

# Strategic US Army Command Uses Flywheel Energy Storage For Critical Back-Up Power Protection

## UPS Product Highlights

- Battery-free Flywheel Energy Storage
- Highest Efficiency (97%)
- High Reliability
- Smallest Footprint & Flexible Siting
- Minimal Maintenance
- High Overload Ratings
- Harmonic Cancellation
- Transient Voltage Protection
- High-Speed Voltage Regulation
- Power Factor Improvement
- 40° C Rating on Entire System
- Remote Notification & Monitoring
- Infinite Cycle Life

Radar, night vision, lasers and all communications tools used by U.S. Army personnel worldwide are created, acquired and supported by Communications-Electronics Command (CECOM) at Fort Monmouth U.S. Army Command. The base hosts nearly 5000 soldiers and civilians, and includes facilities for research and development, administration and various other CECOM functions. With Fort Monmouth as one of the primary locations for the United States Army's CECOM, which is responsible for developing and maintaining the Army's information technology and electronic infrastructure, the need for continuous protection is unquestionable.

The Facility team carefully studies its back-up power requirements regularly and recently saw a need to replace older uninterruptible power supply (UPS) systems at the Directorate for Corporate Information's (DCI) computer room, which supports Fort Monmouth's entire communications system. Upgrading with the reliable flywheel motor-generator technology developed by Active Power, Inc., was an easy "green" choice because Fort Monmouth is an environmentally conscious military base. Active Power's flywheel-based UPS systems are not only more environmentally favorable than battery systems, but also resolve space and maintenance issues. With the elimination of a battery-room and lowered HVAC demands, Fort Monmouth experienced immediate cost savings.

## Flywheel UPS Provides Army CECOM Highly Reliable Power Protection

Since installing the Active Power's flywheel-based UPS, Fort Monmouth has experienced several internal power disruptions and lightning storms, as well as a summer storm that affected significant portions of the supplying utility's electrical grid. During these events, the DCI Computer Room had no noticeable interruptions in power and the facility continued to operate smoothly.

Staying connected via computer to the Army's strategic posts throughout the U.S. and around the world, and to government entities such as Congress, is a crucial responsibility that takes place on the Fort Monmouth base. "Given the importance of our mission, we need reliable power," said John Alexoudis, Electrical/Mechanical Team Leader for the Directorate of Public Works at Fort Monmouth.



*Fort Monmouth US Army base is dedicated to command, control, communications, computers, intelligence, electronic warfare, and sensors.*



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### **Eliminated Battery Replacement Cost With A “Green” Flywheel UPS Alternative**

Fort Monmouth was able to eliminate the high costs associated with battery replacement by using a flywheel UPS system, and no longer struggles with the hassle of having to remove and dispose of lead-acid batteries. With the previous UPS system, this process had to be carried out according to strict federal guidelines for safety due to the toxicity of the lead-acid batteries, and it was required every three years because of the batteries' limited life cycle. The flywheel UPS systems are also operating at a higher efficiency rate – 97% — compared to typical, battery-based systems, which usually rate between 86% and 93% efficient.

### **Reduces HVAC Needs and Frees Up Much Needed Floor Space**

Previous UPS systems were temperature-sensitive and had to be located in a main computer room where there is sufficient circulating airflow with temperatures around 70 degrees. Active Power's flywheel-based UPS system can handle ambient temperatures of up to 104 degrees, so it can be stored in an electrical room on a different floor than the computers. This flexibility lowers the demand for air conditioning in the computer rooms by removing a primary source of heat—their battery-based UPS—and it opens up floor space for more computers and servers. Both of these benefits provide cost savings for the base without compromising their power reliability.

**Active Power now offers a full line of battery-free power quality products and complete systems integration through the GSA contract # GS-07F-0061N.**



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