03.108 Electrolysis System Activation
(03. HSS Procedure)

OBJECTIVE:

To perform an activation of the Solid Polymer Electrolysis (SPE) System.

EQUIPMENT:

Portable anemometer
PPE safety glasses
PPE static wrist tether

REFERENCES
Airflow Tracking Spreadsheet

L2C 1. ACTIVATE SPE SYSTEM

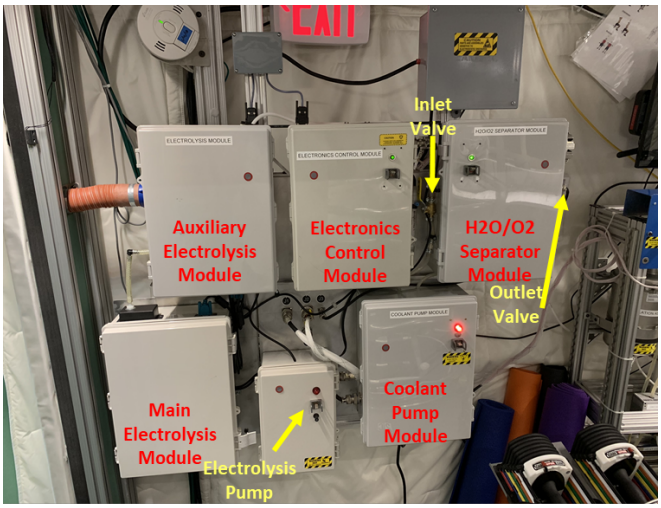

Figure 1: Solid Polymer Electrolysis System

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

1.2 Don PPE safety glasses.

1.3 Switch coolant water valve (located on black tube behind the Auxiliary Electrolysis Canister) to “OPEN”.

1.4 Move power switch of power strip behind Electronics Control Module to “ON”.

Confirm power strip light is on.

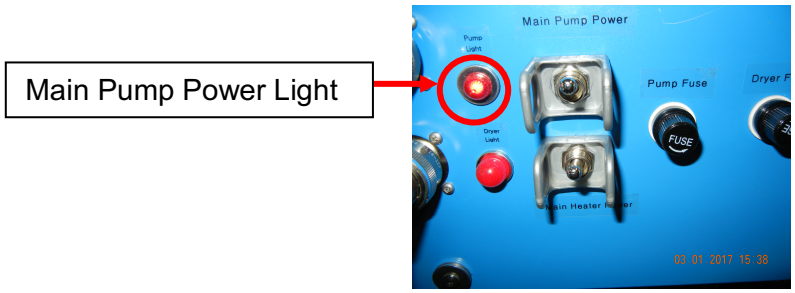

Figure 2: Main Pump Power Switch

1.5 Flip Main Pump Power switch on Water Recovery System (WRS) (located to right of SPE System) to “ON” (see Figure 2).

Confirm WRS Main Pump Power light is on.

1.6 Flip power switch on Electrolysis System Electrolysis Pump to “ON” (see Figure 1).

Confirm Electrolysis Pump light is on and pump motor is humming.

1.7 Unlock both latches on Auxiliary Electrolysis Module and open door (see Figure 1).

Confirm coolant water valve tabs are parallel to hose.

1.8 Flip power switch of H2O/O2 Separator Module to “ON”.

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

Confirm Electronics Control Module light is on.

1.10 Flip power switch of Coolant Pump Module to “ON”.

Confirm Coolant Pump Module light is on.

1.11 Switch outlet valve to H2O/O2 Separator Module to “OPEN”.

Confirm outlet water valve is parallel to hose.

1.12 Switch inlet valve to H2O/O2 Separator Module to “OPEN”.

Confirm inlet water valve is parallel to hose.

NOTE
If executing this procedure as part of the Auxiliary Electrolysis Canister swap out procedure, disregard step 1.13. There will be no electrolyte in the canister.

1.13 Visually inspect Auxiliary Electrolysis Canister to confirm electrolysis reaction is occurring by verifying gas bubble formation.

If no bubble formation, check valve position after L curve at bottom of black tubing and confirm valve is in open position. Inform MCC and proceed.

1.14 Close Auxiliary Electrolysis Module door and lock both latches.

1.15 Unlock both latches to Main Electrolysis Module and open door.

1.16 Visually inspect each of the (4) Main Electrolysis Canisters to confirm electrolysis reaction is occurring by verifying gas bubble formation.

If no bubble formation, inform MCC.

1.17 Close Main Electrolysis Module door and lock both latches.

1.18 Gather portable anemometer to take reading of exhaust flow to the right of the H2O/O2 Separator Module. Hold anemometer within an inch of the outlet valve, left of center, for 10 seconds to gather an accurate reading. Confirm O2 exhaust flow on the right side of the Outlet Valve of the H2O/O2 Separator Module is within expected range.

Reading should be between 0.6 – 0.8 m/s.

1.19 Inform MCC and record in Airflow Tracking sheet.

1.20 Turn off portable anemometer.

1.21 Doff PPE safety glasses.

1.22 Doff static wrist tether.

1.23 Stow all tools.