Seal Water System

ETF Alarm Response Procedure

Effluent Treatment Facility

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

<table>
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<th>Rev-Mod</th>
<th>Release Date</th>
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<tr>
<td>A-1</td>
<td>11/20/2018</td>
<td>Periodic Review Change</td>
<td>Dashes (&quot;-&quot; ) need to be added in a number of locations. pg. 5, Immediate Action (2) 95B-TK-1. pg. 7, Immediate Action (4) 95B-009, (5) LI-95B001, (5.2) LI-95B001, (5.3) ETF-95B-001. pg. 9, Immediate Action (4) 95B-009, (5) LI-95B001, (5.2) LI-95B001, (5.3) ETF-95B-001.</td>
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<tr>
<td>A-0</td>
<td>12/10/2015</td>
<td>Converting to WRPS Format</td>
<td>New Procedure; Supersedes ETF-PRO-AR-52160 (ARP-95B-001)</td>
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Seal Water System

Alarm

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RECORDS

No records are generated during the performance of this procedure.
### SEAL WATER LAH-95B001

**DESCRIPTION:** Seal Water Tank Level HI LAH-95B001  
Setpoint: 95%  
Alarm Location: LT-95B001  
Graphic: Alarm Summary Screen  
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.

### Immediate Actions:

1. **CHECK** seal water tank level on LI-95B001 is greater than 95%.
2. **IF** using verification water supply, **CLOSE** valve 60H-240 to stop flow into tank.
3. **IF** using raw water supply, **CLOSE** valve 95D-020 to stop water flow into seal water tank 95B-TK-1.
4. **NOTIFY** SOM.
5. **MAINTAIN** tank level at 30 to 90% on LI-95B001 per ETF-95B-001.

### Possible Causes

1. Water level above high alarm setpoint.
2. Seal water supply valve LCV-95B-001 leaking by.
3. Raw water supply valve 95D-020 open.

### References:

**Documents:** ETF-95B-001, Seal Water System Operation.
SEAL WATER OPERATION FAILURE

DESCRIPTION: Seal Water Operation Failure
Setpoint: Logic permissive(s) not met
Alarm Location: Logic generated alarm
Graphic: Alarm Summary Screen
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:
1. Seal water system goes to shutdown mode.
2. Main treatment train goes to shutdown mode.
3. Evaporator system goes to shutdown mode.
4. Thin film dryer system goes to shutdown mode.

Immediate Actions:
[1] CLOSE (immediately) 95B-006, seal water return valve.
[3] IF seal water system restart is not achievable within 10 minutes, PERFORM seal water shutdown valve alignment per ETF-95B-001.
[4] NOTIFY SOM.
[5] VERIFY line-up for auto operation per ETF-95B-001.
[7] IF tank level is less than 5%, PERFORM the following:
   [7.1] FILL tank.
   [7.2] Restart system per ETF-95B-001.
[8] VERIFY electrical power is available.

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### SEAL WATER OPERATION FAILURE

**DESCRIPTION:** Seal Water Operation Failure

**Setpoint:** Logic permissive(s) not met

**Alarm Location:** Logic generated alarm

**Graphic:** Alarm Summary Screen

**Indications:** N/A

(Continued)

**Possible Causes**

1. Seal water pump not in AUTO.
2. Seal water tank level below low-low level setpoint (5%).
3. Seal water pump failure.

**References:**


**Documents:** ETF-95B-001, Seal Water System Operation.
SEAL WATER LAL-95B001

DESCRIPTION: Seal Water Tank Level Low LAL-95B001
Setpoint: 10%
Alarm Location: LT-95B001
Graphic: Alarm Summary Screen
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.

Immediate Actions:

[1] CHECK seal water tank level on LI-95B001 is less than 10%.
[3] MAINTAIN tank level at 30 to 90% on LI-95B001 per ETF-95B-001.
[4] NOTIFY SOM.

