Degasification System Alarm Response

ETF Alarm Response Procedure
Effluent Treatment Facility

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

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**Degasification System**

**Alarm**

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**RECORDS**

No records are generated during the performance of this procedure.
DEGAS READY ATTEMPT FAIL

DESCRIPTION: Surge Tank Ready Attempt 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 work activities or procedures.

Automatic Actions:

1. Degas System goes to SHUTDOWN.

Immediate Actions:

[1] ON graphic 1st RO, CONFIRM the following:
   • Degas blower is in AUTO
   • Degas pump 60E-P-1A (60E-P-1B) is in AUTO
   • Valve 60E-005 is CLOSED.

[2] ON graphic Utility, CONFIRM the following systems are in OPERATION:
   • Cooling Water
   • Chemical Feed System
   • Vessel Off-Gas
   • Compressed Air.


Possible Causes:

1. Degas AUTO condition not met.
2. Degas blower not in RUN.
3. Degas pump (60E-P-1A) [60E-P-1B] not in RUN.

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DEGAS READY ATTEMPT FAIL

DESCRIPTION: Surge Tank Ready Attempt Failure
Setpoint: Logic permissive(s) not met
Alarm Location: Logic Generated Alarm
Graphic: Alarm Summary Screen
Indications: N/A

(Continued)

References:

Drawings: H-2-89296, Logic Diagram, Degasification System
          H-2-89313, Logic Diagram, MTT Logic
          H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation
DEGAS OPERATION ATTEMPT FAIL

DESCRIPTION: DEGAS OPERATION ATTEMPT FAIL
    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 work activities or procedures.

Automatic Actions:
1. Degas System goes to SHUTDOWN.

Immediate Actions:
[1] **ON** graphic 1st RO, **CONFIRM** the following:
   - Degas blower is in AUTO
   - Degas pump 60E-P-1A (60E-P-1B) is in AUTO
   - Valve 60E-005 is CLOSED.
[2] **ON** graphic Utility, **CONFIRM** the following systems are in OPERATION:
   - Cooling Water
   - Chemical Feed
   - Vessel Off-Gas
   - Compressed Air

Possible Causes:
1. RO system goes to SHUTDOWN.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
         H-2-89313, Logic Diagram, MTT Logic
         H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation
DEGASIFICATION SYSTEM ALARM RESPONSE

DEGAS LAH 60E012

DESCRIPTION: DEGAS COLUMN LEVEL HI HI (VD13529)
Setpoint: 90%
Alarm Location: LT-60E012
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.

Automatic Actions:
1. Degas System goes to SHUTDOWN.

Immediate Actions:
[1] LOWER Degas column level to 50% as follows:
[1.1] TRANSFER Degas column to 1st RO feed tank per ETF-60F-003,

OR

DRAIN Degas column to Sump Tank 2 per ETF-60F-003.


Possible Causes:
1. High flow rate from pH adjustment tank pump, 60C-P-1, or permeate recycle FCV-60F-273.
2. Pump (60E-P-1A) [60E-P-1B] inlet screen plug.
3. Flow restriction downstream of degas column.
4. Equipment malfunction: LCV-60E-12 or LIC-60E012.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
            H-2-89313, Logic Diagram, MTT Logic
            H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation
            ETF-60F-003, Degas/Reverse Osmosis System Operation
DEGASIFICATION SYSTEM ALARM RESPONSE

DEGAS LAH 60E012

DESCRIPTION: DEGAS COLUMN LEVEL HI (VD135289)
- Setpoint: 65%
- Alarm Location: LT-60E012
- 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.

Automatic Actions:
None.

Immediate Actions:
NOTE - When going into MTT OPERATION mode, the output to flow control valve FCV60F273 will be automatically set from 100% (in READY) to 75% in FIC60F273. This default output of 75% takes 2 seconds to complete from the time MTT OPERATION is selected. After that, the output to FCV60F273 can be adjusted manually as necessary using FIC60F273.

[1] LOWER Degas column level to 50% as follows:
[1.1] DECREASE flow control valve FCV60F273 output (in FIC60F273).

Possible Causes:
1. High recycle flow rate from 2nd RO FCV273.
2. High flow rate from pH adjustment tank pump, 60C-P-1.
3. Pump (60E-P-1A) [60E-P-1B] inlet screen plug.
4. Flow restriction downstream of degas column.
5. Equipment malfunction: LCV-60E-12 or LIC-60E012.

References:
- Drawings: H-2-89296, Logic Diagram, Degasification System
  H-2-89334, P&ID, Degasification System
- Documents: None

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DEGAS COLUMN LEVEL LO
LAL 60E012

DESCRIPTION: DEGAS COLUMN LEVEL LO (LAL 60E012)
   Setpoint: 10%
   Alarm Location: LT-60E012
   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.

Automatic Actions:
1. Degas pump (60E-P-1A) [60E-P-1B] shuts down.
2. Degas System goes to SHUTDOWN.

Immediate Actions:
[1] **LOCALLY CONFIRM** the following valves are OPEN:
   - 60B-049
   - 60E-030
   - 60E-032.
[2] **LOCALLY CONFIRM** valve 60E-018 is CLOSED.
[3] **RAISE** column water level, **THEN ADD** verification water per ETF-60F-003.

