Heat Trace Panel #2 Alarms Alarm Response

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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<td>Periodic Review</td>
<td>Removed the “Click for copy of Word (native) file” hyperlink.</td>
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<td>A-0</td>
<td>04/06/2016</td>
<td>Converting to WRPS Format</td>
<td>New Procedure; Supersedes ETF-PRO-AR-52157 (ETF-ARP-25E-001)</td>
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Heat Trace Panel #2 Alarms

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RECORDS

No records are generated during the performance of this procedure.
HEAT TRACE ALARM CHANNEL #2-01

DESCRIPTION: FAILED CHANNEL
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
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 work activities or testing procedures.

Automatic Actions:
None.

Immediate Actions:
NOTE – None of the alarms for HT-2 are on the MCS, so “receipt” is only a local light display. The presence of the local light does not indicate an alarm condition.

[1] IF light is viewed locally on local panel 25E-HT-2, PUSH ALARM ACK to turn light OFF.

Possible Clauses:
None.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-02

DESCRIPTION: 4” 60H-011-153, VERIFICATION RETURN LINE, DIKE TO TANK A
4” 60H-053-153, VERIFICATION RETURN LINE, DIKE TO TANK A

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
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 work activities or testing procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.


[3] PRESS the INDEX CHANNEL button until channel 2 is displayed.

[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
• The actual temperature of the pipe is displayed.

[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
• The point at which power to the heat trace circuit is turned ON and OFF is displayed.

• This is the high alarm setpoint. It should read 200.

(Continued on Next Page)
HEAT TRACE PANEL #2 ALARMS ALARM RESPONSE

HEAT TRACE ALARM CHANNEL #2-02

DESCRIPTION: 4" 60H-011-153, VERIFICATION RETURN LINE, DIKE TO TANK A
4" 60H-053-153, VERIFICATION RETURN LINE, DIKE TO TANK A

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

Alarm Location: Control Room, Local Control Panel

Graphic: N/A

Indications: N/A

(Continued)

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint)
temperature, the power should be ON as indicated by a yellow indicator lamp in the
load column on the controller. If the input variable (actual) temperature is above the
variable set (setpoint) temperature, the power should be OFF as indicated by an absence
of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.

• This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel
    breaker to OFF AND
    NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of
    abnormal process conditions.

Supplemental Actions:

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

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #2-02

DESCRIPTION: 4" 60H-011-153, VERIFICATION RETURN LINE, DIKE TO TANK A
4" 60H-053-153, VERIFICATION RETURN LINE, DIKE TO TANK A

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 2 heat trace
   • Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-03

DESCRIPTION: 4" 60H-012-153, VERIFICATION RETURN LINE, DIKE TO TANK B
4" 60H-054-153, VERIFICATION RETURN LINE, DIKE TO TANK B

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
   [1.1] IF alarm clears, EXIT this procedure.


[3] PRESS the INDEX CHANNEL button until channel 3 is displayed.

[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.

[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.


(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #2-03

DESCRIPTION: 4" 60H-012-153, VERIFICATION RETURN LINE, DIKE TO TANK B
4" 60H-054-153, VERIFICATION RETURN LINE, DIKE TO TANK B

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

(Continued)

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued on Next Page)
### Heat Trace Panel #2 Alarms Alarm Response

#### HEAT TRACE ALARM CHANNEL #2-03

**DESCRIPTION:**
- 4" 60H-012-153, VERIFICATION RETURN LINE, DIKE TO TANK B
- 4" 60H-054-153, VERIFICATION RETURN LINE, DIKE TO TANK B

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

**Alarm Location:** Control Room, Local Control Panel

**Graphic:** N/A

**Indications:** N/A

(Continued)

#### Possible Causes:

1. **Low Temperature Alarm and Load Light is ON:**
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 3 heat trace
   - Heat tape failure.

2. **Low Temperature Alarm and Load Light is OFF:**
   - Controller malfunction.

3. **High Temperature Alarm and Load Light is ON:**
   - Controller malfunction.

4. **High Temperature Alarm and Load Light is OFF:**
   - Abnormal process conditions.

