

QUESTIONS AND ANSWERS

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PLEASE REFER TO THE GENERAL FAQs SECTION OF ARPA-E'S WEBSITE ([HTTP://ARPA-E.ENERGY.GOV/?Q=FAQ/GENERAL-QUESTIONS](http://arpa-e.energy.gov/?Q=FAQ/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. Questions for week ending: MARCH 4, 2016

Q1.a. I am writing as lead on a ARPA-E proposal development. We are planning to write a proposal to ARPA that applies to development of a monitoring test site that will be organized to evaluate a broad array of technology. We need to determine that a potential participant on our team does not come under a conflict of interest.

Q1.b. I am a member of a research group from [our Organization] that would like to submit a proposal for the MONITOR Field Test Site Program DE-FOA-0001546, however we have learned another group at [our Organization] is working to develop a sensing system under the ARPA-E MONITOR Program. Would our application be considered given that another group at [our Organization] is currently an awardee under the MONITOR program? Please note that our research group has no connection with the other group at [our Organization] that is a MONITOR awardee.

ANSWER: Applicants are required to disclose potential conflicts of interest in Part (3) of the Business Assurances and Disclosure Form. The completed form must be submitted with all other application materials prior to the established time and date for receipt of applications. Applicants must provide sufficient information to permit ARPA-E to determine whether an actual or apparent conflict of interest exists, and if so, whether the actual or apparent conflict can be mitigated. This information includes, but is not limited to, descriptions of the potential conflict, summaries of pertinent portions of the Applicant's conflict of interest policy, and proposed actions to address the conflict.

In particular, any Applicant (to include a Standalone Applicant, lead organization for a Project Team, or member of a Project Team) that is also a Prime Recipient or Sub-recipient on an existing award under the MONITOR program must clearly demonstrate how any organizational conflicts of interest would be mitigated, including details on the steps that will be taken to protect the proprietary testing data of other, unrelated MONITOR program awardees that use the MONITOR Field Test Site. ARPA-E will also amend the solicitation to provide additional time for the preparation of Full Applications and Replies to Reviewer Comments. The revised date for receipt of Full Applications will be April 4, 2016. The revised date for submission of Replies to Reviewer Comments will April 22, 2016. The 5:00 pm Eastern Daylight Savings time for receipt of the respective materials remains unchanged.

Q2. I have a question regarding the Round 2 Testing for the MONITOR Technologies. The FOA specifies that for Round 2 testing "the test conditions will be more challenging, including... varying environmental conditions,...". I am seeking more specific information on the types of environmental conditions that are expected to be introduced for this testing. Is this referring to conditions such as wind speed, wind direction, rain, temperature, etc? Should the test site be able to control and/or vary these conditions?

ANSWER: It is not imperative that applications address varying environmental conditions (such as wind speed, wind direction, rain, and temperature) though applicants may, at their discretion, do so. Accordingly, ARPA-E has amended the FOA as follows:

- In Section I.B, Page 5, in the third paragraph, delete the text following the second bullet and substitute the following:

Round 2 Field Testing will be the final opportunity for teams to demonstrate that they have met the FOA goals and enhanced capability targets. The test conditions will be more challenging than for Round 1 Field Testing, with increased complexity on the site (e.g. more separators or other obstacles that disrupt the flow) and varying emissions rates.

- In Section I.C, on Page 7 continuing to page 8, delete the text following the second subordinate bullet and substitute the following:

The Awardee must be able to operate the site to meet the Round 1 and Round 2 Field Testing goals and timeline, as described in Section I.B. above. Round 1 will be the first test in an outdoor environment and will enable evaluation of the technologies under favorable, but realistic testing conditions. It will also provide an opportunity for the teams to demonstrate enhanced functionality capabilities, such as speciation of methane vs. ethane and continuous measurement. Round 2 will be the final opportunity for teams to demonstrate that they have met the MONITOR FOA goals and enhanced capability targets. The test conditions will be more challenging, with increased complexity on the site (e.g. more separators or other obstacles that disrupt the flow) and varying emissions rates.

Q3. I am not sure who to direct this to but have several questions concerning Funding Opportunity No. DE-FOA-0001546 MONITOR FIELD TEST SITE PROGRAM and am wondering if it might be easiest just to call someone involved with the proposed project.

ANSWER: Please see Section VII Communicating with ARPA-E of the DE-FOA-0001546 funding opportunity document which is in the "FOA Documents" section of the funding opportunity announcement on the ARPA-E Funding Opportunity Exchange website <http://ARPA-E-FOA.energy.gov>.

II. Questions for week ending: MARCH 18, 2016

Q4. WE PLAN TO SUBMIT A PROPOSAL FOR THE MONITOR FIELD TEST SITE. WE HAVE BEEN SPEAKING WITH [DELETED], AND THEY ARE INTERESTED IN PARTNERING WITH US. I WANTED TO CHECK WITH YOU TO SEE IF THEY ARE ELIGIBLE TO PARTICIPATE ON THE PROPOSAL SINCE [THEY ARE] ONE OF THE FUNDED TECHNOLOGY DEVELOPERS. I WANT TO MAKE SURE THAT THERE IS NO CONFLICT OF INTEREST. PLEASE LET ME KNOW IF THEY ARE ELIGIBLE TO PARTICIPATE.

ANSWER: Refer to ARPA-E's answer to Question 1 for the week ending March 4, 2016.

