

DEADLINE FOR Concept Paper QUESTIONS: 5 PM ET, December 10, 2024
DEADLINE FOR Full Application QUESTIONS: 5 PM ET, February 18, 2026

QUESTIONS AND ANSWERS

DE-FOA-0003505 CATALCHEM-E

Please refer to the General FAQs section of ARPA-E's website for answers to many general questions about ARPA-E and ARPA-E's Notices of Funding Opportunities (NOFO). Additional questions specific to this NOFO are included below. Please review all existing General FAQs and NOFO-specific questions before submitting new questions to ARPA-E.

I. Concept Paper Phase Questions:

Q1. For the number of research catalysts synthesized and screened after N workflow iterations, it is unclear what the term "supported by in silico effects" means. Does this mean that part of the 1000 screened catalysts can only be screened through in-silico efforts or do 1000 gram scale catalysts need to be synthesized to achieve this target?

ANSWER: See Table 2., this is an experimental target requiring the synthesis and testing of 1000 catalytic materials at the gram scale. These test results can be used to help validate and strengthen *in silico* techniques

Q2. I am reaching out regarding the potential applicability of the Sabatier reaction ($\text{CO}_2 + 4\text{H}_2 \rightarrow \text{CH}_4 + 2\text{H}_2\text{O}$) as an alternate reaction pathway under the CATALCHEM-E initiative. We recognize that this is a case we would have to make more fully in the grant, but we would appreciate guidance on whether this chemistry aligns with ARPA-E's strategic vision for catalytic and reaction co-design workflows under CATALCHEM-E.

ANSWER: ARPA-E will not pre-assess the responsiveness of potential applications. Please refer to the NOFO and ARPA-E General FAQ 2.7.

Q3. I would greatly appreciate your guidance on the following regarding specifications in this NOFO:

1. System Requirements and Upgrades:

The guidance specifies that teams must not undertake "initiator system design, procurement, construction, and development tasks." Could you confirm whether this allows for upgrading or adapting existing systems, as opposed to procuring entirely new systems? For example, could existing HTE hardware or AI/ML infrastructure be modified or expanded to meet program needs?

ANSWER: Applicants may propose upgrading existing systems within a budgetary reason.
Letters of Intent and Entity Involvement:

2. For the full application, it is required to submit letters of intent from various providers (catalyst manufacturer, HTE hardware provider, data infrastructure provider, and performance testing provider). Can a single organization fulfill multiple roles and provide multiple letters of intent, or do the letters need to come from four distinct entities?

ANSWER: See I.F and III. C. of the NOFO. A single organization can provide several resources and

mention those in a single letter of intent.

3. Team Composition Changes:

If a concept paper is submitted with a particular team composition, are we permitted to add or replace partners before the submission of the full application? If so, are there any specific requirements or restrictions regarding such changes?

ANSWER:

1. Yes, the team composition can change prior to submission of the full application.
2. No, the Full Application must conform to the requirements in Section III.C. of the NOFO.

Q4. I have a question for the DE-FOA-0003505 webinar:

ARPA-E is based on the DARPA model of pushing applied science and engineering to its limits for breakthrough discoveries. This generally is done with focused NOFOs and performed by companies that can bring the knowledge to fruition very quickly. For this catalysis project, the first 18 months involves requiring an intensive proof-of-concept with very narrow chemical reaction choices that will be a waste of time for most companies. The results of that study will also never be published by companies as it would likely involve trade secrets and other IP concerns. But mostly, it will dissuade any company focused on their commercial pathway in a particular area of chemical catalysis from wanting to apply for this funding. This will then be a mainly academic exercise which defeats the purpose of ARPA-E. Why is the NOFO so narrowly focused on the chemistry when there are a wide array of applicable chemistries that do not have world-scale project development in the near term? The definition of “commercial” in the non-interested chemistry list is atypical to what we see in actual world-scale commercial development plants (either existing or being built).

ANSWER: Phase 1 is about establishing a methodology and using the reference chemistry as a way to assist in validating across length scales

Q5. On page 5, total funds of “Approximately \$35 million” are identified for this FOA with an expected 10 to 12 awards and individual awards expected to be between \$2.5 million and \$3.5 million.

Question – Is this \$2.5 million and \$3.5 million for just Phase 1 or is it for Phase 1 and phase 2 combined?

