



# SOLDIER WEARABLE POWER GENERATOR REFORMED METHANOL 50 (SWPG-RM50)

## PROJECT OVERVIEW

Dismounted Soldiers on extended missions lack the capability to recharge batteries “on-the-move”. Dismounted squads and platoons need to either carry additional batteries or rely on battery resupply to meet their power and energy demands. The Soldier Wearable Power Generator (SWPG-RM50) is a wearable fuel cell that provides a lightweight, Soldier borne power system to recharge batteries “on-the-move” or “at-the-halt”.

The NDCEE project was instrumental in advancing the maturity of the SWPG-RM50 from TRL 6 to 7 by an iterative process of field evaluation in an actual operational environment followed by design updates to incorporate Soldier feedback in each evaluation. Additionally, the system was also qualified to comply with MIL-STD requirements.

## BENEFITS

Use of the SWPG-RM50 system enhances the Function Concept for Movement and Maneuver by enabling operation with fewer battery swaps and eliminating the need to carry additional batteries. Soldiers on extended missions equipped with the SWPG-RM50, experience a significant reduction in load, since they need to carry only additional fuel for their energy needs. That fuel is 6 times lighter than the weight of rechargeable batteries on an equivalent energy basis.



**Ruck Mounted**



**Plate Mounted**

**AEWE Field Testing**

## PATH FORWARD

The SWPG-RM50 is progressing on the path to transition. Upon completing the NDCEE effort the system is expected to undergo a final “design lock” development effort during which the system is expected to be fully tested to meet all the MIL STD 810. 461 and 1474 testing to validate compliance. At the end of this effort the system is expected to participate in a “transition demo” event to be held at Joint Readiness Training Center (JRTC) in Ft Johnson. We expect the system to complete its Science and Technology transition in FY 24 and enter the EMD phase.

## 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>

Combat Capabilities Development Command (DEVCOM)  
Command, Control, Communications, Computers, Cyber,  
Intelligence, Surveillance and Reconnaissance (C5ISR) Center  
<https://c5isrcenter.devcom.army.mil/>