HR001126S0005 High-efficiency Nitrogen Oxidation (HNO3)
Frequently Asked Questions (FAQs)
as of 1/27/26

65Q: Where do FFRDCs submit their proposals? Is it through BAAT?

65A: Yes, they should submit through BAAT.

64Q: Section 13. Representations and Certifications contained in Attachment D, Volume 1 Technical and Management Template requires proposers requesting procurement contracts to complete the Procurement Reps and Certs dated 2024-01-25. When accessing the link contained in the solicitation for the reps and certs, we also found a newer version dated May 2024. Which version should be submitted with our proposal?

64A: Please use the newer version.

63Q: Specifically, the guidance asks proposers to identify whether each task/subtask is fundamental research or CUI and to provide a brief justification. We want to confirm whether there are any implications or concerns with proposing certain tasks as CUI under an Other Transaction (OT) agreement that is exempt from CMMC Level 2 requirements. Are there any additional handling, security, or compliance requirements we should plan for beyond those already specified in the solicitation?

63A: No, there are only the handling, security, and compliance requirements described in the solicitation.

62Q: Must OTA recipients have CMMC compliance in place by the time the award is granted? Or will there be allotted time to allow the OTA recipient to reach compliance during the negotiation period before program execution if the award is granted, particularly as it is unknown what CMMC level will be designated by the Government to the contract?

62A: No, CMMC only applies to procurement contracts.

61Q: Assuming that the reactor produces 10-20% acid concentration, downstream increase to 68% can be handled very efficiently by an MVR system. However, MVR is a technology that works at large industrial scales and is very difficult to scale down even to Phase 2 (and, of course, to Phase 1b) production rates. Would it be acceptable to use a simpler, but much less energy-efficient, technology for downstream product concentration, which will not fit into the total plant power limits of the program, but with clear explanation that for large-scale production a much more energy-efficient MVR will be used?

61A: The overall system is required to meet the SWaP metrics for the program.

60Q: Are subcontractor leads expected to travel to Washington, DC and LLNL, or travel limited to the prime PI?

60A: Travel for subcontractor leads is at the discretion of the Prime for the proposal.

----------←←←New Q/A←←←----------

59Q: Can you please clarify the Sam.gov registration and UEI requirements for subrecipients? At the time of proposal submission, is it acceptable for subrecipients to have a UEI but not full Sam.gov entity registration? Prior to award, will subrecipients need to have the full entity registration completed and active? Our potential subrecipient partners are new startups that are not yet registered at Sam.gov and do not yet have a UEI.

59A: In order to directly receive an award as the prime, you must be fully registered in SAM with an active registration. SAM registration is required to receive an award; however, proposals can still be submitted while working through the registration process. For subcontractors, the prime has to determine the subcontractor's responsibility i.e., exclusions, debarments, etc., so to do so, the subcontractor would need to be registered.

58Q: Could DARPA clarify whether supporting empirical data is required for all proposed methods, or whether empirical data, literature citations, and calculations are provided as applicable, with literature and first-principles analysis being sufficient for truly innovative approaches? If empirical data is required, could DARPA provide guidance on what forms of evidence would be considered sufficient for novel approaches where experimental datasets are still emerging (e.g., proxy measurements, validation of underlying physical mechanisms, etc)?

58A: The proposal must include a clear and technically rigorous justification, supported by data, demonstrating how the proposed approach will achieve the HNO3 metrics (see p. 5 of the BAA). We understand that empirical data may not be available for all proposed methods; however, relevant literature citations and calculations should be included where applicable. There is no preference for the form of empirical data.

57Q: The instructions appear to imply that each organization (prime and subcontractors) should complete the budget based on its own fiscal year, rather than all parties aligning to the prime's fiscal year. Could you please confirm whether this interpretation is correct?

57A: The instructions are for the prime in Attachment E; subs only fill out Attachment F. The prime should coordinate with the subcontractor regarding costs. To capture accurate costs, it is recommended that subcontractors should propose the effort based on their own fiscal year when drafting Attachment F. All costs should be reflected accurately when aligning with the period of performance of the work.