ANSWER: The Federal Share is for both Phase 1 and 2.

Q6. My team has compiled the following questions for next week’s webinar:

1. The first project requirement is “*Develop an optimized heterogeneous technical catalyst within the first 18 months of the project using one of the reference chemistries from Table 1 while meeting the performance targets in Table 2.*” Does this mean that it is required to synthesize >1000 powder catalysts and >50 technical catalysts at the 1 kg scale during phase one? If the team is successful, it might not be necessary to make such large quantities of catalyst.
2. Do all technical catalysts need to be tested at the kg scale or can lifetime testing be done with the same batch at the gram scale? The same question applies for the 2000 h lifetime tests – is this necessary for all 50 catalysts?
3. Does all collected data need to be made publicly available?
4. Can data be shared across different teams?
5. Does the budget need to be allocated equally over the two phases?
6. Because there is only one category in the CATALCHEM program what should be written in the header of the concept paper for “Technical Category?”

ANSWER: 1. In Table 2, The description of that particular workflow metric is “Number of research catalysts synthesized in gram (g) quantities and screened after N workflow iterations”
2. As stated in the Table 2 “Phase 1 summary of the workflow and reference reaction targets.” of the

NOFO under “Number of technical catalysts synthesized in kilogram (kg) quantities after N workflow iterations”, > 50 technical catalyst formulations at kg scale is the expectation. This enables a sufficient amount of technical catalyst performance and characterization data to be included in the learning algorithm training activities. It should be noted that technical catalyst performance testing can occur at 10s – 100s gram-scale provided engineering relevant reactor dimensions are used for modeling even though the batch synthesis is executed at kg scale. This also ensures that enough material is available for any repeat runs. All 50 technical catalysts must undergo 2000 hr lifetime testing as indicated in Table 2.

3. On page 23 of the NOFO, it states “Awardees are also required, post-award, to submit a Data Management Plan (DMP) that addresses how data generated in the course of the work performed under an ARPA-E award will be preserved and, as appropriate, shared publicly”. On page 69 of the NOFO, it states “Generated Data: The U.S. Government normally retains very broad rights in technical data produced under Government financial assistance awards, including the right to distribute to the public. However, pursuant to special statutory authority, certain categories of data generated under ARPA-E awards may be protected from public disclosure for up to for up to ten years (or more, if approved by ARPA-E) in accordance with provisions that will be set forth in the award. In addition, invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.”
4. Data sharing across teams is not a requirement in this program.
5. There are no requirements in this NOFO specifying equal allocation of proposed budgets across both phases.
6. “CATALCHEM-E” can be also be listed as the single technical category

Q7. I have two question regarding requirements for the grant:

Measurement of Catalyst Weight

Does the required kilogram scale (1kg +) of technical catalyst refer exclusively to the catalyst material itself (e.g., nanoparticles, washcoat)? Or can it include the weight of the engineered support materials (e.g., uncoated pellets, uncoated monoliths, or carbon paper electrodes) as part of the total?

Time-on-Stream Requirement:

The guidelines state a requirement of >2000 hours of time-on-stream for technical catalyst scale syntheses. Could you clarify whether this requirement applies to each of the 50 kg-scale technical catalysts individually (resulting in a total of 100,000 hours of testing across 50 samples)? Or can we test a subset of the most promising catalysts, provided their cumulative time-on-stream exceeds 2000 hours?

ANSWER: 1. kg-scale refers to the catalyst material itself

2. All 50 technical catalysts must undergo 2000 hr lifetime testing as indicated in Table 2. The most promising catalysts are already down selected from the 1000 research catalyst candidates. Parallel testing strategies may be useful across all scales.

Q8. We are currently assembling a team in response to the recent CATALCHEM-E NOFO. We had a question about the participation of a collaborator from a foreign university (University of Patras, GREECE). Can a foreign individual participate on an ARPA-E proposal as a "direct" co-PI or a sub contract of the lead institution (Penn. State University)?

ANSWER: See Section II.A of the NOFO.

Q9. My company is performing catalyst research that may be relevant to the CATALCHEM-E funding opportunity, but we lack expertise in AI/ML and automation. Will a teaming partner list be made available for this FOA? I think that by combining my team's chemistry expertise and industrially-relevant question with the AI/ML/automation expertise of another group, we would be able to put together a very strong proposal.