Q5. DOES THE LEAKED NATURAL GAS HAVE TO BE RAW GAS DIRECTLY FROM A WELL OR WOULD RESIDENTIAL/COMMERCIAL PIPELINE QUALITY GAS BE ACCEPTABLE? SPECIFICALLY, WILL MERCAPTAN (NATURAL GAS ODORANT) CAUSE DIFFICULTIES WITH ANY OF THE METHANE DETECTORS SELECTED FOR TESTING?

ANSWER: Mercaptan (CH₄S) should not be present in the gas.

Q6. DOES THE WELLPAD REQUIRE HIGH PRESSURE NATURAL GAS FOR SIMULATING A WIDE RANGE OF LEAKS?

ANSWER: Yes.

Q7. PAGE 6 OF THE RFP STATES "IT IS ADDITIONALLY REQUIRED THAT THE AWARDEE PROVIDING TESTING FOR A LARGER, MORE REALISTIC SIZED WELLPAD, SUCH AS A 20 M X 40 M SPACE. IDEALLY, MULTIPLE TEST PADS WOULD BE LOCATED IN CLOSE PROXIMITY TO FACILITATE RAPID TESTING OF MULTIPLE MONITOR TECHNOLOGIES." COULD ARPA-E PLEASE ELABORATE ON THE ADDITIONAL NUMBER OF WELLPADS REQUIRED?

ANSWER: The number of wellpads proposed by the applicant will be considered by APRA-E during the merit review process.

Q8. THE RFP REFERS OF A MINIMUM FLOW RATE OF 6 SCFH FOR THE TEST SITE. IS THERE A MAXIMUM RATE TO BE CONSIDERED?

ANSWER: No.

Q9. EXCLUDING OFFSITE LEAKS, DOES ARPA-E EXPECT MORE THAN TWO LEAKS ONSITE, AT ANY ONE TIME DURING TESTING?

ANSWER: We anticipate testing on multiple leaks.

Q10. FOR EACH MONITOR METHANE SENSORS / DETECTION SYSTEMS, WHAT IS THE AVERAGE LENGTH OF TIME TO ASSUME FOR A FIELD TEST?

ANSWER: The original MONITOR FOA specifies a 90% reduction in methane loss over 1 year which translates to the ability to detect a leak within 18 days. Many MONITOR Awardees will be able to detect a leak in far shorter time, but the 18-day window provides the maximum duration.

Q11. HOW MANY TESTS ARE TO BE CONDUCTED PER SENSOR MONITOR METHANE SENSOR / DETECTION SYSTEM PER TESTING ROUND?

ANSWER: The number of tests proposed by the applicant will be considered by APRA-E during the merit review process.

Q12. WITH REGARDS TO FLOW RATES, WHAT DEGREE OF ACCURACY IS EXPECTED FROM THE TEST SITE OPERATOR TO PROVIDE QUALITY ASSURANCE IN REPORTING TEST DATA?

ANSWER: The degree of accuracy with regards to flow rates proposed by the applicant will be considered by APRA-E during the merit review process.

Q13. DOES ARPA-E REQUIRE A CONTROLLED/CONTROLLABLE ENVIRONMENT FOR TESTING THE SENSORS INCLUDING CONTROLLING FOR ENVIRONMENTAL CONDITIONS (WIND SPEED, WEATHER, ETC.)?

ANSWER: Please see the response for Q2 in the FAQs for the week ending March 4, 2016.

Q14. FOR THE REQUIREMENT OF DETECTION WITHIN ONE METER OF A LEAK, IS THE LOCATION DETECTION EXPECTED TO BE ABLE TO DISTINGUISH BETWEEN LEAKS ONE METER OR MORE APART IN THE VERTICAL DIRECTION AS WELL AS THE HORIZONTAL DIRECTION?

ANSWER: Yes.

Q15. WHAT IS THE METHOD OF COMMUNICATION BETWEEN THE MONITOR FIELD TEST SITE AWARDEE AND MONITOR PROJECT AWARDEES FOR FIELD TEST, SPECIFICALLY AD-HOC TESTING, AND TEST PLANNING?

ANSWER: The MONITOR Field Test Site Awardee will communicate directly with the MONITOR Awardees to schedule testing activities. The MONITOR Field Test Site Awardee will also coordinate this scheduling with ARPA-E staff.

Q16. WE INTEND TO SUBMIT A LETTER OF SUPPORT FOR AN APPLICANT. OUR SUPPORT IS PROVIDING LOCATION AND EQUIPMENT FOR THE PROPOSED TEST SITE. WE HAVE ALSO BEEN ASKED BY ANOTHER APPLICANT TO SERVE ON THE TECHNICAL ADVISORY BOARD SHOULD THEY BE THE AWARD RECIPIENTS FOR THE TEST SITE (MOCK WELL PAD). WOULD PARTICIPATION IN BOTH PROPOSALS BE CONSIDERED A CONFLICT OF INTEREST LIMITING US TO PARTICIPATION WITH ONLY ONE APPLICANT?

ANSWER: ARPA-E will not provide pre-submission assessments or guidance concerning potential teaming arrangements for project teams. It is the responsibility of the Project Team to address any actual or apparent personal, organizational, financial, and other conflicts of interest within the project team in the Business Assurances & Disclosures Form as part of a complete Full Application. Since conflict of interest situations are highly fact-dependent, ARPA-E recommends that applicants consult with their legal advisors or other subject matter experts concerning potential conflicts of interest prior to submitting the completed form.