE OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK-AZ102K4-3</td>
<td>RECIRC</td>
</tr>
<tr>
<td>OPEN</td>
<td>CLOSED</td>
</tr>
</tbody>
</table>

[2] IF damper MK-AZ102K4-3 is not in the correct position, RE-POSITION per the operating mode.


Possible Causes:

1. Damper MK-AZ102K4-3 is not fully open or fully closed, but in some mid position.
2. Failed limit switch.
3. Instrument error.

References:

Drawings: H-14-020107, Sht 2
Respond to Monitor Control System Graphic #13 Recirc AZ2 Alarms

Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 4
Source: MK-AZ102K4-4  Setpoint: N/A

Alarm Class: Equipment Status
Alarm Description: AZ102 Bypass Damper MK-AZ102K4-4 Fault

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] REQUEST operator to FIELD CHECK position of damper MK-AZ102K4-4 per operating mode.

<table>
<thead>
<tr>
<th>VALVE No.</th>
<th>MODE OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK-AZ102K4-4</td>
<td>RECIRC CLOSED</td>
</tr>
<tr>
<td></td>
<td>BYPASS OPEN</td>
</tr>
<tr>
<td></td>
<td>HI HEAT CLOSED</td>
</tr>
</tbody>
</table>

[2] IF damper MK-AZ102K4-4 is not in the correct position, RE-POSITION per the operating mode.


Possible Causes:

1. Damper MK-AZ102K4-4 is not fully open or fully closed, but in some mid position.
2. Failed limit switch.
3. Instrument error.

References:

Drawings: H-14-020107, Sht 2
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 5

Source: AZ102K4-5-1  Setpoint: N/A

Alarm Class: Equipment Status
Alarm Description: AZ102K4-5-1 Re-circulation Fan Fault

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. AZ102K4-5-1 fan will shut down.

Immediate Actions:

[1] IF re-circulation fan AZ102K4-5-1 is shut down, FIELD CHECK status of power supply breaker and disconnect switch (located on recirc module outside wall).

[2] IF breaker OR disconnect switch is found to be tripped, DO NOT reenergize re-circulation fan.

[3] IF re-circulation fan AZ102K4-5-1 is NOT shut down, but is in alarm (fault) condition, PERFORM the following:

[3.1] CHECK AZ102K4-5-1 motor for excessive current using II-AZ2K45-1.

[3.2] CHECK re-circulation fan AZ102K4-5-1 for high differential pressure using PDI-AZ2K45-1.


Supplemental Actions:


(Continued on next page)
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 5
Source: AZ102K4-5-1  Setpoint: N/A

Possible Causes:
1. Re-circulation Fan AZ102K4-5-1 breaker tripped.
2. Re-circulation Fan AZ102K4-5-1 mechanically failed.
3. Instrument error.
4. Plugged line.
5. Low differential pressure on PDI-AZ2K48-1, indicating little or no flow through re-circulation loop.

References:
Drawings: H-14-020107, Sht 2
Respond to Monitor Control System Graphic #13 Recirc AZ2 Alarms

Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 6

Source: PDI-AZ2K45-1  Setpoint: 24.00 Inches. WG

Alarm Class: Plant Stability
Alarm Description: Recirc Fan AZ102K4-5-1 Diff. Pressure high (HI)

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 that system is in RECIRC or HIGH HEAT mode (i.e., re-circulation fan should be running).
[2] CHECK that dampers MK-AZ102K4-1 and MK-AZ102K4-2 are OPEN.
[3] ENSURE condenser AZ102K4-8-1 is NOT in alarm state.

Supplemental Actions:


Possible Causes:

1. Re-circulation fan AZ102K4-5-1 discharge damper MK-AZ102K4-2 closed.
2. Re-circulation fan AZ102K4-5-1 inlet damper MK-AZ102K4-1 closed.
3. Differential pressure instrument isolation valves closed.
4. Differential pressure instrument tubing plugged or damaged.
5. Instrument error.
6. Condenser or moisture separator plugged.

References:

Drawings: H-14-020107, Sht 2
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13

Alarm #: 7

Source: PDI-AZ2K48-1

Setpoint: 2.00 Inches WG

Alarm Class: Plant Stability

Alarm Description: Recirc Condenser AZ102K4-8-1 Diff. Pressure low (LO)

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. The AZ102 re-circulation fan AZ102K4-5-1 will shut down on interlock.

Immediate Actions:

[1] ENSURE proper damper alignment.

[2] IF all parameters are within specifications, PERFORM the following:

[2.1] CHECK that there is no breach in system.

[2.2] CHECK that there are no equipment malfunctions.


Possible Causes:

1. Breach in condenser AZ102K4-8-1.
2. Fan AZ102K4-5-1 failure.
3. Equipment associated with PDI-AZ2K48-1 obstructed.
4. Improper damper configuration.
5. Maintenance or PM.

References:

Drawings: H-14-020107, Sht 2
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13        Alarm #: 8

Source: PDI-AZ2K48-1        Setpoint: 18.00 Inches WG

Alarm Class: Plant Stability
Alarm Description: HI, Recirc Condenser AZ102K4-8-1 Diff. Pressure high (HI)

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:


Possible Causes:

1. Condenser shell blockage.
2. High flow through AZ102K4-8-1.
3. Differential pressure instrument isolation valves closed.
4. Differential pressure instrument tubing plugged or damaged.

References:

Drawings: H-14-020107, Sht 2
Facility: 402-AZ Recirc Ventilation Bldg

Graphic: 13  Alarm #: 9

Source: Numerous Dampers  Setpoint: N/A

Alarm Class: Environmental Impact  Alarm Description: AZ102 Tank Damper Lineup Fault

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] REQUEST operator to FIELD CHECK position of dampers per operating mode.

<table>
<thead>
<tr>
<th>VALVE No.</th>
<th>MODE OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RECIRC</td>
</tr>
<tr>
<td>MK-AZ102K4-1</td>
<td>OPEN</td>
</tr>
<tr>
<td>MK-AZ102K4-2</td>
<td>OPEN</td>
</tr>
<tr>
<td>MK-AZ102K4-3</td>
<td>OPEN</td>
</tr>
<tr>
<td>MK-AZ102K4-4</td>
<td>CLOSED</td>
</tr>
</tbody>
</table>

[2] IF system is in RECIRC mode or HIGH HEAT mode, ENSURE re-circulation fan AZ102K4-5-1 is operating.


Possible Causes:

1. Damper out of specified lineup position for mode required selected.
2. Re-circulation fan failure.
3. Failed limit switch.
4. Instrument error.

References:

Drawings:  H-14-020107, Sht 2