

Amendment 0005

Solicitation Number: ONRBAA 13-009

“Hybrid Energy Storage Module” (HESM)

Date: 09 MAY 2013

The purpose of Amendment 0005 is to amend the BAA with responses to questions regarding the submission of full proposals.

1) Question: Our notification letter [requesting a full proposal] stated the solicitation due date is 5/29/13, however the BAA states the due date for a full proposal is 6/14/13. I checked ONR's website and did not find any new amendment to the solicitation released since Amendment No. 4 which was released before the due date of the concept paper. Please confirm the due date is in fact 5/29/13.

Answer: The due date in the notification letter was meant to amend the original date in the BAA. However, this amendment is hereby revising the due date for receipt of Full Proposals to be 2:00PM (EDT) on 05 JUN 2013.

2) Question: The solicitation does not give any limits on page numbers for the technical content. Is there a page limit?

Answer: Technical Content to be included in the standard Word template is limited to no more than 40 pages, including the information for ARPA-E AMPED Technology Insertion. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated. The Technical Proposal Template (pdf file) is not included in the page limitations specified above. There are no page limitations for the Cost Proposal.

3) Question: For Area of Interest #3, the solicitation discusses individual program reviews between the ONR sponsor and the performer. It also states program status reviews may be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. Can you provide the number of trips the performer should plan for?

Answer: The performer should plan for at a minimum quarterly reviews and reviews associated with critical milestones in the execution plan

4) Question: The technical proposal template, Section III Cost Content, Questions #1 asks if our organization is registered in CCR. Last year, our organization was notified CCR was migrated to the SAM.gov system. Currently, our business unit is registered in SAM.gov with Core Data and POC information only. Please confirm Question #1 is referring to SAM.gov and not CCR.

Answer: Correct, any references to CCR or ORCA should be changed to SAM.gov.

5) Question: Question #2 wants to know if we have completed ORCA. If not, it states "If ORCA has not been completed or is not current the offeror must complete ORCA." Please confirm the ORCA information you are requesting is the Assertions and Reps & Certs sections in SAM.gov. Also, is it acceptable to complete the Assertions and Reps & Certs information at the time of award or does it need to be completed prior to submission of the proposal?

Answer: Yes, the question in the Technical Proposal Template, Section III Cost Content, Questions #2 should read SAM.gov vice ORCA. Note that Section VI of the BAA requires "All Offerors submitting proposals or applications must: 1) be registered in the SAM prior to submission; ..." Note that ONR Specific Representations and Certifications (Section III Cost Content, Questions #3) should be included at time of Full Proposal submission.

6) Question: The solicitation also states a copy of our subcontracting plan shall be submitted as an attachment to the Technical Proposal Template. Our company submits a commercial subcontracting plan through the eSRS system. Are we still required to submit a copy of our plan with the proposal or is it acceptable to provide a reference to the eSRS.gov website?

Answer: The offeror should submit a copy of the commercial subcontracting plan with the proposal.

7) Question: The solicitation allowed for electronic submission of the concept paper but I don't see this is allowed for the full proposal. Will we be allowed to email our proposal? If so, should it be sent to the same address as the concept paper?

Answer: No, Full Proposals can not be submitted electronically. See Section IV.5 of the BAA.

8) Question: "Per encouragement based on our whitepaper, we are performing an assessment to submit a full proposal to ONRBAA13009 under the Large Power Topic. The solicitation states that:

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulation (ITAR) - 22 CFR § 1201.1 et seq.

Can you let me know if the topic has any ITAR restriction?"

Answer: Some aspects of energy storage system may be export control technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 120.1 et seq. (See Section VII, Other Information). In accordance with 22 CFR § 121.1, it is expected that the ITAR restrictions in the area of Energy conversion devices for producing electrical energy from nuclear, thermal, or solar energy, or from chemical reaction that are specifically designed, developed, modified, configured or adapted for military application would apply to the work performed resulting from this solicitation. However, it is expected that individual components, devices, and subsystems that comprise the energy storage system may not be restricted. However, the Offeror shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the Export Administration Regulations (EAR). The Department of State publishes guidance regarding ITAR compliance at and the website <http://www.pmddtc.state.gov/compliance/index.html>. The Department of Commerce publishes guidance regarding EAR compliance at <http://www.bis.doc.gov/>. Offerors with ITAR questions should also consult paragraph (c) of the clause at DFARS 252.204-7008 and paragraph (b) with EAR questions. It is responsibility of the Offeror to comply with all applicable laws and regulations regarding export-controlled items. This responsibility exists independent of, and is not established or limited by, this BAA or any resulting award.

