Advanced Research Announcement (ARA): CALL 003 (Amendment - 02)

NAICS Code: The NAICS Code for this acquisition is 541715 and the small business size is 1,000 employees.

Federal Agency Name:

Air Force Research Laboratory, AFRL/RXMZ Materials and Manufacturing Directorate, Energy Office

ARA Title: Energy Office – Government Requirement for Advanced Power and Energy (GRAPE)

ARA Type: Call 003 – Amendment - 02; Question/Answers

ARA Number: FA8650-18-S-5008

- Does the government have a geotechnical report available for Clear SFS?
  The only information that is available at this time is either on SAM.GOV or from the Distro D document.

- Can the Government confirm that they are only interested in electrical output from the LCES, and that heat output is not a requirement for this project?
  Electrical output only

- There is inconsistent funding availability data between the tables shown in the SOO and the CALL 003 documents. Can the Government please confirm how much funding is available for this project in FY25 and FY26?

  It depends on what funding your proposal requests and how realistic your monthly invoice plan is that shows expenditure of funds. Your proposal may vary from the chart below. FY total could have some variation from the anticipated funding. Your proposal could also vary the amount for the base contract and optional items. Your proposal should explain not only how you plan to meet your proposed plan, but it should also include information on opportunities to move up or delay expenses as funding may vary per FY including the uncertainty of when funding legislation is approved. FY25 $2.0M is planned for the initial contract award and should have an invoice plan that has all funding invoices sent by February 2026. FY26 is currently planned for $6.0M and will depend on execution rates and funding availability. It would be useful for your proposal to address any flexibility to shift expenses between FYs. Here is the latest notional anticipated funding information for this project.

  Anticipated funding: For this CALL 003 is $14,000,000.00-$25,000,000.00 ($14m base cost, up to $25M with options)*

	FY25	FY26	FY27	FY28	FY29	Sub Total
Base Contract	$1.5M	$5.5M	$3.0M	$1.5M	$2.5M	$14M
Additional Storage System Capacity				$4.0M	$1.0M	$5.0M
Capacitance for Load Leveling	$0.5M	$0.5M	$3.0M			$4.0 M
Disposition/Transition					$2.0M	$2.0M
Total	$2.0M	$6.0M	$6.0M	$5.5M	$5.5M	$25M

**This funding is an estimate only and not a contractual obligation for funding. All funding is subject to change due to Government discretion and availability. Potential offerors should be aware that due to unanticipated budget fluctuations funding in any or all areas may change with little or no notice.*
***The total is a Government ROM that will be evaluated based on the technical approach and cost realism.*

- Can the Government please confirm their requirements or desires for "additional storage capacity"? Is there a specific desired additional capacity in terms of MW and/or MWh? Also, will the Government please confirm that this option would not be executed prior to FY28?

  The target for the initial demonstration is 3MW/9MWH with a target of a 3x capacity increase to 9MW/27MWH. This is a target not a requirement. The goal is to demonstrate a modular system that would first need to demonstrate a base capacity not only in energy storage performance but also cost logistics etc. Your proposal could have a different timeline.

- Can the Government please define "Capacitance for Load Leveling" as it relates to this procurement? While this is considered a contract "option", the Government appears to have allocated FY25 funding. Should this be interpreted as the physical/digital controls necessary to achieve peak shave loads to the LCES?
  The use of capacitors to level the electric load.

  A Radar has a non-linier load. This solicitation is looking for solutions to address the fluctuation in load. Load-leveling technology could include the capability of stabilizing power by absorbing power surges and delivering uninterrupted power for intermittent, high-power loads.
  Like the option for additional storage capacity, the option to execute capacitance or other solutions for load leveling of very short time domain will be evaluated based on the criteria in the solicitation.
  It is anticipated that an LCES system, base contract, could achieve peak shaving and load transitions to help with grid stability.
  The solicitation has the three areas (Base Contract / Additional Storage System Capacity / Capacitance for Load Leveling) to allow for three lines of effort. Your proposal should focus on each FY total to be similar to the notional chart, but you may take liberty on how the three areas are defined per FY.
  FY25 funding for capacitance load leveling is not predefined. It is the applicant's responsibility to define what this money will be used for. FY25 funding could be used for, but is not limited to, research, design, and system integration.

- Will the Government please confirm that the LCES will be sited inside the Clear SFB fence-line?

  Yes, the system will be inside the fence-line.

  - Are there any specific land use restrictions, beddown approvals, or siting limitations with the site?

