Heat Trace Panel #1 Alarms

ETF Alarm Response Procedure
Effluent Treatment Facility

USQ Not Required – ETF is a <Hazard Category 3 Radiological Facility

CHANGE HISTORY (≤ LAST 5 REV-MODS)

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RECORDS
No records are generated during the performance of this procedure.
COMMON ALARMS

Description: An alarm on any channel will annunciate as a common alarm at the Control Room monitors.

Setpoint: Varies

Alarm Location: Control Room, Local panel 25E-HT-1

Graphic: N/A

Indications: N/A

NOTE - There are two touch screens on local panel 25E HT 1. The left screen displays channels 1 through 12. The right screen displays channels 13 through 24. (Channels 20 through 24 are not used.)

Automatic Actions:

None.

Immediate Actions (At Local Control Panel):

[1] UPON receipt of the common alarm, GO TO local panel 25E-HT-1 to determine which channel and what feature is alarming.

[2] TOUCH Menu on the left touch screen until Alarm Status appears in upper right corner.


[4] IDENTIFY channels where alarms are found in the next step.

NOTE - Status for channels 1-4 will appear. Any alarm will flash red on the screen.

- The three alarms shown for each channel are: Gnd Fault, Temp Alarm, and Current Alarm.

[5] SCROLL to the remaining channels to determine their alarm status.


[7] AFTER the alarms have been identified, TURN to the page in this procedure for that alarm AND

PERFORM the appropriate alarm response on that page.

(Continued on Next Page)
COMMON ALARMS

Description: An alarm on any channel will annunciate as a common alarm at the Control Room monitors.

Setpoint: Varies

Alarm Location: Control Room, Local panel 25E-HT-1

Graphic: N/A

Indications: N/A

(Continued)

Possible Causes:

1. See associated alarm in this procedure.

References:

Drawings: None
Documents: None
Describe the content of the image in a natural text format.
**Heat Trace Panel #1 Alarms**

**HEAT TRACE ALARM CHANNEL #1-01**

**Description:** 1-1/2"-65C-021-154, Fill line to 50 % NaOH Tank

**Setpoint:** 95 (High Alarm: 200, Low Alarm: 65)

**Alarm Location:** Local panel 25E-HT-1 (Left Side)

**Graphic:** N/A

**Indications:** N/A

(Continued)

**Possible Causes:**

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #1-02

Description: 2" 65C-004-154, 50% NaOH Tank to Storage Pump

Setpoint: 95 (High Alarm: 200, Low Alarm: 65)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE  Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 2 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-02

**Description:** 2" 65C-004-154, 50% NaOH Tank to Storage Pump

**Setpoint:** 95 (High Alarm: 200, Low Alarm: 65)

**Alarm Location:** Local panel 25E-HT-1 (Left Side)

**Graphic:** N/A

**Indications:** N/A

(Continued)

**Possible Causes:**

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

**References:**

- **Drawings:** None
- **Documents:** None
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-03

Description: 1-1/2" 65C-023-151, Fill Line to 92% H2SO4 Tank

Setpoint: 5 (High Alarm: 200, Low Alarm: 0)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:

None.

Immediate Actions:

[1] TOUCH Menu and Loop 1-12 in upper left corner.

[2] SCROLL to Loop 3 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:

[4.1] TOUCH Menu.

[4.2] TOUCH View Graph.

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HEAT TRACE ALARM CHANNEL #1-03

Description: 1-1/2" 65C-023-151, Fill Line to 92% H₂SO₄ Tank

Setpoint: 5 (High Alarm: 200, Low Alarm: 0)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

- Drawings: None
- Documents: None
HEAT TRACE ALARM CHANNEL #1-04

Description: 2" 65C-001-151, 92% H2SO4 TANK to STORAGE TANK

Setpoint: 5 (High Alarm: 200, Low Alarm: 0)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE  Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:

[1] TOUCH Menu and Loop 1-12 in upper left corner.

[2] SCROLL to Loop 4 AND

IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:

[4.1] TOUCH Menu.