ANSWER: Please review the Teaming Partner List - ([ARPA-E eXCHANGE: Teaming Partners](#))

Q10. I had a question about submitting multiple proposals for the NOFO. It is clear that one PI can submit multiple proposals within the same NOFO (either SBIR/STTR or not), but it isn't clear if a PI can lead a proposal in (ie SBIR) and then be a sub on another proposal that target the non-SBIR proposal.

ANSWER: You may apply as the Recipient for CATALCHEM-E DE-FOA-0003506 (SBIR/STTR) and be a Project team member (not the Recipient) on CATALCHEM-E DE-FOA-0003505. Per Section II.C of the NOFO, you cannot apply to both NOFOs as the Recipient; Small business Applicants that qualify as a "Small Business Concern" may apply to only one of the two CATALCHEM-E NOFOs as a Recipient, but may join multiple applications to either NOFO as a subrecipient simultaneously.

Q11. Table 1 in the NOFO lists as one of the reference chemistries $\text{H}_2\text{O} \rightarrow \text{H}_2 + 1/2\text{O}_2$, with the "Reactor type" being SOEC cathode.

The electrolysis reaction requires both an anode and a cathode. Can you clarify what is meant by a Reactor type that is a SOEC cathode?

Related to this, does the listing in Table 1 imply that the proposal should focus on the cathode, at which H_2 evolution occurs and does not suffer from large overpotential? Would efforts that include the anode, where oxygen is evolved and at which the overpotential is larger, be considered out of scope?

ANSWER: The cathode-side reference performance metrics for the solid oxide electrolyzer cell (SOEC) chemistry should focus on the catalysis of the steam side hydrogen evolution reaction; $2\text{H}_2\text{O} + 4\text{e}^- \rightarrow 2\text{H}_2 + 2\text{O}^{2-}$ as noted in Table 1 "List of reference chemistries recommended for this program" of the NOFO for electrochemical gaseous feeds.

On page 17 in the NOFO, it reads "Projects must use reference chemistries from Table 1 for workflow validation. Commercially available catalysts operating in real-world industrial-scale reactor units must serve as controls to ensure data integrity and as benchmarks"

On page 20 in the NOFO, it reads "Applicants selecting other reference chemistries outside of Table 1 should provide a strong justification for their choice in terms of: 1) quad-level energy impact, 2) availability of data from a commercial reactor and data across multiple scales (laboratory, pilot, commercial), 3) existing need for catalyst discovery with reasonable opportunities for optimization, 4) catalyst composition known for re-discovery, 5) availability of kinetics/rate laws, and 6) importance of reference chemistry, feedstocks and products for ARPA-E goals and the net-zero carbon emissions 2050 goals."

Q12. Can the reaction investigated in Phase 2 be the same reaction that was investigated in Phase 1?

ANSWER: Yes, all reference chemistries listed in Table 1 are also appropriate for additional study in Phase 2.

Q13. We would like more information about foreign entity/foreign work waivers. Specifically, how a foreign entity should factor the waiver requirement when deciding whether to prepare a full application.

If ARPA-E encourages a foreign entity to submit a full application following its concept paper, can the entity assume that it will be granted a waiver in the event that its full application is selected?

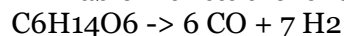
ANSWER: See Section II. A. of the NOFO. ARPA-E will not pre-assess an applicant's proposal. ARPA-E's decision to Encourage a Concept Paper to submit a Full Application does not indicate that foreign entities included in the project team will be granted a foreign entity or foreign work waiver.

Q14. Responses to the CATALCHEM-E NOFO indicate two Phases of 18 month each, with the implication that there will be a stage gate between phases and the clarity that not all projects that enter Phase 1 will be approved to enter Phase 2. In this regard, is the Federal contribution of up to \$3.5 million listed in the NOFO only for Phase 1 activities, or is the Federal contribution intended to cover both Phase 1 and Phase 2?

ANSWER: See Q5.

Q15. Question about Table 1

In Table 1 it lists the following reaction in the liquid phase:



If water is present in the liquid phase CO would be converted into CO₂ according to the following reaction:



If we choose to focus on the reaction in Phase 1 where CO₂ is the main product instead of CO would we need to provide a strong justification for our choice in the proposal in terms of 1) quad level energy impact; 2) availability of commercial reactor data, 3) existing need for catalyst discovery.....