56Q: Could you please advise whether this material is expected to be returned to the performer following Phase 1b evaluation or retained by the IV&V team?

56A: The material will be retained by the IV&V team.

55Q: To clarify the response in 34A, would DARPA be willing to establish a new interagency agreement and/or modify an existing interagency agreement with our FFRDC sponsor to support this effort should our proposal be selected?

55A: It will be addressed on a case-by-case basis.

54Q: In the budget template, could you please advise whether the primary requirement in the Total Amount tab is: 1) A breakout by Phase only, or 2) A breakout by Phase and contractor fiscal year? If the latter is preferred, do you have a recommended way to modify or extend the template to accommodate this structure without breaking the embedded formulas?

54A: It is a breakout by Phase.

53Q: If we build a system capable of generating 1,000 L/day 68% HNO3 at 8 kW, we can add a battery pack to decrease the input power requirement to 4 kW (or 1 kW for Phase 1b) but it will have to run intermittently. It will still achieve more than the 50 L/day. Is this charging and intermittent use acceptable?

53A: There is nothing in the BAA regarding continuity of HNO_3 production other than the 50L/day metric. Proposals will be evaluated on the technical feasibility of achieving this metric, based on the rigor of their arguments.

52Q: Your budget instructions read "Use actual names for PI/ Key Personnel (Last, First format)". We do not have people in many of the positions currently. For some we are in the hiring process now. For others we will hire only if we get the contract with DARPA. So, we cannot use "actual names". Is it acceptable in the proposal to use e.g. "To be hired Process Engineer"?

52A: Yes, that's acceptable.

51Q: Regarding "the appropriate authorizing documentation" in 28A, is it the letter, which "cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry"? It seems that "propose to Government solicitations" is equivalent to "compete with industry." Is it correct? If this is the case, what "specific authority" would allow FFRDCs to propose to Government solicitations?

51A: Yes, it is the letter that cites the specific authority. The specific authority is 31 U.S.C. § 1535.

50Q: Could you clarify if the target reaction rates are based on the production of HNO_3 or the consumption of N_2?

50A: The target reaction rates are based on the production of HNO_3.

49Q: In FAQ Question 3 and 23, DARPA notes that it "will coordinate with the IV&V team to determine appropriate testing and evaluation for chosen performers" if the proposed

electrochemical IV&V approach is not relevant. For systems where this would apply, should proposers include a proposed IV&V approach or methodology in the technical volume or is it acceptable to defer definition of the specific IV&V mechanisms until the post-selection negotiation period in coordination with DARPA and the designated IV&V team?

49A: DARPA will work with the IV&V team and performer to determine the appropriate characterization and testing approach. The testing methodology does not need to be included in the technical volume; however, it will be important to include how your team will integrate with the IV&V team and iterate on your system with their feedback.

48Q: We have never worked with the Federal Government and thus do not have a negotiated ICRA or F&A Rates Agreement. Can we propose an F&A rate and then, if selected for an award, negotiate the rate?

48A: Propose your actual indirect rate from your business system, preferably a screen shot and provide a justification as to how you arrived at that rate.

47Q: If we are a small business, does the 15% Indirect Cost Cap does not apply to us?

47A: No.

46Q: Can we have a meeting to discuss the feedback on our abstract?

46A: No, we will not be meeting with individual proposers to discuss feedback during the solicitation period.

45Q: If including a UARC as a subcontractor, should the UARC's milestones be included in the Schedule of Milestones and Payments if the prime is seeking an OT agreement? If so, should any associated funding amounts be reflected, given that the UARC will negotiate pricing directly with DARPA and is not to be included in our cost proposal?

45A: No.

