

## Army Deploys Innovative Battery-Recharging Kit

FORT MONMOUTH, N.J. (Aug. 2, 2010) -- The Army has begun deploying to Afghanistan battery-recharging kits that run on renewable energy.

Developed by the U.S. Army Research, Development and Engineering Command's communications-electronics center here, the Rucksack Enhanced Portable Power System, or REPPS, combines solar panels, connectors and adaptors for increased charging options.

The 10-pound REPPS is portable and uses a flexible, 62-watt, anti-glint solar panel. Moreover, REPPS can charge the most common military battery types in five to six hours. If devices with higher power need to be charged, several REPPS may be daisy-chained together, officials said.

Ultimately, REPPS will not only facilitate the Soldiers' mission, but will also help save lives, said Tony Bui, an engineer with the Army Power Division of the Communications-Electronics Research, Development and Engineering Center.

"[It] reduces the enemy's detection because before, troops would have to constantly go [to their vehicles or the nearest tactical operation centers] and replace batteries, and then give away where they were hiding," said Bui.

REPPS evolved from the Soldier Photovoltaic Portable Power Pack, or SP4, a simpler technology that consisted of a solar panel with only battery-charging capabilities. Comparatively, REPPS "is capable of a whole spectrum of delivering power and charging," Bui said.

It has a larger panel and far more connectors and adapters that allow for new functions such as AC to DC conversion and pass-thru assembly, which enables batteries and external devices to be charged simultaneously, he explained.

The first shipment of REPPS was sent to the 173rd Airborne Brigade Combat Team at Forward Operating Base Shank in Logar, Afghanistan, July 8.

So far, Bui has received positive feedback on REPPS from Soldiers who have used it out in the field.

"The feedback that we have received from units who have used it is overwhelmingly positive. Feedback from the units ranged from 'reduced fuel consumption' to 'provided a charging source for reconnaissance missions.' The units expressed great content with the ease of use, ruggedness, durability and operational flexibility, extending their capabilities," he said.

Technology that relies on renewable energy is a critical focus area for CERDEC Army Power. Not only is renewability important because it's convenient and sometimes even essential when Soldiers are operating in areas that are far removed from main power distribution lines, but also because it addresses the problems of rising fuel costs and the security risks associated with delivering fuel.

Accordingly, Bui said he believes that REPPS and similar technologies have a bright future.



REPPS is working to provide the warfighter with many options for their battery needs.

“A reduction in photovoltaic product size, weight, and cost could translate into a significantly increased user acceptance by the U.S. Army in the near-term. Over the long-term, a reduction in operational weight and lifecycle cost could be realized over current tactical power-generation systems. With the advent of solar photovoltaic systems, an energy-independent Warfighter will enable reduced logistics and improved readiness in future U.S. Army operations,” he said.

More REPPS are scheduled to be sent overseas in the near future.

To learn more about CERDEC Army Power, visit [www.cerdec.army.mil](http://www.cerdec.army.mil) or contact CERDEC Public Affairs, (732) 427-1594.

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