ANSWER: Yes, the following reaction in the presence of water is acceptable for reference; $\text{C}_6\text{H}_{14}\text{O}_6 + 6 \text{H}_2\text{O} \rightarrow 6 \text{CO}_2 + 13 \text{H}_2$

Q16. I was very interested in joining your webinar today (ARPA-E CATALCHEM-E), but could not due to a scheduling conflict. Is there a place where I could access a recording of the session, or perhaps somewhere I could get more information about what was discussed?

ANSWER: The decision for public release of the webinar is still under review with ARPA-E leadership. A notice will be posted if it becomes available.

Q17. Thanks for the webinar today this was very informative. We have a technology we are developing focused of Fe and P recovery, through vivianite and internal Fe recycling. This technology concept has great carbon footprint reduction impacts, energy impacts, market and value.

However, I did not see Fe mentioned directly as a metal of interest. Therefore, i was wondering if this falls outside of this call or could be considered within. We don't want to put a proposal together when this falls outside of the scope of the call.

ANSWER: No metals were called out specifically in the webinar. Please review the NOFO to assist in making your application decisions.

Q18. webinar question

Table 1 is “recommended” chemistries. We don’t care about those chemistries on the list and don’t have our own reference for them. Are we able to choose a relevant carbon-based chemistry? Is ARPA-E biased towards those on the list? Not an all-of-the-above approach?

ANSWER: Phase I is about developing an accelerated method which requires known reference chemistry.

On page 20 in the NOFO, it reads “Applicants selecting other reference chemistries outside of Table 1 should provide a strong justification for their choice in terms of: 1) quad-level energy impact, 2) availability of data from a commercial reactor and data across multiple scales (laboratory, pilot, commercial), 3) existing need for catalyst discovery with reasonable opportunities for optimization, 4) catalyst composition known for re-discovery, 5) availability of kinetics/rate laws, and 6) importance of reference chemistry, feedstocks and products for ARPA-E goals and the net-zero carbon emissions 2050

goals.”

Q19. Is there a recording available for the CATALCHEM-E webinar that was held on 12/5?

ANSWER: The decision for public release of the webinar is still under review with ARPA-E leadership. A notice will be posted if it becomes available.

Q20. Clarification on Scope of OER for Phase I in FOA (DE-FOA-0003505).

We are in the process of preparing a white paper for this FOA, with plans to focus on the oxygen evolution reaction (OER) for Phase I. Based on Table I in the FOA, it appears that the reaction scope is restricted to the PEM anode in an acidic environment, with technical catalyst forms limited to MEA or GDE.

We were wondering if it might be possible to study the OER using an anion exchange membrane (AEM) in a basic environment for Phase I. Could you please clarify whether this would be within the allowable scope of the FOA?

ANSWER: It is possible.

On page 20 in the NOFO, it reads “Applicants selecting other reference chemistries outside of Table 1 should provide a strong justification for their choice in terms of: 1) quad-level energy impact, 2) availability of data from a commercial reactor and data across multiple scales (laboratory, pilot, commercial), 3) existing need for catalyst discovery with reasonable opportunities for optimization, 4) catalyst composition known for re-discovery, 5) availability of kinetics/rate laws, and 6) importance of reference chemistry, feedstocks and products for ARPA-E goals and the net-zero carbon emissions 2050 goals.”

Q21. What does 'Technical Category' mean on the first page? The NOFO doesn't have an exact match for this term beyond mentioning it.

ANSWER: “CATALACHEM-E” can be listed as the Technical Category

Q22. ... I have a question regarding eligibility, I am a Canadian citizen, and I have applied for US Green card. Can I apply for this grant opportunity? I was eligible for a prior ARPA-E grant which only required that I have applied for a U.S. Green Card by the time of concept paper submission.

ANSWER: See Section II of the NOFO.

Q23. We have a question regarding the kg-scale technical catalyst synthesis regarding whether all 50 need to be independently new formulations or can they include repeats of the same formulation. Specifically:

Are the 50 “technical catalysts synthesized in kilogram (kg) quantities after *N* workflow iterations” required to be all new formulations down selected from gram quantities? Alternatively, can the kg-scale technical catalyst include repeats of the same formulation, each at kg scale, to investigate variability across production?