    Your proposal should include your requirements for land use and beddown. Approval for land use and beddown will come from the 460th CE at Buckley SFB, CO. The awardee will present their requested land use and beddown proposal at the Kick-Off meeting. The 460th CE will evaluate the request and work with the awardee to define and then approve the location(s). It is important to define your system requirements in your proposal such as approximate dimensions, desired location and grid-tie strategy. The Government reserves the right to revise any proposed location(s) and grid-tie strategy. Your proposal is not a design to be built as proposed. As the project moves forward all equipment and material will require approval from the 460th CE. This is an RDT&E project; if any changes result in a budget change, funding will need to be shifted from one activity to offset needed funding changes. With RDT&E, the total approved contract funding will not change, but tasks are subject to adjustments. There is no additional funding for change orders. Any changes made would need to be negotiated to redefine tasks to realign funding to stay within the total awarded contract. This is significantly different than a construction/Mil-Con type contract. As an RDT&E contract, it is anticipated that we will discover issues and need to make adjustments. This is not a design build contract.

- While there is no SCADA which could allow for management of individual equipment loads to the LCES, are there existing building-level breakers or switches which could be used to control energy from the LCES to loads on base?

  The solicitation is designed to allow for solutions that address how to manage loads. Clear Space Force Station (CSFS) loads need to be supported. A solution is needed to address how to support the needed load(s) while managing the impact to grid demand. We do not have the option to shed a load. Proposals should address switches, and any other equipment needed to allow for energy management. Equipment is subject to approval by the 460th CE. Your proposal will need to be flexible to allow for issues such as the manufacture/brand of switches, circuit breakers, transformers, etc. The Awardee will be giving access to needed information about CSFS. This detailed information is typically not shared until the Kick-Off meeting. It is likely (typical) to have significant changes from the proposed solution from the Kick-Off meeting and the Preliminary Design Review. AFRL will work with the awardee to provide as much information as we can before the Kick-Off meeting. The Kick-Off meeting is not intended to be a design review and will focus on the solution and process going forward.

- Are there plans to upgrade the base with centralized load management or SCADA? If not, should the LCES be designed to operate in isolation with pre-designated loads?

  Your proposal could include information about your ability to be integrated with a SCADA and how your solution could operate a specific load. Remote monitoring and control of a system will not be

permitted at this time. Solutions should be designed to autonomously manage energy distribution.

- The SOO references operation in extreme cold (-60°F). Is the LCES expected to operate at full capacity under these conditions without derating, or is limited functionality acceptable?

  The system will need to operate at -60°F without derating. The system may be in an enclosure that is climate controlled. The contracted effort would need to include any needed structures and climate control systems as part of the effort. The system will need to be approved by the 460th CE at Buckley SFB, CO, before any construction or equipment could be built or installed.

- Should the LCES be capable of black start, islanding, or load-following to support mission continuity in the event of grid outage?

  Your proposal should address black start, islanding as it is useful to understand your solution's ability to address grid outage. The LCES system will need to be grid following capable.

- The SOO states that UFC compliance is not required for the demonstration but may be for transition. Can the Government clarify if NEC, NFPA, or other design codes should be followed during initial system installation?

  The demonstrated system will need to meet all codes to transition. UFC compliance is not required for the demonstration, but the 460th CE would need to agree to any solution before transition. If it is determined that it is in the best interest of the government to follow the UFC for the demonstration, it will be required. Many sections of the UFC are written to ensure that equipment and processes follow established standards. With RDT&E we are developing a new innovative solution and by definition some of this project will not be able to comply with the UFC. Part of the process of design reviews and equipment approval from the 460th CE is to determine if your solution will need to follow a specific section of the UFC. In general, codes such as NEC and NFPA will need to be met for the demonstration as they typically address know safety issues.

- Should the LCES be self-sufficient in providing power for heating, ventilation, and freeze protection systems, or will auxiliary power be available from the base for those loads?

  Your proposal should address HVAC/freeze protection and if you would need gird power. It is anticipated that utility power would be required to operate and charge the LCES system.

- Can the Government confirm whether there are existing sectionalizing switches or transfer capabilities that would allow targeted loads to be shifted to the LCES during an outage?

  We cannot release any additional detail about CSFS at this time. Your proposal may address needed information that is not listed on SAM.GOV or the Distribution D document. Your proposal is permitted to list your assumptions. The declared assumptions will be taken into consideration in the evaluation.

- Will the LCES be required to interface with any existing or future cybersecurity protocols, remote monitoring platforms, or classified networks?

All current cybersecurity protocol will be required. Remote monitoring platforms are currently not permitted and would likely require an Authority to Operate (ATO) as well as a security assessment from the Space Force. An ATO is not necessarily required during the demonstration. Depending on the solution, it may be required for transition. AFRL will help guild an awardee through the ATO/RMF process. It is appropriate to plan on proposing using funding from the Disposition/Transition option to fund the ATO effort. Additional funding is not available outside this effort for an ATO.