44Q: We understand from the BAA that DARPA considers UARCs as having conflicts of interest (COI) when applying for a performer role, and that proposals submitted by UARCs as either a prime or subawardees must include an OCI mitigation plan. We also note that if successful, any UARC could be funded on an established IDIQ. For this reason, is it possible to work with a proposer to identify gaps that we (as a UARC) could fill, but submit a SOW directly to DARPA, to be funded?

44A: Should you choose to submit a proposal, please refer to the instructions outlined in SECTION IV: SPECIAL CONSIDERATIONS. The proposal will be evaluated in accordance with the evaluation criteria established in the solicitation. If your proposal is selected for award, DARPA will contact you directly.

43Q: What is the anticipated monthly unit volume required by the defense industry of the HNO3 prototypes?

43A: HNO3 is not focused on manufacturing devices for nitric acid generation.

42Q: Would the customer consider a larger footprint in exchange for significantly higher throughput? For example, would a system producing 1,000 L/day at < 300 kJ/mol within a 10.0 m^2 footprint be considered advantageous?

42A: The goal of HNO3 is to minimize the footprint while maintaining a high rate at low energy for nitric acid generation.

41Q: If system can already exceed Phase 2 metrics, is it acceptable to bypass Phase 1a SwAP requirements?

41A: There will be no penalty for exceeding the metrics early in the program. If the proposer believes they can achieve the metrics ahead of schedule, the proposal must include a clear and technically rigorous justification, supported by data, demonstrating how the proposed approach will achieve the metrics of HNO3.

40Q: Is <4 kW a strict requirement, or superior energy efficiency at higher power more desirable?

40A: The goals of HNO3 are to achieve high energy efficiency at low power. Proposers should meet the metrics of the program.

39Q: Is there a height limitation for the prototype footprint requirement?

39A: There is not a height limitation for the footprint requirement.

38Q: If we are using a UARC as a subcontractor, should we include any detailed information in Attachment E and F, or only a rough order of magnitude in Attachment D?

38A: Only a rough order of magnitude and scope of work in Attachment D.

37Q: The Proposers Day slides state the team must include a program coordinator/program manager. Does this person need to be full-time or part-time on the team? Also, what qualifications should this person have?

37A: The solicitation supersedes any information presented by DARPA at Proposers Day. If there is any discrepancy between what was presented in the slides and the BAA, the BAA takes precedence. It is recommended that teams include a program coordinator or project manager with financial experience to support successful execution of the effort. This is not a requirement; however, proposals must provide evidence that someone on the proposing team can manage the project.

36Q: What does a technical transition mean? Commercialization or just scale-up?

36A: As stated in the BAA (Section II Evaluation Criteria), the proposer clearly demonstrates its capability to transition the technology to the research, industrial, and/or operational military communities in such a way to enhance U.S. defense.

35Q: Can an individual be involved in multiple proposals in a non-lead role? Or is each individual limited to participation in only one proposal, regardless of role?

35A: Both key personnel and non-key personnel may be involved in multiple proposals. However, there is a potential conflict of interest if an individual is supporting multiple awards on the same program. You must provide a mitigation plan to demonstrate how you are going to deconflict the issue(s), protect stakeholders' proprietary information, and provide/ensure sufficient support for the effort(s). Additionally, you will need to document how the work being assigned to the individual in one effort differs against the other. The Government will not pay for the same work performed on multiple awards.

34Q: DOE does not pay [DOE lab] to support DoW/DoD projects. We operate on a full cost recovery model using IAAs/MIPRs from DoW/DoD and Strategic Partnership Projects (SPP) on our side. Since other DARPA BAAs have recently been using much more rigid language (FFRDCs are not eligible.), we wanted to get some clarity on whether you are interested in receiving a proposal from us (assuming we can demonstrate the work is not otherwise available in the private sector and we get a letter from DOE that satisfies (2) above). Is [DOE lab] eligible with these caveats?