ANSWER: It is anticipated that each kg-scale technical catalyst formulation will be different. It should be noted that technical catalyst performance testing can occur at 10s – 100s gram-scale provided engineering relevant reactor dimensions are used for modeling even though the batch synthesis is executed at kg scale. This also ensures that enough material is available for any repeat runs.

II. Full Application Phase Questions:

Q24. If a project team includes an FFRDC, are indirect costs capped at 15% overall for the entire project budget including the FFRDC, or just the non-FFRDC portion of the budget?

ANSWER: Disregard this requirement. The 15% cap on indirect costs is no longer applicable to this NOFO and the NOFO has been modified accordingly. Selected awardees will negotiate indirect costs in the future based on new guidance.

Q25. We submitted a concept in November of 2024. Yesterday we received an “encouraged” notification for the concept. The PI has since left the organization. Can we change the PI and still submit the full proposal for this concept?

ANSWER: Yes, the makeup of the Project Team can be changed between the Concept Paper and Full Application phases.

Q26. This question is regarding the requirements for Letters of Intent:

Would it be acceptable to include a letter of intent from a university partner that explicitly addresses industry relevance?

ANSWER: Yes.

Q27. We are seeking clarification regarding the requirement for FFRDC authorization for DOE/NNSA laboratories responding to DE-FOA-0003505 (CATALCHEM-E).

Section VI.D.2 of the NOFO and the Business Assurances & Disclosures Form indicate that DOE/NNSA FFRDCs must obtain and submit written authorization from the cognizant DOE/NNSA contracting officer as part of the Full Application package. However, we note that the Office of Science memorandum titled “Streamlining Strategic Partnership Projects and Cooperative Research and Development Agreements” (June 3, 2025) states that National Laboratory proposals submitted in response to a DOE NOFO no longer require contracting officer approval at the time of proposal submission, provided the proposal is aligned with the laboratory’s M&O contract scope.

Given this guidance, we would appreciate confirmation on the following:

For DOE Office of Science FFRDCs responding to this NOFO, is submission of a separate FFRDC authorization letter still required with the Full Application, even when the laboratory is operating under the Office of Science streamlining memorandum?

We have reviewed the CATALCHEM-E FAQs and did not find this specific question addressed.

ANSWER: The Office of Science memorandum only applies to the 10 DOE National Labs operating under the Office of Science (<https://www.energy.gov/science/office-science-national-laboratories>). If the lab/FFRDC in question is one of these 10, the contracting officer approval (“FFRDC Authorization” in the NOFO) is not required. The Field Work Proposal is still required for all labs/FFRDCs.

Q28. I have the following questions about the CATALCHEM-E program. Please let me know the answers at your earliest convenience.

1. Section I.F requires LOIs for four support roles. If a single organization covers *two* of the required LOI categories (e.g., catalyst synthesis and pilot-scale testing), may they submit one LOI covering both, or do you require separate letters such that we still submit four distinct LOIs?
2. We have an industry technical advisor who will provide input informally, with no subaward, no contractor/vendor line, and no reimbursement. (a) May we include a letter of support from this advisor, and where should it be submitted (e.g., with the LOIs or elsewhere), given the FOA's specified submission components? (b) Would listing an unfunded industry advisor as part of the team/advisory structure (even with \$0 budget) affect eligibility for the 5% reduced cost share category that applies to teams composed exclusively of domestic IHE/nonprofit/FFRDC/labs?
3. For a standard U.S.-based prime and subrecipient structure, do you expect any consortium-style collaboration agreement, or is team governance handled solely within the Technical Volume template?
4. If we procure testing/HTE services from a foreign contractor/vendor (not a subrecipient), does ARPA-E expect (i) a Foreign Entity Participation waiver, and separately, (ii) a Foreign Work Waiver if any work occurs outside the U.S.? For a contractor/vendor, should the waiver request be provided via the prime's BADF, or does the contractor/vendor submit its own BADF?
5. On the 5% reduced cost share criterion, if the prime and all subrecipients are U.S.-based IHEs/national labs, but we procure testing/HTE services from a foreign vendor/contractor as a procurement cost (not a subaward), does that disqualify us from the 5% category? If yes, would we instead be evaluated under the 10% reduced cost share category ($\geq 80\%$ of work by domestic entities)?

ANSWER: 1. The applicant can either request two distinct letters of intent or ask that the entity clearly and specifically reference both roles in one letter.