#### References:

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #2-04

DESCRIPTION: 4” 60H-013-153, VERIFICATION RETURN LINE, DIKE TO TANK C
4” 60H-055-153, VERIFICATION RETURN LINE, DIKE TO TANK C

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 4 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

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**HEAT TRACE ALARM CHANNEL #2-04**

**DESCRIPTION:**
- 4" 60H-013-153, VERIFICATION RETURN LINE, DIKE TO TANK C
- 4" 60H-055-153, VERIFICATION RETURN LINE, DIKE TO TANK C

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

**Alarm Location:**
- Control Room, Local Control Panel

**Graphic:**
- N/A

**Indications:**
- N/A

**Immediate Actions (Cont.):**

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
- This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
- This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

**Supplemental Actions:**

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

(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #2-04

DESCRIPTION: 4" 60H-013-153, VERIFICATION RETURN LINE, DIKE TO TANK C
              4" 60H-055-153, VERIFICATION RETURN LINE, DIKE TO TANK C

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 4 heat trace
   - Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   - Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   - Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   - Abnormal process conditions.

References:

Drawings: None
Documents: None
Heat Trace Panel #2 Alarms Alarm Response

HEAT TRACE ALARM CHANNEL #2-05

DESCRIPTION: 6" 60H-001-153, VERIFICATION TANK AREA TO RETURN PUMP

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel

Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
   [1.1] IF alarm clears, EXIT this procedure.


[3] PRESS the INDEX CHANNEL button until channel 5 is displayed.

[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.

[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.


(Continued on Next Page)
HEAT TRACE ALARM CHANNEL #2-05

DESCRIPTION: 6" 60H-001-153, VERIFICATION TANK AREA TO RETURN PUMP
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.
[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued on Next Page)
### HEAT TRACE ALARM CHANNEL #2-05

**DESCRIPTION:** 6" 60H-001-153, VERIFICATION TANK AREA TO RETURN PUMP

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

**Alarm Location:** Control Room, Local Control Panel

**Graphic:** N/A

**Indications:** N/A

---

**Possible Causes:**

1. Low Temperature Alarm and Load Light is ON:
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 5 heat trace
   - Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   - Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   - Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   - Abnormal process conditions.

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**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #2-06

DESCRIPTION: 6" 60H-001-153, VERIFICATION TANK A TO RETURN PUMP LINE

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:
[1] PUSH ALARM ACK, PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 6 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-06

DESCRIPTION: 6” 60H-001-153, VERIFICATION TANK A TO RETURN PUMP LINE

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.
[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.
[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.
[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.
[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

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

(Continued on Next Page)
DESCRIPTION: 6" 60H-001-153, VERIFICATION TANK A TO RETURN PUMP LINE
   Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
   Alarm Location: Control Room, Local Control Panel
   Graphic: N/A
   Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 6 heat trace
   • Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:

Drawings: None
Documents: None
# Heat Trace Alarm Channel #2-07

**DESCRIPTION:** 6" 60H-002-153, VERIFICATION TANK B TO RETURN PUMP LINE  
- **Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)  
- **Alarm Location:** Control Room, Local Control Panel  
- **Graphic:** N/A  
- **Indications:** N/A

**NOTE** – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

**Automatic Actions:**
- None.

**Immediate Actions:**

1. **PUSH** ALARM ACK, **THEN PUSH** ALARM RESET to see if the alarm clears.  
   - **[1.1]** IF alarm clears, **EXIT** this procedure.
2. **PUSH** ALARM ACK to silence alarm.
3. **PRESS** the INDEX CHANNEL button until channel 7 is displayed.
4. **PRESS** the INDEX button until the INPUT VARIABLE lamp is ON.  
   - The actual temperature of the pipe is displayed.
5. **PRESS** the INDEX button until the VARIABLE SET lamp is ON.  
   - The point at which power to the heat trace circuit is turned ON and OFF is displayed.
6. **CONFIRM** VARIABLE SET lamp reads 40.

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-07

DESCRIPTION: 6" 60H-002-153, VERIFICATION TANK B TO RETURN PUMP LINE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued On Next Page)
DESCRIPTION: 6” 60H-002-153, VERIFICATION TANK B TO RETURN PUMP LINE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 7 heat trace
   • Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-08

DESCRIPTION: 6" 60H-003-153, VERIFICATION TANK C TO RETURN PUMP LINE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 8 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
**DESCRIPTION:** 6" 60H-003-153, VERIFICATION TANK C TO RETURN PUMP LINE

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

**Alarm Location:** Control Room, Local Control Panel

**Graphic:** N/A

**Indications:** N/A

(Continued)

**Immediate Actions (Cont.):**

- NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] **PRESS** the INDEX button until ALARM SET lamp is lit and 2H is displayed.

- This is the high alarm setpoint. It should read 200.

[8] **PRESS** the INDEX button until ALARM SET lamp is lit and 2L is displayed.