[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-04

Description: 2” 65C-001-151, 92% H2S04 TANK to STORAGE TANK

Setpoint: 5 (High Alarm: 200, Low Alarm: 0)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-05

Description: 4" 60A-027-153, Return Line from Sumps, etc.
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 5 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-05

Description: 4" 60A-027-153, Return Line from Sumps, etc.
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.
2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.
3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.
4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.
5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-06

Description: 2" 60A-016-153, Influent Line for AOV-60A054
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in the upper left corner.
[2] SCROLL to Loop 6 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.
[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-06

Description: 2" 60A-016-153, Influent Line for AOV-60A054
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   • Heat trace cannot keep up with low ambient temperature conditions.
   • Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   • Heat tape failure.
2. Low Temperature Alarm Light is on and Output Light is OFF:
   • Controller malfunction; maintenance required.
3. High Temperature Alarm and Output Lights are ON:
   • Controller malfunction; maintenance required.
4. High Temperature Alarm and Output Light is OFF:
   • Abnormal process condition.
5. Low current (Low I), Ground Fault (GF), RTD:
   • Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-07

Description: 3" 60A-017-153, Influent Line for AOV-60A055
3/4" 60A-021-153, Influent Line Drain
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

NOTE: Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions: None.

Immediate Actions:

[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 7 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).
NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

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Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-07

**Description:**
- 3" 60A-017-153, Influent Line for AOV-60A055
- 3/4" 60A-021-153, Influent Line Drain

**Setpoint:**
- 40 (High Alarm: 200, Low Alarm: 35)

**Alarm Location:**
- Local panel 25E-HT-1 (Left Side)

**Graphic:**
- N/A

**Indications:**
- N/A

(Please note this is a continuation, likely more details would follow.)

**Possible Causes:**

1. **Low Temperature Alarm and Output Lights are ON:**
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. **Low Temperature Alarm Light is on and Output Light is OFF:**
   - Controller malfunction; maintenance required.

3. **High Temperature Alarm and Output Lights are ON:**
   - Controller malfunction; maintenance required.

4. **High Temperature Alarm and Output Light is OFF:**
   - Abnormal process condition.

5. **Low current (Low I), Ground Fault (GF), RTD:**
   - Abnormal Heat Trace System condition.

**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #1-08

Description: 2” 60A-018-153, Influent Line for AOV-60A056
             3/4” 60A-022-153, Influent Line Drain

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE  Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 8 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
   [4.1] TOUCH Menu.
   [4.2] TOUCH View Graph.

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# Heat Trace Panel #1 Alarms

## HEAT TRACE ALARM CHANNEL #1-08

**Description:** 2" 60A-018-153, Influent Line for AOV-60A056  
3/4" 60A-022-153, Influent Line Drain

**Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)

**Alarm Location:** Local panel 25E-HT-1 (Left Side)

**Graphic:** N/A

**Indications:** N/A

(Continued)

## Possible Causes:

1. **Low Temperature Alarm and Output Lights are ON:**
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. **Low Temperature Alarm Light is on and Output Light is OFF:**
   - Controller malfunction; maintenance required.

3. **High Temperature Alarm and Output Lights are ON:**
   - Controller malfunction; maintenance required.

4. **High Temperature Alarm and Output Light is OFF:**
   - Abnormal process condition.

5. **Low current (Low I), Ground Fault (GF), RTD:**
   - Abnormal Heat Trace System condition.

## References:

**Drawings:** None

**Documents:** None
HEAT TRACE ALARM CHANNEL #1-09

Description: 3" 60A-019-153, Influent Line to Surge Tank
Setpoint: 60 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 9 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

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Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-09

Description: 3” 60A-019-153, Influent Line to Surge Tank
Setpoint: 60 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None

(Continued)
HEAT TRACE ALARM CHANNEL #1-10

Description: 6" 95C-052-151, Cooling Water Tower Return
4" 95C-052-151, Cooling Water Tower Return

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE  Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:

None.