2. Teams should not provide any letters of support not specifically requested in the NOFO. The inclusion of this unfunded advisor does not affect eligibility for the Reduced Cost Share Requirement of 5%. If this individual is named in the Technical Volume as part of the team/advisory structure, the application should include a Biosketch and a CPS Common Form for this individual.
3. Collaboration Agreements are only required when applying as a Consortium. Please reference the CATALCHEM-E NOFO at Section II.A.3.
4. Yes, both a Foreign Entity Participation Waiver and a Foreign Work Waiver must be submitted for the proposed contractor/vendor. Contractors/vendors do not need to submit their own BADFs at the time of application, so these waivers should be provided in the Project Team Lead's BADF.
5. The definition of Project Team includes only the Project Team Lead and Subrecipients, so the inclusion of a foreign vendor does not affect eligibility for the Reduced Cost Share Requirement of 5%.

Q29. Regarding the Letters of intent, if an entity will be fulfilling multiple of the following roles: 1) Technical catalyst manufacturer; 2) Reactor-scale testing service provider; 3) HTE hardware resource provider; and 4) Data infrastructure resource provider; should they submit one or multiple letters associated with the proposal?

ANSWER: See Q28.1

Q30. Regarding the Biosketch and CV requirements in the Full Application (Section III.C) in both the modified CATALCHEM-E and SUPERHOT NOFOs, where should applicants upload these documents, or should we append them to the end of the Business Assurances and Disclosures form? There is not a placeholder to upload them in the ARPA-E Exchange system.

ANSWER: Placeholders to upload these files have been added to eXCHANGE under the "Upload and Submit" tab.

Q31. Regarding AI application use (Section IV.E) in both the modified CATALCHEM-E and SUPERHOT NOFOs, where in the technical volume should we address the use of generative AI? Is the executive summary sufficient or should the disclaimer be on the cover page? It's not referenced on the technical volume templates.

Applicants must indicate in the project summary the extent to which, if any, generative Artificial Intelligence (AI) technology was used and how it was used to develop their application or proposal.

ANSWER: The applicant can either include the disclaimer on the cover page or in the executive summary. Please note that the executive summary is limited to 1 page.

Q32. We would appreciate clarification regarding the expected duration of Phase I. We understand from the NOFO that the CATALCHEM-E program consists of two phases, each lasting 18 months: Phase 1 (Development), followed by Phase 2 (Discovery). At the same time, in other SBIR/STTR programs, Phase I efforts are often structured with shorter durations (e.g., 6–9 months), particularly when budgets are limited.

Given the Phase I budget constraints, we would like to ask whether it is permissible to propose a shorter Phase I period (e.g., 6 or 9 months) while meeting the Phase 1 technical objectives, or whether the Phase I period under CATALCHEM-E is required to span the full 18 months as specified in the NOFO.

ANSWER: The CATALCHEM-E Phases (1 and 2) are distinct from the SBIR/STTR program Phases (I, II, and IIS). For SBIR/STTR projects, CATALCHEM-E Phase 1 would likely encompass SBIR Phase I and all or most of SBIR Phase II.

Q33. In preparing a proposal for submission under DE-FOA-0003505, the NOFO states that the Federal share of awards may vary between \$2.5 million and \$3.5 million. Given the metrics and components required in the NOFO, it is extremely difficult to perform the required scope of work within the \$3,500,000 budget limit. Is it possible to submit a proposal with a budget in excess of \$3,500,000?

If yes, would this proposal still be considered competitively in review?

ANSWER: The Federal share of awards is limited to the range indicated in the NOFO. Applicants may propose any amount of cost-share necessary, above the minimum required, to complete their proposed project.

Q34. Our scientist will be participating as the Team PI for the full proposal submission. We note that the institute is required to register with SAM and obtain a UEI.

Given the submission deadline of 25 February 2026, the institute may not be able to complete the UEI registration in time, as internal approvals are needed before we can proceed.

Could you advise whether the Team PI may provide the UEI after the submission once it becomes available? Alternatively, may we indicate our Unique Entity Number (UEN) for the purpose of submission?

ANSWER: Project Team Leads / Recipients must be registered with SAM and have a UEI prior to submitting a Full Application. Subrecipients do not yet need to have a UEI, but need to indicate in the Business Assurances and Disclosures Form the date when the process to obtain one began or will begin. Recipients cannot make a subaward to an entity unless the entity has provided its UEI.