- This is the low alarm setpoint. It should read 35.

- NOTE- The following conditions indicate controller malfunction.

[9] **IF** a Low Temperature Alarm and Load Light is OFF, **NOTIFY** SOM.

[10] **IF** a High Temperature Alarm is indicated and Load Light is ON, **TURN** channel breaker to **OFF AND NOTIFY** SOM.

[11] **IF** a High Temperature Alarm is indicated and Load Light is OFF, **NOTIFY** SOM of abnormal process conditions.

**Supplemental Actions:**

[12] **NOTIFY** SOM to determine appropriate action (e.g., troubleshoot, supplemental temperature protection, maintenance).

(Continued On Next Page)
DESCRIPTION: 6" 60H-003-153, VERIFICATION TANK C TO RETURN PUMP LINE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 8 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-09

DESCRIPTION: 3" 60C-017-153, EFFLUENT PH TO VERIFICATION TANK AREA
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
   Graphic: N/A
   Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected”
alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:
[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
   [1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 9 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
DESCRIPTION: 3" 60C-017-153, EFFLUENT pH TO VERIFICATION TANK AREA

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE- If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.
[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.
[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.
[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.
[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

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

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-09

DESCRIPTION: 3" 60C-017-153, EFFLUENT pH TO VERIFICATION TANK AREA

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 9 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-10

DESCRIPTION: 6" 95C-053-151, COOLING WATER TOWER RETURN
   Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
   Alarm Location: Control Room, Local Control Panel
   Graphic: N/A
   Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected”
alarms generated by approved work activities or procedures.

Automatic Actions:
   None.

Immediate Actions:
[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
   [1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 10 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
### DESCRIPTION:
6" 95C-053-151, COOLING WATER TOWER RETURN

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

**Alarm Location:** Control Room, Local Control Panel

**Graphic:** N/A

**Indications:** N/A

(Continued)

### Immediate Actions (Cont.):

**NOTE:** If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] **PRESS** the INDEX button until ALARM SET lamp is lit and 2H is displayed.

- This is the high alarm setpoint. It should read 200.

[8] **PRESS** the INDEX button until ALARM SET lamp is lit and 2L is displayed.

- This is the low alarm setpoint. It should read 35.

**NOTE:** The following conditions indicate controller malfunction.

[9] **IF** a Low Temperature Alarm and Load Light is OFF, **NOTIFY** SOM.

[10] **IF** a High Temperature Alarm is indicated and Load Light is ON, **TURN** channel breaker to OFF **AND** **NOTIFY** SOM.

[11] **IF** a High Temperature Alarm is indicated and Load Light is OFF, **NOTIFY** SOM of abnormal process conditions.

### Supplemental Actions:

[12] **NOTIFY** SOM to determine appropriate action (e.g., troubleshoot, supplemental temperature protection, maintenance).

(Continued On Next Page)
DESCRIPTION: 6" 95C-053-151, COOLING WATER TOWER RETURN
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 10 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-11

DESCRIPTION: FAILED CHANNEL
   Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
   Alarm Location: Control Room, Local Control Panel
   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 work activities or procedures.

Automatic Actions:
 None.

Immediate Actions:
 NOTE – None of the alarms for HT-2 are on the MCS, so “receipt” is only a local light display. The presence of the local light does not indicate an alarm condition.

[1] IF light is viewed locally on local panel 25E-HT-2, PUSH ALARM ACK to turn light OFF.

Possible Causes:
 None.

References:
 Drawings: None
 Documents: None
HEAT TRACE ALARM CHANNEL #2-12

DESCRIPTION: 3" 60C-017-153, INFLUENT TO VERIFICATION TANK A
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
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 work activities or procedures.

Automatic Actions:
None.

Immediate Actions:
[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
   [1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 12 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
   • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
   • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
DESCRIPTION: 3” 60C-017-153, INFLUENT TO VERIFICATION TANK A

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

Alarm Location: Control Room, Local Control Panel

Graphic: N/A

Indications: N/A

Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.

• This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.

• This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued On Next Page)
Heat Trace Panel #2 Alarms Alarm Response

HEAT TRACE ALARM CHANNEL #2-12

<table>
<thead>
<tr>
<th>DESCRIPTION:</th>
<th>3” 60C-017-153, INFLUENT TO VERIFICATION TANK A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setpoint</td>
<td>40 (High Alarm: 200, Low Alarm: 35)</td>
</tr>
<tr>
<td>Alarm Location:</td>
<td>Control Room, Local Control Panel</td>
</tr>
<tr>
<td>Graphic:</td>
<td>N/A</td>
</tr>
<tr>
<td>Indications:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(Continued)

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 12 heat trace
   - Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   - Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   - Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   - Abnormal process conditions.

