

### 03.109 Electrolysis System Biological Filter Swapout (03. ECLSS)

#### OBJECTIVE:

To perform a biological filter change out of the Solid Polymer Electrolysis (SPE) System.

#### EQUIPMENT:

Spare biological filter

Paper towels

Nut driver with 5/16" nut

PPE safety glasses

#### REFERENCES:

03.108 Electrolysis System Activation

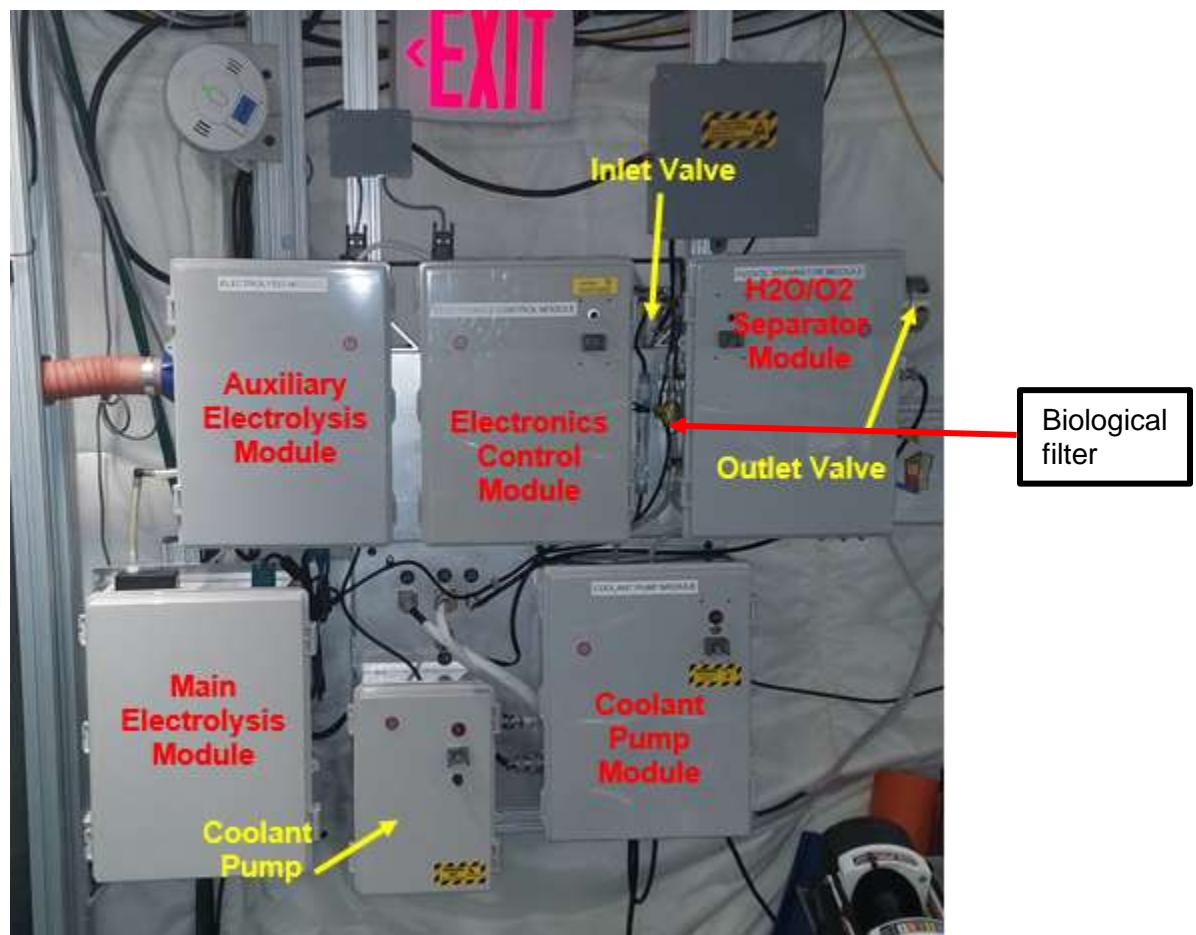
03.111 Electrolysis System Deactivation

#### NOTE

Power off of the system must be performed in the correct sequence to ensure H<sub>2</sub>O does not enter the coolant water pump from the Auxiliary Electrolysis Module.

