CHANGING WHAT'S POSSIBLE

DE-FOA-0002784 TOPIC H - SERHM FOA FAQ

QUESTIONS CAN BE SENT TO ARPA-E-CO@HQ.DOE.GOV

DEADLINE FOR QUESTIONS: 5:00 PM ET, 10/13/2023

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQS SECTION OF ARPA-E'S WEBSITE (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. WE ARE A UNIVERSITY BASED GROUP SEEKING TO APPLY FOR DE-FOA-0002784 APPENDIX H.

CAN YOU CLARIFY FOR US WHAT THE 'TOTAL PROJECT COST' (PAGE 20) MEANS FOR DETERMINATION OF THE 5% COST SHARE? IS THIS THE TOTAL DIRECT COSTS OF THE RESEARCH OR THE ULTIMATE TOTAL COSTS AFTER ADDITION OF OVERHEADS?

ANSWER: The total direct and indirect costs to complete the project. The Total Project Cost is the sum of the Prime Recipient share and the Federal Government share of total allowable costs. The Federal Government share generally includes costs incurred by GOGOs and FFRDCs.

Q2. I HAVE A QUESTION REGARDING "SPECIAL PROGRAM ANNOUNCEMENT FOR EXPLORATORY TOPICS (DE-FOA-0002784) SUBSURFACE ENGINEERING FOR HYDROGEN RESERVOIR MANAGEMENT." IS IT ACCEPTABLE TO DO TESTING USING EXISTING WELLS IN FOREIGN COUNTRIES, SPECIFICALLY TURKEY AND ITALY?

ANSWER: See Section IV.F.6 of the FOA.

Q3. I BELIEVE THAT AS A U.S. INSTITUTION OF HIGHER EDUCATION WITH NO SUBAWARDS OR COLLABORATORS, WE WILL BE REQUIRED TO PROVIDE AT LEAST 5% OF THE TOTAL PROJECT COSTS, IS THAT CORRECT?

ANSWER: See Section III B. 3 of the FOA.

Q4. I'M WRITING TO YOU FROM---REDACTED---, A COMPANY THAT MAKES LOW-COST, HIGH-FLUX, HIGH-SELECTIVITY MEMBRANES FOR HYDROGEN SEPARATION. WE ARE APPLYING TO DE-FOA-0002784, TOPIC H: SUBSURFACE ENGINEERING FOR HYDROGEN RESERVOIR MANAGEMENT. WE HAVE A FEW CLARIFYING QUESTIONS THAT WE'D LIKE TO SUBMIT:

1. **IS ARPA-E EXCLUSIVELY INTERESTED IN DOWN-HOLE GAS SEPARATIONS, OR ARE HIGH-EFFICIENCY, LOW-COST, AND LOW-LOSS ABOVE-GROUND SEPARATIONS ALSO OF INTEREST?**
2. **ARE GAS-GAS DOWN-HOLE SEPARATIONS OF INTEREST, OR IS ARPA-E ONLY INTERESTED IN GAS-LIQUID DOWN-HOLE SEPARATIONS?**
3. **WHAT DOWN-HOLE CONDITIONS IS ARPA-E MOST INTERESTED IN FOR GAS SEPARATION? GIVEN THAT PRESSURE AND TEMPERATURE CONDITIONS IN GEOLOGIC HYDROGEN WELLS ARE NOT YET WELL CHARACTERIZED, A RANGE FOR EACH COULD BE HELPFUL FOR APPLICANTS.**
4. **IS ARPA-E INTERESTED IN SEPARATIONS OF ANY SPECIFIC GAS COMPOSITIONS? FOR INSTANCE, EXTRACTION OF HIGH-N2 GEOLOGIC HYDROGEN COULD HAVE LOWER EMISSIONS PER KG/H2 THAN HIGH-CH4 SOURCES DUE TO REDUCED FUGITIVE CH4 EMISSIONS.**

I KNOW THESE QUESTIONS ARE QUITE SPECIFIC, SO THANK YOU IN ADVANCE FOR YOUR KIND CONSIDERATION. WE LOOK FORWARD TO HEARING YOUR RESPONSES, AND WE ALSO LOOK FORWARD TO SUBMITTING OUR FULL APPLICATION.

ANSWER: 1. We would consider up-stream to mid-stream technologies focused on producing hydrogen if there is a specific application to geologic hydrogen production.

2. We are interested in any relevant technologies for the production of geologic hydrogen. Gas-gas or gas-liquid downhole separations are both potentially in scope.
3. Due to the exploratory nature of this project, we are not placing limits on the relevant downhole conditions. It is up to the applicant to define and justify the relevant ranges in pressure and temperature, as well as other relevant parameters.
4. We are not prioritizing specific gas mixtures for Topics G and H.

Q5. WE ARE SEEKING CLARIFICATION ON THE FOLLOWING POINTS REGARDING OUR PROPOSAL:

IS IT ACCEPTABLE TO USE A WELL-HEAD CELLAR FOR THE GAS SEPARATION? I AM ATTACHING TWO IMAGES OF THIS CONCEPT.

1. **WOULD ANY HYDROGEN GAS PURITY ABOVE 20% (BY VOLUME AT THE WELL-HEAD) BE CONSIDERED AS "HIGH PURITY" IN THE CONTEXT OF THIS FOA?**
2. **IS THERE A REQUIREMENT ON THE SEPARATION OF WATER (VAPOR) FROM THE HYDROGEN GAS, IN TERMS OF THE WETNESS OF THE GAS?**

WE APPRECIATE YOUR GUIDANCE ON THESE MATTERS.

ANSWER:

1. Yes.
2. There are no explicit requirements on the water vapor component.