

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQS SECTION OF ARPA-E'S WEBSITE (<https://arpa-e.energy.gov/faqs/general-questions>) FOR ANSWERS TO MANY GENERAL QUESTIONS ABOUT ARPA-E AND ARPA-E'S FUNDING OPPORTUNITY ANNOUNCEMENTS. ADDITIONAL QUESTIONS SPECIFIC TO THIS FOA ONLY ARE INCLUDED BELOW. PLEASE REVIEW ALL EXISTING GENERAL FAQS AND FOA-SPECIFIC QUESTIONS BEFORE SUBMITTING NEW QUESTIONS TO ARPA-E.

I. Concept Paper Phase Questions:

Q1. CAN I SUBMIT A CONCEPT PAPER THAT ADDRESSES ALL 3 CATEGORIES?

ANSWER: No. Only Categories 1 and 2 may be combined as a Concept Paper. If addressing all 3 Categories, the Category 3 must be submitted as a separate Concept Paper.

Q2. DO I NEED TO FILL OUT THE PRELIMINARY ECONOMIC MODEL WITH MY CONCEPT PAPER SUBMISSION?

ANSWER: No. The Preliminary Economic Model is required only for a Full Application.

Q3. I AM INSERTED TO SEND THE CONCEPT PAPER FOR THE GRID OVERHAUL WITH PROACTIVE, HIGH-SPEED UNDERGROUNDING FOR RELIABILITY, RESILIENCE, AND SECURITY. HOWEVER, FIRST I WOULD LIKE TO KNOW THE DIFFERENCE BETWEEN, WOULD YOU PLEASE EXPLAIN TO ME THE DIFFERENCES BETWEEN BOTH OF THEM?

ANSWER: Please refer to the DE-FOA-0003048 GOPHURRS SBIR/STTR Funding Opportunity Announcement section 1.B. SBIR/STTR PROGRAM OVERVIEW.

Q4. I AM A RESEARCH SCIENTIST AT NIST . I WAS WONDERING IF NIST IS ALLOWED TO APPLY AND GET FUNDING FOR DE-FOA-0003047: GRID OVERHAUL WITH PROACTIVE, HIGH-SPEED UNDERGROUNDING FOR RELIABILITY, RESILIENCE, AND SECURITY (GOPHURRS)

ANSWER: See Section III.A.2 Domestic Entities of the FOA.

Q5. WE PLAN TO PROPOSE A BASIC AND FUNDAMENTAL RESEARCH RELATED TO A QUANTUM GRAVITY GRADIOMETER TO GOPHURRS. HOWEVER, IT IS QUITE CHALLENGING FOR THE FFRDC LAB TO MEET THE COST SHARING REQUIREMENT IN THE CALL. LISTING OUR EQUIPMENT (>\$1M WORTH) AS THE COST SHARING MAY NOT BE POSSIBLE BECAUSE THE EQUIPMENT WAS PAID BY GOVERNMENT. USUALLY, THE COST SHARING IS NOT REQUIRED FOR BASIC AND FUNDAMENTAL RESEARCH IN DOE SC CALLS. I FOUND THE FOLLOWING FROM ONE OF DOE CALLS.

B. COST SHARING

Cost sharing for basic and fundamental research is not required pursuant to an exclusion from the requirements of Section 988 of the Energy Policy Act of 2005.

Cost sharing is not required of DOE/NNSA National Laboratories, another Federal agency's FFRDC, or their subcontractors at any tier. DOE/NNSA National Laboratories and another Federal agency's FFRDC may impose cost-sharing requirements on their contractors subject to their policies and procedures.

SHOULD WE MEET THE COST SHARING REQUIREMENT WITH THE BASIC AND FUNDAMENTAL RESEARCH?

ANSWER: ARPA-E will not pre-assess an applicant's cost sharing arrangement.

Q6. THE GOPHURRS CALL (FOAS DE-FOA-0003047) SAID THAT "THE AMOUNT TO BE AWARDED IS APPROXIMATELY \$40 MILLION, SUBJECT TO THE AVAILABILITY OF APPROPRIATED FUNDS TO BE SHARED BETWEEN FOAS DE-FOA-0003047 AND DE-FOA-0003048."

COULD YOU CLARIFY IF \$40M IS THE TOTAL BUDGET ($\$40\text{M}/3 \times 3 \text{ YRS} = \40M) OR IF IT IS AN ANNUAL BUDGET ($\$40\text{M}/\text{YR} \times 3 \text{ YRS} = \120M)?

ANSWER: \$40 million total.

Q7. REFERRING TO YOUR ARPA-GOPHURRS PROJECT I WONDER IF;

- A) INTERNATIONAL CAN APPLY,**
- B) EXISTS ANY PRE-CONDITION ON TECHNICAL EXPERIENCE,**
- C) EXISTS ANY TECHNICAL MAIN DATA ON THE NEEDED DISTRIBUTION NETWORK AND VOLTAGE LEVELS.**

ANSWER:

A) While foreign entities are typically eligible to apply for funding under ARPA-E FOAs, ARPA-E will only make an award of funding to a U.S. affiliate or subsidiary entity (i.e. incorporated in the United States or



a U.S. territory). Rarely, a “foreign work waiver” may be provided by ARPA-E in order to allow performance of part of the work outside of the United States. ARPA-E’s provision of a foreign work waiver is a fact dependent, case-by-case determination that is made only in exceptional circumstances and only for discrete parts of an award that necessitate foreign work. Applicants that anticipate the need for a foreign work waiver to perform some work outside of the U.S. should review the Business Assurances & Disclosures Form. Also, because eligibility criteria may vary between FOAs, ARPA-E suggests that applicants check the complete list of “Eligible Applicants” provided in the FOA under which they wish to apply to confirm they are eligible.