34A: DARPA funds DOE labs using the 7600A/B process through G-Invoicing. The process is not in conflict with the language in the BAA, which only serves to indicate that DARPA will not attempt to negotiate a new grant, cooperative agreement, procurement contract or other transaction agreement with a DOE lab, but will instead use the currently established process. Refer to Question 28. Reference the BAA Section IV: Special Considerations: DARPA will not establish new contractual agreements with FFRDCs or Government entities but instead will leverage existing sponsors agreements. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions.

Any proposal submitted directly by these entities in a prime contractor capacity without the appropriate authorizing documentation may be deemed non-conforming and not evaluated. Proposals that include a UARC, FFRDC, or Government entities, including National Laboratories, as a subcontractor/subawardee may also be deemed non-conforming unless: (1) their role is clearly defined in the technical proposal with a point

of contact, and (2) a rough order of magnitude cost is provided in the technical proposal only—cost proposals must exclude their funding, as DARPA will contact them directly to come to an agreement rather than fund them through the prime contract. It is important to note that if funded, these organizations will be required to share their work and findings with other performers also supporting the same program. Additionally, DARPA may contact these entities directly to discuss proposed activities.

33Q: For the full proposal, should the budget cover only Phase 1a, or should it encompass the entire 48-month project period?

33A: The BAA is soliciting for all phases, and the budget must cover the entire 42-month period. Proposers must provide budget and cost information for the Base (Phase 1a – 12 months), Option Period 1 (Phase 1b – 12 months), and Option Period 2 (Phase 2 – 18 months). The options must be costed out at the same level of detail as the base.

32Q: Are there any specific temperature or pressure ranges—or other operating conditions—we should consider for HNO3 production from water and air?

32A: No, there are no constraints on temperature and pressure.

31Q: Could you share the expected timeline for notifying applicants of full, partial, or no funding decisions?

31A: Given that it is still early in the solicitation process and there may be unanticipated changes, DARPA does not have a date when applicants will be notifying of award decision. However, we anticipate that such decision will be issued around June 2026 timeframe.

30Q: Will any or all awarded contracts be ITAR restricted?

30A: No, there will not be any ITAR restrictions.

29Q: Is a disruptive technical approach that efficiently harvests and upgrades the dilute NOx sources from preexisting, DOW-relevant systems such as combustion into HNO3 responsive to the solicitation?

29A: No, only air and water inputs will be considered in scope.

28Q: Are FFRDCs eligible to be the prime recipient (not a sub-award) if there is explicit paperwork indicating non-direct competition with the private sector?

28A: Reference the BAA Section IV: Special Considerations: DARPA will not establish new contractual agreements with FFRDCs or Government entities but instead will leverage existing sponsors agreements. (1) FFRDCs must clearly demonstrate that the proposed work is not otherwise available from the private sector. (2) FFRDCs must provide a letter, on official letterhead from their sponsoring organization, that (a) cites the

specific authority establishing their eligibility to propose to Government solicitations and compete with industry, and (b) certifies the FFRDC's compliance with the associated FFRDC sponsor agreement's terms and conditions.

Any proposal submitted directly by these entities in a prime contractor capacity without the appropriate authorizing documentation may be deemed non-conforming and not evaluated. Proposals that include a UARC, FFRDC, or Government entities, including National Laboratories, as a subcontractor/subawardee may also be deemed non-conforming unless: (1) their role is clearly defined in the technical proposal with a point of contact, and (2) a rough order of magnitude cost is provided in the technical proposal only—cost proposals must exclude their funding, as DARPA will contact them directly to come to an agreement rather than fund them through the prime contract. It is important to note that if funded, these organizations will be required to share their work and findings with other performers also supporting the same program. Additionally, DARPA may contact these entities directly to discuss proposed activities.

27Q: What is the funding ceiling for an award?

27A: There is no upper limit to any particular effort. DARPA looks for a proposal that demonstrates they can achieve the objectives and metrics of the program. It is dependent on the team size/needs and what is being proposed for the base and option periods. Each proposal will be evaluated and assessed whether the proposed costs are realistic to the proposed technical approach and works. Prepare your proposal to provide an innovative and comprehensive solution to address the goals, objectives and metrics as highlighted in the BAA. DARPA will work with proposer(s) if there is a funding concern.

