



National Defense Center for
Energy and Environment

GRAYWATER RECYCLING PRETREATMENT SYSTEM

PROJECT OVERVIEW

The Graywater Recycling Pretreatment System (GRPS) is designed to enable the recycling of graywater in contested environments. Laundry and showers account for 50-80% of the water demand for a contingency base. The GRPS will recover 75% of the graywater; thus, reducing the water demand and resupply requirements. Using the GRPS will significantly reduce costs and risks associated with supplying water requirements of a contingency by convoy.



Graywater Recycling Pretreatment System

BENEFITS

- Reduce water demand and resupply by 38-60%, with fully burdened cost of water (FBCW) of \$5.42 to \$16.76/gal.
- Minimizing potable water resupply and wastewater hauling keeps manpower focused on mission critical tasks.
- On-site recycling reduces risks of using contracted suppliers.

PATH FORWARD

The completion of this project resulted in multiple demonstrations of the technology (Valiant Shield 22 and RIMPAC 22) and a Technical Data Package (TDP) that was transferred to the Sustainment C-DID. This technology is also going to be integrated into the Zero Water Footprint (ZWF) project. Licensing agreement has begun with companies to commercialize this technology. This technology was also selected for insertion into an FY24/25 OSD RDER project.

DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

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FOR FURTHER INFORMATION

National Defense Center for Energy and Environment
<http://www.denix.osd.mil/ndcee/home>

DEVCOM Ground Vehicle Systems Center (GVSC) Fuel and Water Equipment Branch

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