03.111 Electrolysis System Deactivation
(03. HSS)

OBJECTIVE:

To perform a deactivation of the Solid Polymer Electrolysis (SPE) System.

EQUIPMENT:

Portable anemometer
PPE safety glasses
PPE static wrist tether

REFERENCES:
Airflow Tracking Spreadsheet

NOTE
Power removal of the system must be performed in the correct sequence to ensure H2O does not enter the coolant water pump from the Auxiliary Electrolysis Module.

L2C 1. DEACTIVATE ELECTROLYSIS SYSTEM

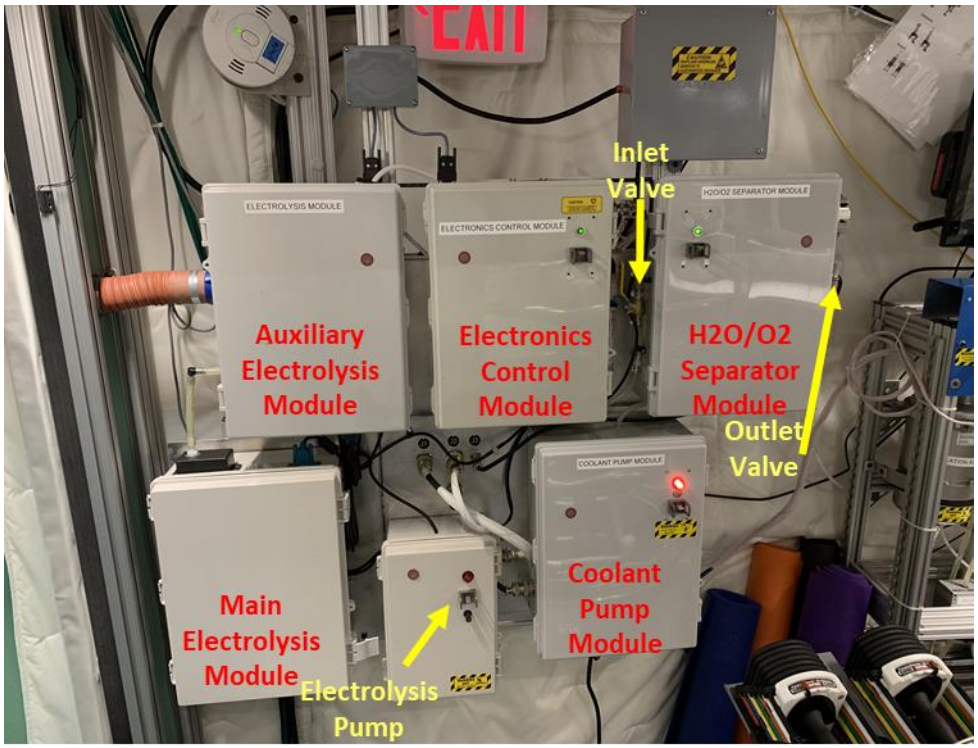

Figure 1: Solid Polymer Electrolysis System

1.1 Don static wrist tether and attach to any unpainted metallic surface.

1.2 Don PPE safety glasses.

1.3 Gather portable anemometer and take reading of exhaust flow to the right of the H2O/O2 Separator Module (see Figure 1). Set anemometer to M/s and hold anemometer within an inch of the outlet valve, left of center, for 10 seconds to gather an accurate reading.

1.4 Record in Airflow Tracking Spreadsheet confirmation that O2 exhaust flow on the right side of the outlet valve of the H2O/O2 Separator Module is within expected range by reporting the flow with the portable anemometer.

-Reading should be between 0.6 – 0.8 m/s.

1.5 Turn off portable anemometer.

1.6 Switch inlet valve located to the left of the H2O/O2 Separator Module to “CLOSED”. (see Figure 1).

-Confirm inlet water valve is perpendicular to hose.

1.7 Switch outlet valve located to the right of the H2O/O2 Separator Module to “CLOSED”. (see Figure 1).

-Confirm outlet water valve is perpendicular to hose.

1.8 Flip power switch of Electrolysis Pump Module to “OFF”. (see Figure 1).

-Confirm Electrolysis Pump Module light is off.

1.9 Flip power switch of Electronics Control Module to “OFF”.

-Confirm Electronics Control Module light is off.

1.10 Flip power switch of H2O/O2 Separator Module to “OFF”.

-Confirm H2O/O2 Separator Module light is off.