Immediate Actions:

[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 10 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:

[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-10

Description: 6\" 95C-052-151, Cooling Water Tower Return  
4\" 95C-052-151, Cooling Water Tower Return  

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)  

Alarm Location: Local panel 25E-HT-1 (Left Side)  

Graphic: N/A  
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:  
   - Heat trace cannot keep up with low ambient temperature conditions.  
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.  
   - Heat tape failure.  

2. Low Temperature Alarm Light is on and Output Light is OFF:  
   - Controller malfunction; maintenance required.  

3. High Temperature Alarm and Output Lights are ON:  
   - Controller malfunction; maintenance required.  

4. High Temperature Alarm and Output Light is OFF:  
   - Abnormal process condition.  

5. Low current (Low I), Ground Fault (GF), RTD:  
   - Abnormal Heat Trace System condition.

References:  

Drawings: None  
Documents: None
HEAT TRACE ALARM CHANNEL #1-11

Description: 8" 95C-004-151, Cooling Water Tower to Cooling Water Pump
6" 95C-001-151, Cooling Water Pump to Building

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A

Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 11 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-11

Description: 8" 95C-004-151, Cooling Water Tower to Cooling Water Pump
6" 95C-001-151, Cooling Water Pump to Building

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Left Side)

Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-12

Description: 2" 95D-001-153, Raw Water Supply Line to Building
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Left Side)
Graphic: N/A
Indications: N/A

NOTE - Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[1] TOUCH Menu and Loop 1-12 in upper left corner.
[2] SCROLL to Loop 12 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-12

**Description:** 2" 95D-001-153, Raw Water Supply Line to Building

**Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)

**Alarm Location:** Local panel 25E-HT-1 (Left Side)

**Graphic:** N/A

**Indications:** N/A

(Continued)

**Possible Causes:**

1. **Low Temperature Alarm and Output Lights are ON:**
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.
2. **Low Temperature Alarm Light is on and Output Light is OFF:**
   - Controller malfunction; maintenance required.
3. **High Temperature Alarm and Output Lights are ON:**
   - Controller malfunction; maintenance required.
4. **High Temperature Alarm and Output Light is OFF:**
   - Abnormal process condition.
5. **Low current (Low I), Ground Fault (GF), RTD:**
   - Abnormal Heat Trace System condition.

**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #1-13

Description: 2-1/2” 60H-041-153, Verification Water to Surge Tank Header

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

NOTE - Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:


[2] SCROLL to Loop 13

AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:

[4.1] TOUCH Menu.

[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-13

Description: 2-1/2" 60H-041-153, Verification Water to Surge Tank Header

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-14

Description: 1-1/2" 65C-005-154, 50% NaOH Tank Recirculation Line

Setpoint: 95 (High Alarm: 200, Low Alarm: 65)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 14 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
   [4.1] TOUCH Menu.
   [4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-14

Description: 1-1/2" 65C-005-154, 50% NaOH Tank Recirculation Line
Setpoint: 95 (High Alarm: 200, Low Alarm: 65)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.
2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.
3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.
4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.
5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-15

Description: 1-1/2” 65C-002-151, H2SO4 Tank Recirculation Line
Setpoint: 5 (High Alarm: 200, Low Alarm: 0)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 15 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-15

Description: 1-1/2” 65C-002-151, H2SO4 Tank Recirculation Line

Setpoint: 5 (High Alarm: 200, Low Alarm: 0)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-16

Description: 3/4” 65C-036-154, 50% NaOH to Pump P-7 Surge Tank
1/2” 65C-036-154, Pump P-7 to Surge Tank

Setpoint: 105 (High Alarm: 200, Low Alarm: 75)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

NOTE: Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 16 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #1-16

Description: 3/4" 65C-036-154, 50% NaOH to Pump P-7 Surge Tank  
1/2" 65C-036-154, Pump P-7 to Surge Tank

Setpoint: 105 (High Alarm: 200, Low Alarm: 75)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-17

**Description:** 3" 60A-007-153, Surge Tank Recirculation Line  
2" 60A-007-153, Surge Tank Recirculation Line  
2" 60A-066-153, Surge Tank Recirculation Line

**Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)

**Alarm Location:** Local panel 25E-HT-1 (Right Side)

**Graphic:** N/A

**Indications:** N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

**Automatic Actions:**

None.