Possible Causes

1. Water level is below low alarm setpoint.
2. Seal water supply valve LCV-95B-001 not opening.

References:

Documents: ETF-95B-001, Seal Water System Operation.
Seal Water System

SEAL WATER PALX-95B002

DESCRIPTION: Seal Water Pump Pressure Low PALX-95B002

Setpoint: 65 psig

Alarm Location: PT-95B002

Graphic: Alarm Summary Screen

Indications: Seal Water Pump Pressure Low PALX-95B002

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

Immediate Actions:

[1] VERIFY valves 95B-008 and 95B-005 are closed and valve 95B-007 instrument root valve is open.


[3] RE-BALANCE flow to maintain system pressures per ETF-95B-001.

[4] IF seal water pump returned pressure drops below 60 psig, or seal water pump makes noise, GO TO ETF-95B-001 to shut down system.


Possible Causes

1. Seal water pump malfunction.

2. System leakage.


4. Pressure indicator PI-95B002 malfunction.

References:


Documents: ETF-95B-001, Seal Water System Operation.
Seal Water System

SEAL WATER LALL-95B001

DESCRIPTION: Seal Water Tank Level Low-Low LALL-95B001
Setpoint: 5%
Alarm Location: LT-95B001
Graphic: Alarm Summary Screen
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:
1. Seal water pump shuts down.
2. Main treatment train goes to shutdown mode.
3. Evaporator goes to shutdown mode.
4. Thin film dryer goes to shutdown mode.

Immediate Actions:

[1] NOTIFY SOM.
[4] VERIFY seal water tank level transmitter isolation valves 95B-010 and 95B-009 are open.
[5] IF seal water tank level on LI-95B001 is less than 5%, PERFORM the following:
  [5.1] FILL seal water tank per ETF-95B-001.
  [5.2] MAINTAIN seal water tank level at 30 to 90% on LI-95B001.
  [5.3] START seal water system per ETF-95B-001.
[6] IF alarm was due to loss of verification water, START seal water system per ETF-95B-001 using alternate seal water supply.
[7] IF alarm is due to failed level transmitter, NOTIFY Maintenance.

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SEAL WATER LALL-95B001

DESCRIPTION: Seal Water Tank Level Low-Low LALL-95B001
Setpoint: 5%
Alarm Location: LT-95B001
Graphic: Alarm Summary Screen
Indications: N/A

(Continued)

Possible Causes
1. Water level is below low-low level setpoint.
2. Verification water supply is not available.
3. Level transmitter LT-95B001 malfunction.

References:
Documents: ETF-95B-001, Seal Water System Operation.
SEAL WATER PUMP ALARM

DESCRIPTION: Seal Water Pump Fail 95B-P1-A
Setpoint: Logic permissive(s) not met
Alarm Location: Logic generated alarm
Graphic: Alarm Summary Screen
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:
1. Seal water pump shuts down.
2. Main treatment train goes to shutdown mode.
3. Evaporator goes to shutdown mode.
4. Thin film dryer goes to shutdown mode.

Immediate Actions:
[1] NOTIFY SOM.
[4] VERIFY seal water tank level transmitter isolation valves 95B-010 and 95B-009 are open.
[5] IF seal water tank level on LI-95B001 is less than 5%, PERFORM the following:
   [5.1] FILL seal water tank per ETF-95B-001.
   [5.2] MAINTAIN seal water tank level at 30 to 90% on LI-95B001.
   [5.3] START seal water system per ETF-95B-001.
[6] IF alarm was due to loss of verification water, START seal water system per ETF-95B-001 using alternate seal water supply.
[7] IF alarm is due to failed level transmitter, NOTIFY Maintenance.

(Continued on Next Page)
DESCRIPTION: Seal Water Pump Fail 95B-P1-A
Setpoint: Logic permissive(s) not met
Alarm Location: Logic generated alarm
Graphic: Alarm Summary Screen
Indications: N/A

Possible Causes
1. Water level is below low-low level setpoint.
2. Verification water supply is not available.
3. Level transmitter LT-95B001 malfunction.

References:
Documents: ETF-95B-001, Seal Water System Operation.