Q35. Can I confirm that the budget periods for the “CATALYTIC APPLICATION TESTING FOR ACCELERATED LEARNING CHEMISTRIES VIA HIGH-THROUGHPUT EXPERIMENTATION AND MODELING EFFICIENTLY (CATALCHEM-E)” is to be broken down by 3 12-month budget periods and not 2 18-month budget periods? The NOFO specifically states on page 19 that the program is composed of two phase, each lasting 18 months. “Submissions must propose project plans and budgets for both Phase 1 and Phase 2. Funding for both phases will be obligated at the start of the Period of Performance...”

The workbook provided in eXCHANGE is a template for 3 12-month budget periods.

ANSWER: The SF-424A Budget Justification Workbook should be completed as presented with funding aligned to Year 1, Year 2, or Year 3. Please provide an overview of the budgets for Phase 1 and Phase 2 in Section 5 of the Full Application Technical Volume.

Q36. I have a few questions regarding the "Past Support" section of the SciENCv Current, Pending, and Past Support document.

36.1 When entering "Person-Months per year devoted to the project" for past projects, what values should be used? Since these projects are complete and have no current effort, I attempted to enter 0.00, but the system returned an error.

36.2 Additionally, what information should be included in the "Statement of Potential Overlap" for these completed projects?

ANSWER: 36.1 - For projects that are complete and have no current effort, please provide the number of person-months per year that were devoted to the project when it was last active.

36.2 - Please reference SciENCv definitions ([Common Form for Current and Pending \(Other\) Support - Policies | NSF - U.S. National Science Foundation](#))

Q37. In preparing a proposal for submission under DE-FOA-0003505, we have a question on how and where to reflect the budgeted TTO costs of subrecipients. The TTO costs are to be reflected on the Budget Justification Workbook, tab h. Other. However, the subrecipients costs are to be entered as one annual sum in tab f. Contractual. How and where should we identify the subrecipient TTO costs so that they are reflected in the total TTO on the spreadsheet?

ANSWER: If TT&O costs from a Subrecipient are being counted toward the 5% requirement, those costs should be included and clearly labeled as belonging to that Subrecipient in tab h. Other, and should be subtracted from the total aligned with that Subrecipient in tab f. Contractual.

Q38. Do we need to test the Phase 2 technical catalysts in a pilot-scale reactor?

We ask this because for Phase 1, the third column of Table 2 clearly indicates, 'TA4', for the time-to-stream and carbon balance requirements. But for Phase 2, there is no clear indication of 'TA4' in any of the Reaction Metrics in Table 3. Does this mean we can evaluate the Phase 2 technical catalyst in smaller scale electrolyzers (~100 cm²) without the need of a industry partner doing pilot-scale electrolyzer stack testing at 1000s cm²?

ANSWER: TA4 applies to both Phase 1 and Phase 2. An industry partner is needed for both phases.

Q39. I'm writing with a brief clarification question regarding Table 1 in the NOFO (Reference Chemistry). For the water-splitting reference, the table appears to specify PEM electrolyzer/MEA as the reference electrode chemistry.

Could you please clarify whether the intent is to limit the reference water-splitting baseline to PEM only, or whether AEM electrolyzer MEAs are also considered within scope? We ask because AEM MEA-based water splitting is increasingly relevant for low-cost, scalable electrolyzers, and in many R&D programs it is viewed as equally (and in some cases more) important than PEM for future deployment, as well as other electrochemical processes.

Would the CATALCHEM-E program consider allowing AEM MEA as an alternative reference chemistry, alongside PEM in Table 1's reference category? We want to ensure our proposed benchmarking and technical targets align cleanly with the program's intent.

ANSWER: We recognize AEM electrolyzers as a commercially available, mature technology that could provide the multiscale data required to develop Phase 1. Teams should use their own judgement when selecting systems outside of those provided in Table 1 based on the criteria mentioned in the NOFO (See Section I.E.1).

Q40. On p.45 of the NOFO, it states the second component of the application is a Justification Table based on Table 4. The NOFO states that "This Justification Table component must not exceed three pages to answer all questions (excluding W1, which will be a part of the Seventh Component, Summary Slide) and must be in Adobe PDF format."

However, in ARPA-E eXCHANGE, there is not an available field under the "Upload and Submit" tab to upload the Justification Table component of the application.

Please advise on how we should include this component with the application.