References:

| Drawings: | None |
| Documents: | None |
HEAT TRACE ALARM CHANNEL #2-13

DESCRIPTION: 3/4" 95C-050-151, COOLING WATER DRAIN LINE TO SUMP TK 1 1" 60H-057-153, VERIFICATION TANK DRAINS TO SUMP TANK 2

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:
[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 13 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
• The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
• The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
DESCRIPTION: 3/4" 95C-050-151, COOLING WATER DRAIN LINE TO SUMP TK 1 1" 60H-057-153, VERIFICATION TANK DRAINS TO SUMP TANK 2

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
  • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
  • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

[12] NOTIFY SOM to determine appropriate action (e.g., troubleshoot, supplemental temperature protection, maintenance).
### HEAT TRACE ALARM CHANNEL #2-13

**DESCRIPTION:**
3/4” 95C-050-151, COOLING WATER DRAIN LINE TO SUMP TK 1
1” 60H-057-153, VERIFICATION TANK DRAINS TO SUMP TANK 2

<table>
<thead>
<tr>
<th>Setpoint</th>
<th>40 (High Alarm: 200, Low Alarm: 35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Location</td>
<td>Control Room, Local Control Panel</td>
</tr>
<tr>
<td>Graphic</td>
<td>N/A</td>
</tr>
<tr>
<td>Indications</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(Continued)

**Possible Causes:**

1. **Low Temperature Alarm and Load Light is ON:**
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 13 heat trace
   - Heat tape failure.

2. **Low Temperature Alarm and Load Light is OFF:**
   - Controller malfunction.

3. **High Temperature Alarm and Load Light is ON:**
   - Controller malfunction.

4. **High Temperature Alarm and Load Light is OFF:**
   - Abnormal process conditions.

**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #2-14

DESCRIPTION: 3/4” 95C-050-151, COOLING WATER TOWER AND BLOWDOWN TO SUMP

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:

None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 14 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
  • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
  • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued on Next Page)
DESCRIPTION: 3/4" 95C-050-151, COOLING WATER TOWER AND BLOWDOWN TO SUMP
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE - In the input variable (actual temperature) is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-14

DESCRIPTION: 3/4” 95C-050-151, COOLING WATER TOWER AND BLOWDOWN TO SUMP

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

Alarm Location: Control Room, Local Control Panel

Graphic: N/A

Indications: N/A

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:
   - Heat trace cannot keep up with low ambient temperature conditions.
   - Failure of power relay or breaker supplying channel 14 heat trace
   - Heat tape failure.

2. Low Temperature Alarm and Load Light is OFF:
   - Controller malfunction.

3. High Temperature Alarm and Load Light is ON:
   - Controller malfunction.

4. High Temperature Alarm and Load Light is OFF:
   - Abnormal process conditions.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-15

DESCRIPTION: 3/4” 95C-050-151, COOLING WATER PUMP DRAIN TO SUMP
4” 60H-011-153, VERIFICATION RETURN HEADER TO BUILDING

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 15 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
  ● The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
  ● The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-15

DESCRIPTION: 3/4" 95C-050-151, COOLING WATER PUMP DRAIN TO SUMP 4" 60H-011-153, VERIFICATION RETURN HEADER TO BUILDING

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.
[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.
[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-15

DESCRIPTION: 3/4" 95C-050-151, COOLING WATER PUMP DRAIN TO SUMP
4" 60H-011-153, VERIFICATION RETURN HEADER TO BUILDING

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 15 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:

Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-16

DESCRIPTION: 3” 60C-025-153, INFLUENT TO VERIFICATION TANK B

Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 16 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
  • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
  • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued On Next Page)
HEAT TRACE ALARM CHANNEL #2-16

DESCRIPTION: 3” 60C-025-153, INFLUENT TO VERIFICATION TANK B
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

(Continued)

Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
• This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
• This is the low alarm setpoint. It should read 35.

NOTE- The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplementary Actions:

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

(Continued On Next Page)
DESCRIPTION: 3" 60C-025-153, INFLUENT TO VERIFICATION TANK B  
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)  
Alarm Location: Control Room, Local Control Panel  
Graphic: N/A  
Indications: N/A

(Continued)

Possible Causes:

1. Low Temperature Alarm and Load Light is ON:  
   • Heat trace cannot keep up with low ambient temperature conditions  
   • Failure of power relay or breaker supplying channel 16 heat trace  
   • Heat tape failure.  
2. Low Temperature Alarm and Load Light is OFF:  
   • Controller malfunction.  
3. High Temperature Alarm and Load Light is ON:  
   • Controller malfunction.  
4. High Temperature Alarm and Load Light is OFF:  
   • Abnormal process conditions.