8) Question: How should the proprietary sections be marked?

Answer: The BAA does not dictate the format or limit the marking of proprietary information in the proposal. The BAA states "It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

9) Question: How many awards will be made in the Large Power Area?

Answer: It's ONR's intent to fund multiple Phase I efforts in the Large Power Development Area. However, it's ONR's intent to make only one award that includes the scope of work for both Phases I and II. While any additional award(s) would include

the scope for Phase I only. The award that includes both Phases I and II would be made to the proposer whose proposal is determined to be the most advantageous and of best value to the Government, all factors considered, as described in Section V of the BAA. However note that the proposal recommended for award that includes both Phases I and II will not include Phase II in any resulting contract as an Option CLIN, but rather as part of base award. Note that this does not change the way in which Phases I and II shall be proposed.

10) Question: Is additional funding available if the cost of the proposal exceeds the amount available in the BAA?

Answer: No. The funding indicated per area is indicated in Section II Award Information. No other funds are available. Proposals with cost exceeding the amount indicated in the BAA may not be considered.

11) Question: What is the purpose of the Large Power Area Phase II demonstrator?

Answer: The purpose of the option phase is to develop a prototype demonstration unit to be delivered and operated at a government land based test site or short term ship installation to examine HESM operational capability and impact with continuous high rate loads.

12) Question: Can any further clarification be made on the Large Power Area Phase II demonstrator?

Answer: Evaluation of a proposed Phase II option demonstration unit will be on ability to fully achieve up to the objective metrics in the Large Power Area of the BAA. In addition, examination will include the ability of the unit to be packaged, transported, and installed for demonstration at a land based test facility or short term ship installation at TRL 6. Although, overall size and power density are not metrics associated with this BAA, it is requested that an overall size of the proposed unit be provided.

13) Question: In Table L1 for "Charge Capability", is it intended that the Hybrid Energy Storage Module system have a Charge Acceptance rate of 15C and 30C (threshold and objective, respectively), or is this a measure of the required discharge characteristics?

Answer: The BAA states: "System must be capable of full optimized charge (0-100% SOC) in 1 hr (threshold), 15 min (objective). System must also be capable of buffering input power from an external source at a rate of 15C (threshold), 30C (objective), at a 20% duty cycle (threshold), 50% (objective) with a cyclic period of 10 seconds."

As you stated, it specifically relates to charge acceptance, not discharge character, which is addressed elsewhere in the table. So one must take the entire table in context of discharge and charge, as well as the duty cycle of performance (discern the difference between full charge and intermittent input power buffering).

14) Question: For the aircraft area, how long 45kW is needed for each start and how many starts are required.

Answer: For this effort, you can assume two starts of 30 seconds duration each

15) Question: For the aircraft area, please confirm if the interpretation of the 60Hz and respectively 120Hz "peaky loads" is as follows: at 60Hz the current will increase from a value corresponding to 80kW (threshold) to 200kW (threshold) and then decrease back to 80kW in a time interval of 16.67 millisecond, respectively 8.33 millisecond for 120Hz.

Answer: A typical requirement of the type we're concerned appears nearly as a square wave in the time domain. The rate is listed in the BAA as 20kW/ms, and it continues at a nearly flat slope to 200kW (10 milliseconds). Given that the HESM unit sources the highest frequency content of the response, the HESM will source a large fraction of the rising edge response.

It is incorrect to assume that the duration is only 16.67 milliseconds. The demand may be at this peak for 50 milliseconds. Naturally, the generator system will source progressively more of this load as time moves on.

16) Question: For the aircraft area, what is the duty cycle of regeneration events, and the regeneration rate. Specifically, need to know 3kJ over how many seconds or minutes, assuming a homogenous charge rate.

Answer: The absolute worst-case envisioned here would be in three 3kJ events per second. The events should not be evenly spaced, nor should they overlap.

17) Question: For the aircraft area, what is the duty cycle of the "peaky loads", described in table A1 and with a frequency content of 60Hz to 120 Hz and higher.

Answer: The duty cycle is approximately 3 pulses per second.