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#### 1. DEACTIVATE ELECTROLYSIS SYSTEM



**Figure 1:** Solid Polymer Electrolysis System

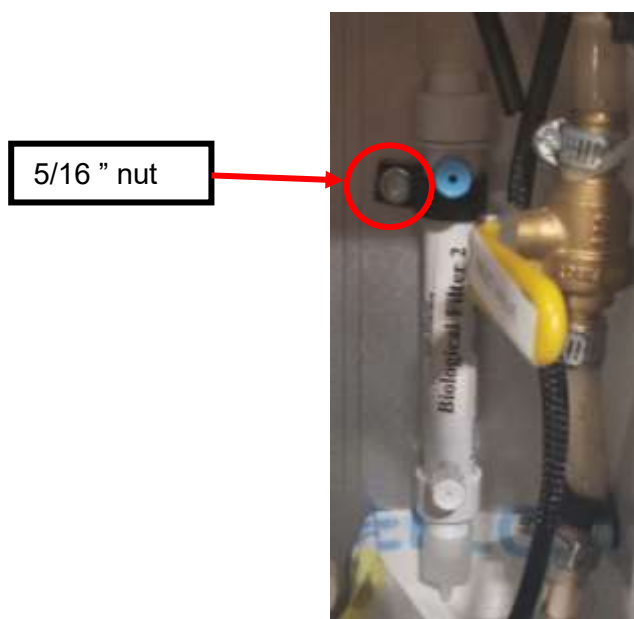
### 03.109 Electrolysis System Biological Filter Swapout (03. ECLSS)

- 1.1 Perform all steps of Electrolysis System Deactivation procedure (procedure 03.111)

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## 2. BIOLOGICAL FILTER SWAPOUT

- 2.1 Don PPE safety glasses.
- 2.2 Ensure H<sub>2</sub>O/O<sub>2</sub> Separator valves are closed before proceeding to next step (see Figure 1).  
  
Confirm H<sub>2</sub>O/O<sub>2</sub> Separator Module inlet valve is closed.  
Confirm H<sub>2</sub>O/O<sub>2</sub> Separator Module outlet valve is closed.
- 2.3 Unlock both latches on Auxiliary Electrolysis Module and open door.
- 2.4 Confirm coolant water valve (located on black tube behind the Auxiliary Electrolysis Canister) is closed.
- 2.5 Close Auxiliary Electrolysis Module door and lock both latches.



**Figure 2:** Installed Biological Filter

- 2.5 Hold paper towel under prime biological filter (located between Electronics Control Module and H<sub>2</sub>O/O<sub>2</sub> Separator Module).
- 2.6 Pull black tube from top of prime biological filter and use paper towel to catch any water drops.
- 2.7 Pull black tube from bottom of biological filter and use paper towel to catch any water drops.

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- 2.8 Use nut driver with 5/16" nut to release prime biological filter from Electrolysis System (see Figure 2).
- 2.9 Take prime biological filter and drain into galley sink waste water.
- 2.10 Remove clamp from biological filter and temp stow at galley sink.
- 2.11 Remove spare biological filter from stowage kit.
- 2.12 Stow prime biological filter in the spare biological filter stowage location in the ECLSS kit.
- 2.13 Attach clamp to the spare filter before bolting it back in. Make sure blue cap is on top. Verify nut on left side (see Figure 2).
- 2.14 Use nut driver to secure clamp with biological filter to Electrolysis System.
- 2.15 Connect spare biological filter to the bottom and top tubes.  
  
Confirm the black tubes are flush with clear caps on biological filter.
- 2.16 Remove and discard used paper towel.

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### 3. REACTIVATE SPE System

- 3.1 Perform all steps of Electrolysis System Activation procedure (procedure 03.108).
- 3.2 Inspect biological filter assembly for leaks.  
  
{If leaks are present  
  
Contact MCC}
- 3.3 Stow all tools.