

## **04.303 Loss of Pressure Procedure**

(04. Environmental Health System)

### OBJECTIVE:

To locate the source(s) of the pressure leak and apply mitigations.

### EQUIPMENT:

LOP Patch Kit

Anemometer

Portable Breathing Apparatus

Flashlight

Wireless Leak Detector (WLD)

## 1. INITIAL RESPONSE

- 1.1 Don Portable Breathing apparatus. Confirm all crew members have donned respirator and goggles.
- 1.2 Visually confirm the external hatch for the Airlock is closed.
- 1.3 Visually confirm the external hatch for the L1 Main module is closed.
- 1.4 Verify that the internal airlock hatch is closed.

### NOTE

Internal airlock hatch may be opened to obtain supplies or for inspection of the module but should remain closed when crew members are not accessing that module.

- 1.5 Contact MCC to inform them of the loss in pressure.
- 1.6 Un-stow Wireless Leak Detector (WLD) and patch kit from emergency equipment.

### NOTE

There may be more than one leak. Once you find one continue to check to make sure there are no others. Check the parameters to make sure pressure is returning to nominal readings indicating all leaks are patched.

## 2. LEAK INSPECTION

- 2.1 Turn on WLD.
- 2.2 Begin inspection with WLD starting with any area indicating an off-nominal reading before moving into other areas of the habitat.
- 2.3 Move through each section of the habitat (airlock, L1 hygiene, and L2) carefully using the WLD on all walls, floors, and exterior facing surfaces.
- 2.4 If no rupture is located, contact MCC for further instruction.

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### **3. ACTIONS ONCE RUPTURE IS LOCATED**

- 3.1 Once located, call out position to other crew. (The crewmember that finds the rupture stays with the rupture.)
- 3.2 Inform MCC of rupture location.
  - 3.2.1 Until the loss of pressure has been resolved, monitor the following and report any significant changes to MCC:
    - Temperature (found on the panel by the lift)
    - Rate from ventilation fans on all levels
- 3.3 Wait for MCC's GO to proceed to the next step.
- 3.4 Using Patch Kit, apply the smallest size patch that covers rupture.
- 3.5 Wait 10 seconds to ensure patch holds.
- 3.6 Once patch is in place, take a picture of the patch and send to MCC via mission log.
- 3.7 Contact MCC and request check for pressure stabilization (this may take 3-5 minutes).  
Do not proceed to Step 4 until MCC confirms pressure is stable.

### **4. POST-EVENT**

- 4.1 Remove Portable breathing apparatus.
- 4.2 Use antimicrobial wipes to clean out Portable Breathing Apparatus.
- 4.3 Return all equipment to stowage locations.
- 4.4 Inform MCC when all equipment is properly stowed.