ANSWER: A placeholder to upload this file has been added to eXCHANGE under the "Upload and Submit" tab.

Q41. In Modification 2 of the CATALCHEM-E NOFO, language regarding a 15% indirect cost cap was inserted. However, the policy flashes related to this cap are no longer applicable, per DOE policy flash 2026-30 <https://www.energy.gov/management/pf-2026-30-indirect-cost-rates-policy-flashes-and-financial-assistance-letter-no-longer>. Can you please confirm that section 1.H.15 MAXIMUM LIMIT ON INDIRECT COSTS is no longer applicable for CATALCHEM-E submissions?

ANSWER: See Q24.

Q42. We intend to submit a full proposal in response to this funding opportunity and have recently established a collaboration with one of the world leaders in catalyst manufacturing to support the scale-up of our catalysis efforts and process development under this project. We respectfully request confirmation that they can be included as the industrial partner on the proposed efforts.

ANSWER: ARPA-E will not pre-assess the viability of proposed industry support. Applicants must submit a letter of intent from a catalyst manufacturer or a third party troller that can synthesize the catalyst to appropriate mass scale (kg scale) to be compliant.

Q43. We are preparing a proposal for the funding opportunity DE-FOA-0003505 and have the following questions:

1. We are an academic institution with a fundamental research exclusion from export controls. Our proposal team will include industry partners for the applied portions of the project, i.e. synthesizing at mass scale, testing, HTE hardware resource, and data infrastructure. Does this organizational structure comply with the expectations of the program?
2. Is it possible that export control language be waived or modified upon award for the academic institution performing fundamental research, for example, regarding foreign national "approval".

3. The Technical Volume indicates the project consists of two phases. The Budget Justification Work template is structured as three years. Does the budget need to be reflected by Phase in the proposal?

- ANSWER:** 1. ARPA-E will not pre-assess the viability of a proposed project team.
2. ARPA-E will not pre-assess or waive the export control responsibilities for proposed projects. If awarded, the Recipient is required to comply with U.S. export control laws and regulations in the performance of work under their Award.
3. See Q35.

Q44. Can you confirm that the “letters of intent from the industry partners to perform various services” would be letters of intent from vendors who are performing the various services versus subawardees?

If so, I assume these vendors would not be required to contribute to cost share; is it correct that any committed cost share would need to come from our institution and/or any subawardees?

ANSWER: Please see Section I.F for specifics on required letters of intent. This section states that “the entities mentioned above could be a participant on the submission or a third-party vendor.” Vendors are not required to contribute Cost Share, so the Cost Share for the project needs to come from the Project Team Lead and any Subrecipients.

Q45. Can you please confirm whether a Field Work Proposal and Contracting Officer (CO) authorization are still required for this call for FFRDCs at the time of proposal?

Based on the DOE memorandum dated June 3, 2025, “Streamlining Strategic Partnership Projects and Cooperative Research and Development Agreements,” authorization from the cognizant CO for the FFRDC is expected to be provided at the time of award rather than at the time of application.

ANSWER: See Q27.

Q46. 1) Do subrecipients need to complete separate budget justification workbooks?
2) For the Business Assurances and Disclosures form, the FOA says each member of the project team must complete. Does that mean each individual or each entity?

- ANSWER:** 1. No, Subrecipients do not need to complete separate budget justification workbooks.
2. Each entity must complete a separate Business Assurances and Disclosures Form (BADF). The BADF should name all Covered Individuals participating from the entity.

Q47. I see the full application deadline for NOFO DE-FOA-0003505 has changed to February 25, 2026, but the deadline for the concept paper remains December 10, 2024. I want to clarify whether it still requires a concept paper which is submitted before 12/10/2024 and approved then to submit the full application or not.

ANSWER: Only applicants that submitted a compliant and responsive Concept Paper by the stated deadline and have an existing Control Number are eligible to submit a Full Application.

Q47. On page 47 of NOFO, it states, “Applicants should submit separate Business Assurances & Disclosures Forms for each member of the Project Team.” Does this mean that each individual person must submit the BADF, or each separate organization (so, one BADF per organization regardless of how many personnel are participating)?

ANSWER: As noted in the BADF instructions, “Each organization that is a member of the Project Team



is required to provide and submit the information requested in this form with the Full Application.” The BADF requires each organization to list all covered individuals for their respective organization.