26Q: Will the presentations from Proposers Day be available?

26A: Yes, the presentations are available at https://www.darpa.mil/research/programs/hno3.

25Q: Are you open to disruptive technical approaches that use pre-existing NOx streams from industrial processes, provided that the NOx was originally formed by oxidation of nitrogen in air (with no added nitrogen-containing chemical precursors)?

25A: No, only air and water inputs will be considered in scope.

24Q: Is there an allowable indirect cost rate?

24A: Proposers should propose their indirect cost rate based on their approved, negotiated Indirect Rate Agreement (ICRA) or provisional rate agreement to include Facilities & Administrative (F&A) Rates Agreement (or similar) for federal research assistance.

23Q: What will be the IV&V approach for catalyst approaches that do not rely on electrochemistry?

23A: DARPA will coordinate with the IV&V team to determine appropriate testing and evaluation for chosen performers.

22Q: There are advantages in doing Fundamental Research, however, the technology will certainly have translational perspectives. Is there any preference to define ourselves as fundamental or non-fundamental from the program management's perspective?

22A: DARPA expects the work from universities to be fundamental research while industry would be a combination of both fundamental research and non-fundamental research. Non-fundamental research will have some restrictions regarding dissemination and publication, which will require PM review. However, there should not be any program management implication.

21Q: Do we need a commercial partner? Can we propose commercialization at later stage?

21A: No, a commercial partner is not required. Commercialization is not a requirement of the program.

20Q: Does abstract require agreed partnerships or can we identify our gaps and provide mitigation?

20A: Submitting an abstract is an opportunity for proposers to share their approach with the Program Manager to get his feedback. It is not required and therefore, it is up to the proposers regarding what goes into the abstract. Please note that abstract cannot exceed 5 pages and it would not commit the proposer(s) to any future work. An abstract is not required in order to submit a full proposal.

19Q: If we are working on a different style of plasma than has been used before for plasma fixation, is this of interest to your program?

19A: We encourage everyone to submit an abstract if they believe (justifiably) they can achieve the program metrics. Feedback will be provided on specific proposal ideas presented in submitted abstracts, but we will not be meeting with individual proposers to discuss ideas during the solicitation period

18Q: Regarding transition, how do you anticipate handling the industries that profit from the existing processes?

18A: We welcome the opportunity to work with industrial partners. We are aware that a few have interest in novel means of HNO3 synthesis. Please send HNO3@darpa.mil an email if there are specific questions about working with DARPA.

17Q: What is the total funding amount anticipated for the program?

17A: The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

16Q: When proposing technical approaches that use nitrogen or oxygen in independent steps, do we need to account for the energy to separate nitrogen or oxygen out of air?

16A: Yes, the total balance of plant must be accounted for. The Size, Weight, and Power (SWaP) metrics are for the total system.

15Q: Can you elaborate on how the IV&V team provides feedback on the catalyst deliverable and how the timing of that feedback affects its incorporation into the subsequent deliverable?

15A: The IV&V team will provide a report with the catalyst analysis approximately 4 weeks after sample delivery, providing enough time to incorporate that feedback into the next iteration of the catalyst.

14Q: Why is the target 68% nitric acid and not 99% nitric acid as there are far fewer US producers of 99% nitric acid?

14A: A target nitric acid concentration of ≥68% is in scope.

13Q: What might be a typical team size and the total budget expected by DARPA?

13A: There is not a typical team size or total budget expected. Any reasonable size team and budget that can achieve the goals and the metrics of HNO3 is acceptable.

12Q: Is an industrial partnership required or will having an industrial partner be favored? If so, will the industry partner receive funding?

12A: An industrial partner is not required; however, the proposing team should have the capabilities to achieve the metrics of the program.

11Q: Are tandem catalytic systems, in other words, a process involving multiple catalytic subunits to get from N_2 to HNO3 acceptable for this call?

