

QUESTIONS AND ANSWERS

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. Full Application Phase Questions:

Q1. ... Please advise on POC to discuss further prior to full application submittal (I did not find a concept paper review period for this, therefore request brief conversation to ensure we're aligned with our use of resources for full proposal). ...

ANSWER: Refer to General FAQ 2.6.

Q2. ... [W]e are interested in future compatibility with zero carbon fuels like Hydrogen and Ammonia. We're aware that Hydrogen blends are being used up to 12/13% in some Hawaiian islands in pipelines and that HDPE replacement pipelines are somewhat compatible with Hydrogen and existing steel pipelines are prone to corrosion with Hydrogen blends or straight hydrogen. Are there requirements on the project ... to consider future compatibility with zero carbon fuels? ...

ANSWER: REPAIR anticipates future scenarios involving different gas constituents. Category 1.1 includes *[c]ompatibility with current and future gas compositions with regard to corrosion and permeability, especially for hydrogen.*

Q3. ... If possible we like to arrange a phone discussion with you. ...

ANSWER: Refer to General FAQ 2.6.

Q4. Please provide clarification regarding the following:

Q4.1 Page 26 [FOA Section II.A] of the [FOA] states "Individual awards may vary between \$250,000 and \$10 million." ... If the estimated total project cost exceeds \$10 million, is it recommended to submit multiple proposals?

ANSWER: No. The maximum amount of Federal funding provided for any project under the REPAIR FOA is \$10 million. Allowable project costs in excess of \$10 million may be claimed as cost share.

Q4.2 Page 37 [FOA Section III.C.4] states "ARPA-E is not limiting the number of submissions from Applicants. Applicants may submit more than one application to this FOA, provided that each application is scientifically distinct." ... Is it recommended that an Applicant submit one distinct proposal for each category if proposing to work on multiple categories ... [as described at FOA Section I.D]? ...

ANSWER: Per Section I.D. of the FOA, "REPAIR has multiple categories, each of which requires diverse technical skills. Applicants may respond to an individual category or multiple categories." Each Applicant/ Project Team must determine, based on their individual circumstances, how to structure its REPAIR Full Application. Project Teams that have coherent, integrated proposals covering multiple Categories (particularly Categories 2 through 5) are encouraged to submit a single proposal. As noted

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in the FOA , “Applicants will need to address plans for integrating Category 2-4 system components into comprehensive offerings.”

However, an Applicant or Project Team may elect to submit a separate proposal for an individual Category; this would be particularly appropriate if an Applicant was planning to submit a proposal to Category 1 (Testing) and/or Category 6 (Mapping) and also to Category 2-5 (Systems component development and integration). Additionally, an entity may be a member of Project Teams for multiple REPAIR Applications.

Q5. We ... and want[] to clarify if the scope of work is limited to:

... develop the suite of technologies required to rehabilitate cast iron, wrought iron, and bare steel natural gas distribution pipes by developing technologies that will enable the automated construction of a new pipe inside the old pipe. In order for the program to be successful, the new pipe must meet utilities' and regulatory agencies' requirements, have a minimum life of 50 years, and have sufficient material properties to operate throughout its service life without reliance on the exterior pipe. ...

Or if the scope also provides separate funds for [advancing]:

... the state of gas distribution pipelines by incorporating smart functionality into structural coating materials and developing new integrity/inspection tools. It will also create 3D maps that integrate natural gas pipe and adjacent underground infrastructure.

Are these 2 separate areas of focus or [do they] need to be proposed together? ...

ANSWER: Refer to FAQ 4.2 above.

Q6. Does this FOA also consider technologies involved materials other than polymers, such as metals for repair that has the potential to meet other FOA requirement/interests?

ANSWER: The FOA does not limit the materials that can be considered for pipe rehabilitation. The coating materials need to be consistent with safe operation, and be able to be placed with minimum disruption to pipeline operations. Post deposition, pipeline operators need to have method(s) for ascertaining the functionality of the coating to establish the integrity of the pipe.

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Q7. Does a project team composed of domestic education institutions and domestic nonprofits need to provide cost-share for the REPAIR program if the team successfully receives a waiver to include an international education institution as a member of the project team, where the international institution comprises 20% or less of the total budget? If the whole team does need to include cost-share due to the presence of an international institution at less than 20% of the total budget, we assume this would fit us into the 10% cost-share category, is that correct?"

ANSWER: Project teams incorporating foreign entities receiving a waiver to perform work outside the United States are eligible for a cost share reduction in the circumstances set forth at FOA Section III.B.3, including:

Project Teams where domestic educational institutions, domestic nonprofits, small businesses, and/or FFRDCs perform greater than or equal to 80% of the total work under the funding agreement (as measured by the Total Project Cost) are required to provide at least 10% of the Total Project Cost as cost share. However, any entity (such as a large business) receiving patent rights under a class waiver, or other patent waiver, that is part of a Project Team receiving this reduction must continue to meet the statutory minimum cost share requirement (20%) for its portion of the Total Project Cost.

Q8. We write to inquire about a possible extension of the deadline for submission of the applications for Funding Opportunity No. DE-FOA-0002289, Rapid Encapsulation of Pipelines Avoiding Intensive Replacement (REPAIR).

ANSWER: DE-FOA-0002289 is being amended to revise the submission deadline to May 4, 2020 9:30 AM ET.