FAQs – Testing & Evaluation of Medium-Voltage Power Options

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Should the battery be armored to protect during use on the frontlines?
Direct kinetic fire is not considered a high-risk concern for this specific capability. Government environmental assessments indicate that the significantly greater risk to this capability is an Electromagnetic Pulse (EMP).

Can a 600V inverter with 600/4160 transformer be used?
Yes. From a power systems perspective, this is a standard and technically viable configuration.

Is there a Buy American Act requirement?
No.

Can a system hybridize one MEP810 or is there a requirement for multiple generators?
Yes—a single unit can be hybridized. There is no inherent technical requirement for multiple generators to create a functional hybrid system. Remember that the primary connection will be through the PSC.

Is the UL9540 strictly required for the first article?
Yes, as a benchmark - UL 9540 is the definitive standard for the safety of Energy Storage Systems. The government will evaluate all proposals against this benchmark to ensure thermal safety, electrical protection, and fire suppression compliance for the first article. The government must verify that the proposed commercial system mitigates catastrophic risks, such as thermal runaway and electrical faults, before it is fielded alongside the MEP810 generators.

What are the mobility or transportation requirements for the BESS? Weight limits? Do we have to put it on a trailer or provide any specific lifting/strapping features?
The only transportation guidelines are the system needs to be capable of being transported on U.S. Air Force C-5 and C-17 aircraft. For road transportation the system should not exceed 8.5 ft wide or 13.5 feet tall.

Does it need to supply its own aux power?
Or the government assumes that will be supplied externally (this is the commercial standard for utility scale, but for microgrids, it is sometimes provided and sometimes not). The concept is for the BESS to work with the powerplant as needed charging when needed and discharging when needed. No auxiliary power needed.

There are multiple editions of UL 9540. Do you have a specific one in mind?
The government can recommend one if needed. UL 9540 is the definitive standard for the safety of Energy Storage Systems. The government will evaluate all proposals against this benchmark to ensure thermal safety, electrical protection, and fire suppression compliance for the first

article. The government must verify that the proposed commercial system mitigates catastrophic risks, such as thermal runaway and electrical faults, before it is fielded alongside the MEP810 generators. Additional modifications will be determined once that level is established.

Part of the UL9540 typically involves a large scale fire test. Would you require that here?
That test is long and expensive. It is doable but would need to be factored into any kind of prototyping plan. UL 9540 is the definitive standard for the safety of Energy Storage Systems. The government will evaluate all proposals against this benchmark to ensure thermal safety, electrical protection, and fire suppression compliance for the first article. The government must verify that the proposed commercial system mitigates catastrophic risks, such as thermal runaway and electrical faults, before it is fielded alongside the MEP810 generators. Additional modifications will be determined once that level is established.

Supply chain and FEOC requirements: Does the supply chain have to be domestic?
Are there any countries (like China, Russia, Iran, North Korea, but especially China) where you would mandate that parts cannot come from? The Buy America Act is not applicable for this OTA. Non-compliance parts are not a disqualifying factor for this RDTE OTA project. Evaluators will inquire what type and percentage of the current BESS system is compliant during the evaluation.

Volume: what types of units / year or total units would you be expecting?
Depending on the volume, it may dictate one solution or another for cost competitiveness. The specifics of the follow-on procurement with the government will not be discussed until a successful RDTE modified COTS is selected. The objective of these solicitations is to modify existing COTS to meet the capability mission needs of the end users.

Power and Energy: We see minimum specs, but are there any maximum specs? We can make some very big batteries (in the 5MWH range) and based on what we are guessing, we think that might be too big and heavy, but we do not want to assume without confirmation.
Correct–there are no maximum power specifications given. The only limitations are the transportations limitations that support the military missions for this unit which are Military Air, Sea, and Land capabilities.

Battery Chemistry: Our aim is actually to provide a range of battery chemistries that will fit the technical requirements listed and what we infer. This will include sodium ion, LFP, and LTO (a variant of lithium). Will these be acceptable so long as they meet technical requirements?
Yes.

Is a modular BESS/PCS acceptable (i.e. 20' BESS Container, 20' PCS Container)?
A modular configuration consisting of two separate 20' ISO containers—one dedicated to the BESS and one dedicated to the PCS—is acceptable. The government recognizes that this is a recognized industry practice. This approach is acceptable provided that the interconnecting cabling and conduits between the two containers meet all applicable site and safety codes.

If the PCS components—inverter, transformer, and switch gear are properly packaged and meet required NEMA ratings for outdoor environments, will a NEMA 3RX encloser be required? The BESS would still be contained in a NEMA 3RX or better 20' ISO container.
If the individual sub-components of the PCS (the inverter, transformer, and switchgear) are factory-rated for direct outdoor exposure and inherently possess the environmental and anti-corrosion resilience required a NEMA 3RX encloser would not be required.

We are not a small business, are we still eligible for this project?
To qualify for award, an offeror must satisfy at least one of the following:
1) The prototype project includes significant participation by at least one nonprofit research institution or nontraditional defense contractor (NDC),
2) All significant participants in the transaction other than the Federal Government are small business concerns, or
3) At least one-third of the total cost of the prototype project is to be paid out of funds provided by parties other than the Federal Government

An NDC is defined as an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section (see 10 U.S.C. 2302(9)).