B) Please refer to Section I of the FOA.

C) Please refer to Section I of the FOA.

Q8. AS WE HAVE SOUGHT TO PREPARE OUR CONCEPT PAPER WE (CC'ED) HAVE ORGANIZED A LIST OF QUESTION IN THE ATTACHED DOCUMENT (AND REPEATED BELOW) REGARDING THE FUNDING OPPORTUNITY ANNOUNCEMENT (FOA): GRID OVERHAUL WITH PROACTIVE, HIGH-SPEED UNDERGROUNDING FOR RELIABILITY, RESILIENCE, AND SECURITY (GOPHURRS) | FUNDING OPPORTUNITY NO. DE-FOA-0003047

QUESTIONS:

- 1. WILL A PURE CATEGORY 2.1 (REAL-TIME LOOK AHEAD SENSORS) OR CATEGORY 2.2 (UTILITY SURVEY IN ADVANCE) PROPOSAL BE CONSIDERED COMPETITIVE/RESPONSIVE TO THE FUNDING OPPORTUNITY ANNOUNCEMENT (FOA)?**
- 2. CAN CATEGORY 2.1 AND 2.2 BE PROPOSED CONCURRENTLY? THE QUOTATION BELOW FROM THE FOA MENTIONS CATEGORY 2.1 AND 2.2 SEPARATELY, HOWEVER IT DOES NOT MENTION THEM CONCURRENTLY.
"APPLICANTS MUST SUBMIT RESPONSES TO THE FOLLOWING Q&A TABLES BASED ON THE FOLLOWING COMBINATIONS OF CATEGORIES (SEE SECTION I.F TECHNICAL PERFORMANCE TARGETS FOR MORE):**
 - (MAX. 1 PAGE) APPLICATIONS SOLELY ADDRESSING CATEGORY 1, 2.1, 2.2, 3.1, OR 3.2– Q&A TABLE 1, 2, 3, 4, OR 5, RESPECTIVELY**
 - (MAX 2. PAGES) APPLICANTS ADDRESSING CATEGORIES 1 AND 2.1 – Q&A TABLES 1 AND 2**
 - (MAX 2. PAGES) APPLICANTS ADDRESSING CATEGORIES 1 AND 2.2 – Q&A TABLES 1 AND 3**
 - (MAX 2. PAGES) APPLICANTS ADDRESSING CATEGORY 3.1 AND 3.2 – Q&A TABLES 4 AND 5"**
- 3. IF THE ABOVE IS ACCEPTABLE AND THE PROJECT TEAM LOOKS TO ADDRESS CATEGORY 2.1 AND 2.2 IN A SINGLE CONCEPT PAPER VIA AN INTEGRATED SCHEME CAN AN ADDITIONAL 6TH PAGE BE ALLOTTED FOR THEM TO RESPOND TO THE REQUIREMENTS OF BOTH TABLES 2.1 (FOR CATEGORY 2.1) AND TABLE 2.2 (FOR CATEGORY 2.2)?**
- 4. WHAT TECHNOLOGY READINESS LEVEL (TRL) IS BEST REPRESENTATIVE OF THE ANTICIPATED OUTCOMES ASSOCIATED WITH CATEGORIES 2.1 AND/OR 2.2?**

5. THE SECTION ON INNOVATION AND IMPACT ASKS THAT, “TO THE EXTENT POSSIBLE, [TEAMS] PROVIDE QUANTITATIVE METRICS IN A TABLE THAT COMPARES THE PROPOSED TECHNOLOGY CONCEPT TO CURRENT AND EMERGING TECHNOLOGIES AND TO THE TECHNICAL PERFORMANCE TARGETS IN SECTION I.E OF THE FOA FOR THE APPROPRIATE TECHNOLOGY CATEGORY IN SECTION I.D OF THE FOA”, HOWEVER AS QUANTITATIVE METRICS THAT SUMMARIZE CURRENT AND EMERGING TECHNOLOGIES WILL BE ADDRESS IN THE ONE-PAGE QUESTION AND ANSWER TABLES SHOULD AN ADDITIONAL TABLE(S) WITH SIMILAR INFORMATION BE PRESENTED IN THE INNOVATION OR IMPACT SECTION? OR WILL IT BE DEEMED ACCEPTABLE FOR THE READER TO BE DIRECTED TO THE APPROPRIATE TABLE VIA STATEMENTS TO THAT EFFECT IN THE INNOVATION AND IMPACT SECTION?
6. TO INFORM THE DEVELOPMENT OF REPRESENTATIVE LAB- AND FIELD-SCALE TESTS OF THE PROPOSED TECHNOLOGY, IS THE EXPECTATION FOR THE DRILLING CONDITIONS TO BE THAT OF PRIMARILY SOIL OR ROCK? IN ADDITION, SHOULD THE CASE OF PURE-HARD ROCK DRILLING BE CONSIDERED FEASIBLE?

ANSWER: 1. Yes

2. Yes, but teams will need to submit the Q&A table for both category 2.1 and 2.2 in their application.

3. Yes

4. ARPA-E does not define TRLs as the project outcomes but the applicants may provide a TRL goal in their submission.

5. The one-page question and answer tables is sufficient.

6. ARPA-E is open to seeing all ideas whether it is primarily for soil, rock, or both since there are various undergrounding scenarios.