

| SBIR 06.2 PHASE I - AWARD DETAILS | |
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| ORGANIZATION | PEO C3T |
| TOPIC NUMBER | A06-190 |
| CONTRACT NUMBER | |
| YEAR OF AWARD | |
| AWARD START DATE | |
| AWARD COMPLETION DATE | |
| PROPOSAL NUMBER | A062-190-0170 |
| TITLE | HMMWV Towable Load Following 100 kW Power Unit |
| PROJECT MANAGER | James C. Noe (818) 519-3077 cr8vnrg@adelphia.net |
| COMPANY | Creative Energy Concepts 23679 Calabasas Road, #435 Calabasas CA 91302 Minority Owned: No Veteran Owned: No Number of Employees: 2 |
| KEYWORDS | Light efficient tactical quite external combustion generator |
| ABSTRACT | The proposed power system optimizes the combat effectiveness of Future Forces by offering high power-density (low specific weight and bulk), constant-efficiency load-following over the range of 20 to 120 kW and can be towed by a standard HMMWV, including a 24 hour fuel supply. It is designed to enable strategic responses and sustain core fighting of Future Combat System platforms including biochemical shelters, field hospitals, other medical facilities, self-enclosed camps and tactical operational centers at brigade level and above. The system is very light to accommodate the drawbar pull limits of a standard HMMWV in support of quick deployment anywhere in the world of future combat operations and to accommodate agile units and mobile forces with wide ranges of load demands without degradation in fuel efficiency and with minimal logistical requirements. This is accomplished through the use of high-temperature, high-speed, high frequency and high voltage techniques embodied in an external-combustion, closed-cycle power generator, with very few maintenance requirements, high operational reliability and a small theatre footprint—including silent operation and a low detectable heat signature. By using a closed Brayton cycle it is also possible to include integral cooling output for external combat equipment. |
| BENEFITS | These military requirements produce a power system with excellent characteristics for wide use in private and commercial vehicles with even lower fuel consumption than the best current hybrid electric systems, requiring fewer batteries and offering extremely low harmful emissions, substantially improved reliability and longer life expectancy. |