**Immediate Actions:**


[2] SCROLL to Loop 17 AND IDENTIFY if Output is green highlighted. (Loop is on.)

**Supplemental Actions:**

[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:

[4.1] TOUCH Menu.

[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-17

Description: 3" 60A-007-153, Surge Tank Recirculation Line
2" 60A-007-153, Surge Tank Recirculation Line
2" 60A-066-153, Surge Tank Recirculation Line

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   - Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   - Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   - Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   - Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   - Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-18

Description: 6" 60A-001-153, Surge Tank to Surge Pumps

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

NOTE  Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 18 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-18

Description: 6" 60A-001-153, Surge Tank to Surge Pumps
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Output Lights are ON:
   • Heat trace cannot keep up with low ambient temperature conditions.
   • Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   • Heat tape failure.
2. Low Temperature Alarm Light is on and Output Light is OFF:
   • Controller malfunction; maintenance required.
3. High Temperature Alarm and Output Lights are ON:
   • Controller malfunction; maintenance required.
4. High Temperature Alarm and Output Light is OFF:
   • Abnormal process condition.
5. Low current (Low I), Ground Fault (GF), RTD:
   • Abnormal Heat Trace System condition.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-19

Description: 1" 65C-003-151, 92% H2SO4 to Pump P-5 Surge Tank
1" 65C-034-151, 92% H2SO4 to Pump P-6 Surge Tank
1/2" 65C-035-163, Pumps P-5 and P-6 to Surge Tank

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)

Alarm Location: Local panel 25E-HT-1 (Right Side)

Graphic: N/A

Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 19 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
[4.1] TOUCH Menu.
[4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-19

Description: 1" 65C-003-151, 92% H2SO4 to Pump P-5 Surge Tank
1" 65C-034-151, 92% H2SO4 to Pump P-6 Surge Tank
1/2" 65C-035-163, Pumps P-5 and P-6 to Surge Tank

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   • Heat trace cannot keep up with low ambient temperature conditions.
   • Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   • Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   • Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   • Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   • Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   • Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #1-20

Description: 3" 60B-042-153S, Surge to LERF Transfer Line
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

NOTE Alarm response procedures are not designed for, nor intended to be applied to, “expected” alarms generated by approved maintenance or testing procedures.

Automatic Actions:
None.

Immediate Actions:
[2] SCROLL to Loop 20 AND IDENTIFY if Output is green highlighted. (Loop is on.)

Supplemental Actions:
[3] NOTIFY SOM to determine appropriate action (e.g., supplemental temperature protection, maintenance, etc.).

NOTE: In the bar graph that appears, the yellow bar is the setpoint. The green bar next to it is the actual measured process temperature.

[4] LEAVE touch screen in Bar Graph mode as follows:
   [4.1] TOUCH Menu.
   [4.2] TOUCH View Graph.

(Continued on Next Page)
Heat Trace Panel #1 Alarms

HEAT TRACE ALARM CHANNEL #1-20

Description: 3" 60B-042-153S, Surge to LERF Transfer Line
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Local panel 25E-HT-1 (Right Side)
Graphic: N/A
Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Output Lights are ON:
   • Heat trace cannot keep up with low ambient temperature conditions.
   • Failure of power relay or breaker supplying channel #1 heat trace; maintenance required.
   • Heat tape failure.

2. Low Temperature Alarm Light is on and Output Light is OFF:
   • Controller malfunction; maintenance required.

3. High Temperature Alarm and Output Lights are ON:
   • Controller malfunction; maintenance required.

4. High Temperature Alarm and Output Light is OFF:
   • Abnormal process condition.

5. Low current (Low I), Ground Fault (GF), RTD:
   • Abnormal Heat Trace System condition.

References:

Drawings: None
Documents: None