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DEGAS COLUMN LEVEL LO
LAL 60E012

DESCRIPTION: DEGAS COLUMN LEVEL LO (LAL 60E012)
Setpoint: 10%
Alarm Location: LT-60E012
Graphic: Alarm Summary Screen
Indications: N/A

Possible Causes:
1. Flow restriction in 1st stage concentrate or 2nd stage permeate.
2. Valve(s) partially/completely closed: 60B-049, 60E-030, 60E-032.
3. Level controller, LIC-60E012, malfunction.
4. PDM filter plugged.
5. Level control valve, LCV-60E-012, malfunction.
6. Leak in Degas column and/or piping.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
H-2-89313, Logic Diagram, MTT Logic
H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation
ETF-60F-003, Degas/Reverse Osmosis System Operation
DEGAS COLUMN INLET TEMP HI
TAH 60E001

DESCRIPTION: DEGAS COLUMN INLET TEMP HI (TAH 60E001)
Setpoint: 104°F
Alarm Location: TT-60E001
Graphic: Alarm Summary Screen
Indications: N/A

Automatic Actions:
None.

Immediate Actions:
[1] CONFIRM TIC-60E-001 setpoint at 86°F.
[2] LOCALLY CONFIRM the following valves are full OPEN:
   • 95C-065
   • 95C-066.
[3] LOCALLY CONFIRM valve 60E-031 is full CLOSED.
[4] ON graphic Utility, CONFIRM Cooling Water System is in OPERATION.

Possible Causes:
1. Temperature controller, TIC-60E001, malfunction.
2. Valve(s) partially/completely closed: 95C-065, 95C-066.
3. Low flow or loss of cooling water to Degas column inlet cooler.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
         H-2-89313, Logic Diagram, MTT Logic
         H-2-89334, P&ID, Degasification System
Documents: None
DEGAS BLOWER INLET PRESS HI
PAHX 60E010

DESCRIPTION: DEGAS BLOWER INLET PRESS HI (PAHX 60E010)
Setpoint: -2.0 inches H2O
Alarm Location: PT-60E010
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] LOCALLY CONFIRM valve 60E-021 is OPEN.
[2] LOCALLY CONFIRM valve 60E-015 is OPEN.
[3] LOCALLY CONFIRM valve 60E-023 is CLOSED.
[4] ON graphic Utility, CONFIRM Vessel Off-Gas System is in OPERATION.

Possible Causes:

1. Valve 60E-021 CLOSED.
2. PT-60E010 isolation valve 60E-015 CLOSED.
3. PT-60E010 calibration/drain valve 60E-023 is OPEN.
4. Vessel vent system failure.
5. PT-60E010 failure.
6. Check valve 60E-020 failed closed.

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DE GAS BLOWER INLET PRESS HI
PAHX 60E010

DESCRIPTION: DE GAS BLOWER INLET PRESS HI (PAHX 60E010)
Setpoint: -2.0 inches H₂O
Alarm Location: PT-60E010
Graphic: Alarm Summary Screen
Indications: N/A

(Continued)

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
           H-2-89313, Logic Diagram, MTT Logic
           H-2-89334, P&ID, Degasification System
Documents: None
DEGAS PUMP A FAILURE 60E-P1A-A

DESCRIPTION:  DEGAS PUMP A FAILURE (60E-P1A-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 work activities or procedures.

Automatic Actions:

1. Degas System goes to SHUTDOWN.

Immediate Actions:

[1] SELECT pump 60E-P-1B.
[2] IF 60E-P-1A disconnect on MCC-1 is tripped, REQUEST Maintenance troubleshoot and reset.

Possible Causes:

1. Breaker 60E-P-1A on MCC-1 is OPEN.
2. Failed 60E-P-1A fuses in MCC-1.
3. Failed 60E-P-1A motor starter in MCC-1.
4. 60E-P-1A pump motor overload.

References:
Drawings:  H-2-89296, Logic Diagram, Degasification System
          H-2-89313, Logic Diagram, MTT Logic
          H-2-89334, P&ID, Degasification System
Documents:  ETF-60-002, Integrated MTT Operation
DEGAS PUMP B FAIL 60E-P1B-A

DESCRIPTION: Surge Tank Ready Attempt 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 work activities or procedures.

Automatic Actions:
1. Degas System goes to SHUTDOWN.

Immediate Actions:
[1] SELECT pump 60E-P-1A.
[2] IF 60E-P-1B disconnect on MCC-1 is tripped, REQUEST Maintenance troubleshoot and reset.

Possible Causes:
1. Breaker 60E-P-1B on MCC-1 is OPEN.
2. Failed 60E-P-1B fuses in MCC-1.
3. Failed 60E-P-1B motor starter in MCC-1.
4. 60E-P-1B pump motor overload.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
H-2-89313, Logic Diagram, MTT Logic
H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation
DEGAS BLOWER FAIL 60E-D1-A

DESCRIPTION: DEGAS BLOWER FAIL (60E-D1-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 work activities or procedures.

Automatic Actions:
1. Degas system goes to SHUTDOWN.

Immediate Actions:
[1] IF 60E-D-1 disconnect on MCC-1 is tripped, REQUEST Maintenance troubleshoot and reset.

Possible Causes:
1. Breaker 60E-D-1 on MCC-1 is OPEN.
2. Failed 60E-D-1 fuses in MCC-1.
3. Failed 60E-D-1 motor starter in MCC-1.
4. 60E-D-1 pump motor overload.

References:
Drawings: H-2-89296, Logic Diagram, Degasification System
          H-2-89313, Logic Diagram, MTT Logic
          H-2-89334, P&ID, Degasification System
Documents: ETF-60-002, Integrated MTT Operation