References:  
Drawings: None  
Documents: None
HEAT TRACE ALARM CHANNEL #2-17

DESCRIPTION: 2" 95D-007-151, RAW WATER TO COOLING TOWER
- Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
- Alarm Location: Control Room, Local Control Panel
- Graphic: N/A
- Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 17 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
  • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
  • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued on Next Page)
### HEAT TRACE ALARM CHANNEL #2-17

**DESCRIPTION:** 2" 95D-007-151, RAW WATER TO COOLING TOWER  
**Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)  
**Alarm Location:** Control Room, Local Control Panel  
**Graphic:** N/A  
**Indications:** N/A

(Continued)

#### Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] **PRESS** the INDEX button until ALARM SET lamp is lit and 2H is displayed.  
  • This is the high alarm setpoint. It should read 200.

[8] **PRESS** the INDEX button until ALARM SET lamp is lit and 2L is displayed.  
  • This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] **IF** a Low Temperature Alarm and Load Light is OFF, **NOTIFY** SOM.

[10] **IF** a High Temperature Alarm is indicated and Load Light is ON, **TURN** channel breaker to OFF AND  
  **NOTIFY** SOM.

[11] **IF** a High Temperature Alarm is indicated and Load Light is OFF, **NOTIFY** SOM of abnormal process conditions.

#### Supplemental Actions:

[12] **NOTIFY** SOM to determine appropriate action (e.g., troubleshoot, supplemental temperature protection, maintenance).

(Continued on Next Page)
DESCRIPTION: 2" 95D-007-151, RAW WATER TO COOLING TOWER
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 17 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:
Drawings: None
Documents: None
HEAT TRACE ALARM CHANNEL #2-18

DESCRIPTION: 3" 60C-026-153, INFLUENT TO VERIFICATION TANK C
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:

[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 18 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
  • The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
  • The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued on Next Page)
DESCRIPTION: 3" 60C-026-153, INFLUENT TO VERIFICATION TANK C
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.)

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a high temperature alarm is indicated and load light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF high temperature alarm is indicated and load light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued on Next Page)
### HEAT TRACE ALARM CHANNEL #2-18

**DESCRIPTION:** 3" 60C-026-153, INFLUENT TO VERIFICATION TANK C

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

**Alarm Location:** Control Room, Local Control Panel

**Graphic:** N/A

**Indications:** N/A

(Continued)

#### Possible Causes:

1. **Low Temperature Alarm and Load Light is ON:**
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 18 heat trace
   - Heat tape failure.

2. **Low Temperature Alarm and Load Light is OFF:**
   - Controller malfunction.

3. **High Temperature Alarm and Load Light is ON:**
   - Controller malfunction/

4. **High Temperature Alarm and Load Light is OFF:**
   - Abnormal process conditions.

#### References:

- **Drawings:** None
- **Documents:** None
# Heat Trace Panel #2 Alarms Alarm Response

## Heat Trace Alarm Channel #2-19

**Description:** 6” 60H-062-153, Verification Tank C to Transfer Pumps  
6” 60H-061-153, Verification Tank B to Transfer Pumps  
6” 60H-060-153, Verification Tank A to Transfer Pumps  

- **Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)  
- **Alarm Location:** Control Room, Local Control Panel  
- **Graphic:** N/A  
- **Indications:** N/A  

**Note:** Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

### Automatic Actions:
None.

### Immediate Actions:

1. **PUSH ALARM ACK, THEN PUSH ALARM RESET** to see if the alarm clears.  
   - **[1.1]** IF alarm clears, **EXIT** this procedure.

2. **PUSH ALARM ACK** to silence alarm.

3. **PRESS** the INDEX CHANNEL button until channel 19 is displayed.

4. **PRESS** the INDEX button until the INPUT VARIABLE lamp is **ON**.  
   - The actual temperature of the pipe is displayed.

5. **PRESS** the INDEX button until the VARIABLE SET lamp is **ON**.  
   - The point at which power to the heat trace circuit is turned **ON** and **OFF** is displayed.

6. **CONFIRM** VARIABLE SET lamp reads 40.

