

**Topic #18: Advanced Energy Storage**

**OBJECTIVE:**

As efforts to generate alternative energy come to fruition, there is a need to develop and demonstrate new processes to manufacture advanced energy storage capabilities. Stored energy could be used to address tactical vehicle silent watch and balance energy load/storage between peak and off-peak renewable energy generation. In the long term, the government seeks to establish a cost effective supply base for the manufacture of advanced automotive batteries.

Under this topic, the Government invites proposals for projects that would research and demonstrate new manufacturing processes to optimize, automate and provide precise control of battery quality consistency for high energy and high power advanced batteries. While the primary effort will focus on advancing the automation of battery production processes, secondary objectives include the development and demonstration of advanced rechargeable battery technology.

**DESCRIPTION:**

- a. Develop and demonstrate a prototype production process to manufacture cells, modules, and advanced battery packs for dual use in military and commercial vehicles in both continuous and pulsed power applications. The approach/process should provide the military with the highest quality components at the lowest possible price. The process should address the means to produce battery cells which shall exceed 2 kW/kg for pulsed power and shall also meet or exceed 150 W-hr/kg for long range and silent watch applications.
- b. The prototype production process should demonstrate a scalable cell production capability equivalent to no less than 500 thousand cells per year in the first twelve (12) months of development, expanding to a scalable capability of no less than 1 million cells per year by the conclusion of the development effort. The cost objective of this effort is to reduce the production costs of advanced batteries from \$1000/kW-hr to an objective of no more than \$500/kW-hr.
- c. Develop and integrate new materials and electrolytes into Li-Ion batteries in order to improve battery safety by preventing cell venting and shorting that leads to flames and fire due to overcharging or object penetration. The use of new materials shall result in Li-Ion batteries that (i) are suitable to withstand all shock and vibration tests specified in (Military Standard) MIL STD 810G; and (ii) operate in the temperature range of -40<sup>0</sup> to 60<sup>0</sup> Celsius. MIL STD 810G revised 31 October 2008 is available in its entirety at the following URL:  
<http://www.iest.org/i4a/pages/index.cfm?pageid=3695>

**PROPOSALS THAT REFLECT A “PARTIAL SOLUTION” TO THE TECHNICAL OBJECTIVE ARE NOT ACCEPTABLE. THE GOVERNMENT WILL CONSIDER ONLY THOSE PROPOSED PROJECTS THAT ADDRESS ALL ELEMENTS OF THE OBJECTIVE.**

**PROJECT DURATION AND ESTIMATED MAXIMUM FUNDING AVAILABLE:**

- a. **Period of Performance:** While projects with a duration of 1 year or less will be considered, the scope of this effort is such that we anticipate the need for projects having a potential duration as long as 18 months (fiscal years 2009 to 2010). Projects proposed with a duration exceeding 18 months must be structured assuming incremental funding by the government, and must be consistent with the maximum amounts identified in paragraph b. below.
- b. **Funding:** Maximum government funding available in fiscal year 2009: \$9 M.
- c. **Cost ceiling/ cost share:** Proposed projects involving costs exceeding those identified in b. immediately above will be unaffordable. The contractor may propose total project costs in excess of the Government funded cost ceiling only if the excess costs are to be funded by a cost sharing arrangement. Please note that a cost sharing arrangement is not a consideration for award; therefore, no evaluation preference will be given if a cost share is proposed.
- d. **Single Award:** The government anticipates only one contract will be awarded as a result of this topic.

**DESIRED AWARD DATE:** June 22, 2009

**MILESTONE SCHEDULE:**

- a. Informal Talks Timeframe: March 5, 2009 thru April 6, 2009
- b. Electronic Copies of Proposals Due: April 7 2009 thru May 7, 2009

**Special Proposal Instructions:**

After 13 February 2009, all proposals must be submitted using the ASFI Bid Response System (BRS), which may be accessed at <https://acquisition.army.mil/asfi/default.cfm>.

You will find Topic 18 for proposal submission by searching Contracting Opportunities for "TARBAATOPIC18." As reflected by the results of this search, proposals for Topic 18 may be uploaded via the ASFI BRS at the following URL:

[https://acquisition.army.mil/asfi/solicitation\\_view.cfm?psolicitationnbr=TARBAATOPIC18](https://acquisition.army.mil/asfi/solicitation_view.cfm?psolicitationnbr=TARBAATOPIC18)

- c. Estimated Award Date: June 22, 2009

**W56HZV-05-R-BAA1 Topic #18**

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Page 3 of 3

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