11A: Yes, those are in scope.

10Q: Can a single PI be on multiple proposal submissions for this project?

10A: No, this would be a conflict of interest.

9Q: Are there any guidelines on the budget?

9A: DARPA looks for a proposal that demonstrates they can achieve the objectives and metrics of the program. The budget depends on the team size/needs and what is being proposed for the base and option periods. Each proposal will be evaluated and assessed whether the proposed costs are realistic to the proposed technical approach and works. Prepare your proposal to provide an innovative and comprehensive solution to address the goals, objectives and metrics as highlighted in the BAA. DARPA will work with proposer(s) if there is a funding concern.

8Q: Should the proposed approach include an integrated post-reaction concentration step?

8A: The final concentration of nitric acid should be ≥68%. If that cannot be reached without a post-reaction concentration step that should be included.

7Q: Can we propose a higher indirect rate than the de minimis of 15% specified in the in 2 C.F.R. § 200.414(f). What would be the appropriate supporting information that I could use to justify an indirect rate?

7A: At this time, the implementation of a 15% Indirect Cost Cap on Assistance Awards to Institutions of Higher Education is on hold. As such, proposers should propose indirect rates based on the negotiated Indirect Rate Agreement (ICRA) or Facilities & Administrative (F&A) Rates Agreement (or similar) for federal research assistance.

6Q: Are there restrictions to apply if PI or Co-PI is not a US citizen or green card holder?

6A: Per Section IV of the BAA, all responsible sources capable of satisfying the Government's needs, including both U.S. and non-U.S. sources, may submit a proposal that shall be considered by DARPA. Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

5Q: Can a scientist from a Government laboratory partner with a U.S. university to apply to the solicitation? Is there any cost share required?

5A: Section IV: Special Considerations in the BAA states, "If the proposal is scientifically merited and meets the criteria below, DARPA may fund work proposed by these entities with the following caveats:

- "Government Entities: Government Entities (e.g., Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations. Government Entities must clearly demonstrate that the work is not otherwise available from the private sector and provide written documentation citing the specific statutory authority and contractual authority, if relevant, establishing their ability to propose to Government solicitations and compete with industry. This information is required for Government Entities proposing to be awardees or subawardees."

Cost share is not required; however, if proposing as a subawardee, a rough order of magnitude cost should be provided in the technical proposal only—cost proposals must exclude their funding, as DARPA will contact them directly to come to an agreement rather than fund them through the prime contract. Additional information can be found in Section IV: Special Considerations.

4Q: Can we get an extension on the abstract due date?

4A: Abstracts are encouraged but not required. There will not be an extension on the abstract due date.

3Q: Could you clarify whether IV&V's electrochemical tests are strictly for cross-team normalization or if they function as a gating requirement for Phase 1b? If they are gating, for mechanisms where reaction activity does not manifest under conventional electrochemical testing, is there a pathway for coordinating with LLNL so that IV&V can evaluate performance directly within the relevant reactor environment?

3A: DARPA will coordinate with the IV&V team to determine appropriate testing and evaluation for chosen performers.

2Q: Can we schedule a meeting to discuss our proposal ideas?

2A: To ensure all potential proposers have equitable access to information, discussions will be managed through the FAQ process. DARPA also encourages everyone to submit an abstract if they believe (justifiably) they can achieve the program metrics. Feedback will be provided on specific proposal ideas presented in submitted abstracts, but we will not be meeting with individual proposers to discuss ideas during the solicitation period.

1Q: Will catalyst development for plasma catalysis to produce nitric acid be considered within scope of this solicitation?

1A: As stated in Section B of the BAA, "Although electrochemical approaches to direct nitrogen oxidation appear to be the most promising, the HNO3 program remains open to any processes capable of achieving the program metrics. However, regardless of the proposed method, **the proposal must include a clear and technically rigorous justification with supporting data showing how the proposed route will achieve the metrics of HNO3."**