1.11 Unlock both latches on Auxiliary Electrolysis Module and open door.

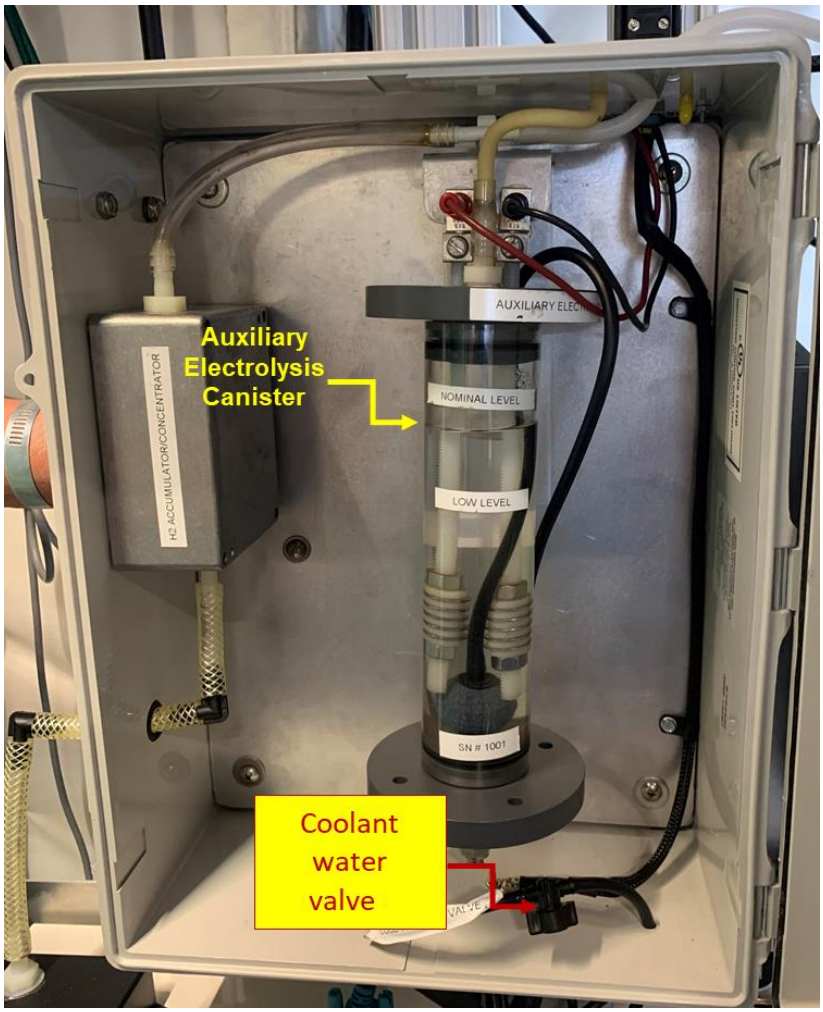

Figure 2: Coolant Water Valve

1.12 Turn coolant water valve (located on black tube behind the Auxiliary Electrolysis Canister) 90 degrees clockwise to “CLOSED”. (see Figure 2).

-Confirm coolant water valve tabs are perpendicular to hose.

-Confirm no more bubble formation.

1.13 Close Auxiliary Electrolysis Module door and lock both latches.

1.14 Flip power switch of Coolant Pump to “OFF”.

-Confirm Coolant Pump light is off and motor stops humming.

1.15 Flip Main Pump Power switch on Water Recovery System (WRS) to “OFF”. (WRS is located next to the SPE System.) (see Figure 3).

-Confirm WRS Main Pump Power light is off.

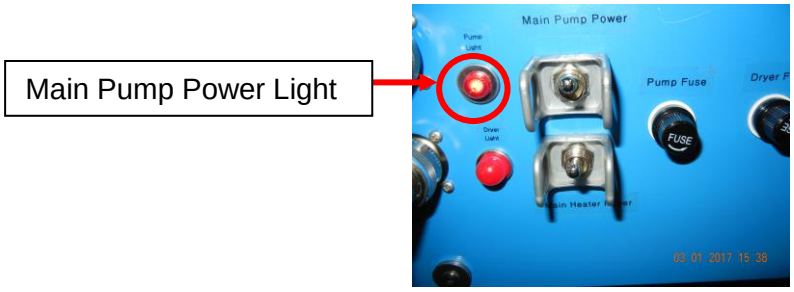

Figure 3: Main Pump Power Switch

1.16 Flip power switch of power strip behind Electronics Control Module to “OFF”.

-Confirm power strip light is off.

1.17 Doff PPE glasses.

1.18 Doff static wrist tether.

1.19 Stow all tools and PPE.