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**MANAGEMENT OF THE POST-SHUTTLE  
EXTRAVEHICULAR MOBILITY UNIT (EMU)  
WATER CIRCUITS**

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The EMU incorporates two separate water circuits for the rejection of metabolic heat from the astronaut and the cooling of electrical components. The first (the Transport Water Loop) circulates in a semi-closed-loop manner and absorbs heat into a Liquid Coolant and Ventilation Garment (LCVG) worn by the astronaut. The second (the Feed Water Loop) provides water to a cooling device (Sublimator) with a porous plate, and that water subsequently sublimates to space vacuum. The cooling effect from the sublimation of this water translates to a cooling of the LCVG water that circulates through the Sublimator. Efforts are underway to streamline the use of a water processing kit (ALCLR) that is being used to periodically clean and disinfect the Transport Loop Water. Those efforts include a fine tuning of the duty cycle based on a review of prior performance data as well as an assessment of a fixed installation of this kit into the EMU backpack or within on-orbit EMU interface hardware. Furthermore, testing is being conducted to ensure compatibility between the International Space Station (ISS) Water Processor Assembly (WPA) effluent and the EMU Sublimator as a prelude to using the WPA effluent as influent to the EMU Feed Water loop. This work is undertaken to reduce the crew-time and logistics burdens for the EMU, while ensuring the long-term health of the EMU water circuits for a post-Shuttle 6-year service life.