(Continued on Next Page)
DESCRIPTION: 6" 60H-062-153, VERIFICATION TANK C TO TRANSFER PUMPS
6" 60H-061-153, VERIFICATION TANK B TO TRANSFER PUMPS
6" 60H-060-153, VERIFICATION TANK A TO TRANSFER PUMPS

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

Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Immediate Actions (Cont.):

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued on Next Page)
**HEAT TRACE ALARM CHANNEL #2-19**

**DESCRIPTION:** 6" 60H-062-153, VERIFICATION TANK C TO TRANSFER PUMPS 6" 60H-061-153, VERIFICATION TANK B TO TRANSFER PUMPS 6" 60H-060-153, VERIFICATION TANK A TO TRANSFER PUMPS

- **Setpoint:** 40 (High Alarm: 200, Low Alarm: 35)
- **Alarm Location:** Control Room, Local Control Panel
- **Graphic:** N/A
- **Indications:** N/A

(Continued)

**Possible Causes:**

1. **Low Temperature Alarm and Load Light is ON:**
   - Heat trace cannot keep up with low ambient temperature conditions
   - Failure of power relay or breaker supplying channel 19 heat trace
   - Heat tape failure.
2. **Low Temperature Alarm and Load Light is OFF:**
   - Controller malfunction.
3. **High Temperature Alarm and Load Light is ON:**
   - Controller malfunction.
4. **High Temperature Alarm and Load Light is OFF:**
   - Abnormal process conditions.

**References:**

- **Drawings:** None
- **Documents:** None
HEAT TRACE ALARM CHANNEL #2-20

DESCRIPTION: 4" 60H-064-153, TRANSFER PUMPS TO DISCHARGE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

NOTE – Alarm response procedures are not designed for, not intended to be applied to, “expected” alarms generated by approved work activities or procedures.

Automatic Actions:
None.

Immediate Actions:
[1] PUSH ALARM ACK, THEN PUSH ALARM RESET to see if the alarm clears.
[1.1] IF alarm clears, EXIT this procedure.
[3] PRESS the INDEX CHANNEL button until channel 20 is displayed.
[4] PRESS the INDEX button until the INPUT VARIABLE lamp is ON.
• The actual temperature of the pipe is displayed.
[5] PRESS the INDEX button until the VARIABLE SET lamp is ON.
• The point at which power to the heat trace circuit is turned ON and OFF is displayed.

(Continued on Next Page)
DESCRIPTION: 4" 60H-064-153, TRANSFER PUMPS TO DISCHARGE

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

Alarm Location: Control Room, Local Control Panel

Graphic: N/A

Indications: N/A

(Continued)

Immediate Actions (Cont.)

NOTE - If the input variable (actual) temperature is below the variable set (setpoint) temperature, the power should be ON as indicated by a yellow indicator lamp in the load column on the controller. If the input variable (actual) temperature is above the variable set (setpoint) temperature, the power should be OFF as indicated by an absence of a yellow indicator light in the load column on the controller.

[7] PRESS the INDEX button until ALARM SET lamp is lit and 2H is displayed.
   • This is the high alarm setpoint. It should read 200.

[8] PRESS the INDEX button until ALARM SET lamp is lit and 2L is displayed.
   • This is the low alarm setpoint. It should read 35.

NOTE - The following conditions indicate controller malfunction.

[9] IF a Low Temperature Alarm and Load Light is OFF, NOTIFY SOM.

[10] IF a High Temperature Alarm is indicated and Load Light is ON, TURN channel breaker to OFF AND NOTIFY SOM.

[11] IF a High Temperature Alarm is indicated and Load Light is OFF, NOTIFY SOM of abnormal process conditions.

Supplemental Actions:

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

(Continued On Next Page)
DESCRIPTION: 4" 60H-064-153, TRANSFER PUMPS TO DISCHARGE
Setpoint: 40 (High Alarm: 200, Low Alarm: 35)
Alarm Location: Control Room, Local Control Panel
Graphic: N/A
Indications: N/A

Possible Causes:
1. Low Temperature Alarm and Load Light is ON:
   • Heat trace cannot keep up with low ambient temperature conditions
   • Failure of power relay or breaker supplying channel 20 heat trace
   • Heat tape failure.
2. Low Temperature Alarm and Load Light is OFF:
   • Controller malfunction.
3. High Temperature Alarm and Load Light is ON:
   • Controller malfunction.
4. High Temperature Alarm and Load Light is OFF:
   • Abnormal process conditions.

References:
Drawings: None
Documents: None