DARPA-PA-25-07-03 CASTOR
Frequently Asked Questions (FAQs)
as of 4/8/2026

15Q: The DO for CASTOR indicates that "Due to their specialized roles and longstanding regulatory relationships with the Government, Federally Funded Research and Development Centers (FFRDCs) and Government Entities to include National Laboratories present potential conflicts and advantages that would compromise fair and open competition. These entities typically may only receive funding through existing awards they hold with their sponsoring agencies." Could you please clarify whether service academies are considered Government Entities (and, thus, ineligible) for this DO?

15A: Yes, a Service Academy is a Government Entity, as they operate within military departments. If a Government Entity chooses to propose, please follow the guidelines as stated in Section III Eligibility of the Disruption Opportunity.

----------⬆⬆⬆New Q/A⬆⬆⬆----------

14Q: The Streamlined Cost Buildup Workbook, Note 3 states: "*The values under Total Direct Labor 'Hours' column indicate the total level of effort for the project for each labor category. The Proposer must define the split of hours between initial and subsequent rate years based on its FY in the detail worksheets.*" However, we do not see any detail worksheets included in the workbook. Could you please clarify if Note 3 is an error, and, if not, what DARPA means by "detail worksheets"?

14A: Please disregard Note 3. Make sure to completely fill out the 4 tabs in the Workbook.

13Q: I have a technical clarification question on the BAA. In the **Structure Section (Page 2)** of the BAA you state: "*Testing will include argon and either air or water (or both).*" However, in the **Detailed Description Section** (page 3), you state: "*CASTOR performers will iterate on prototype devices tested in gas and plasma environments on at least one oxygenic species of either air (~80% N2 / 20% O2) or water (H2O).*" Is testing in Argon a requirement, as it is not mentioned in the Detailed Description Section or its concentration?

13A: Brief testing on argon prior to commencement of Lifetime Performance Tests (LPTs) is a requirement to establish a baseline for comparison against the oxygenic species performance in the LPT. It is not required during any of the LPTs, which focus only on one of the oxygenic species. As a result, argon testing is expected to be a very small portion of performer test efforts.

12Q: CASTOR mentions water several times, in addition to oxygen-compatible cathodes specifically. However, all the details of the solicitation and scope look like it is really focused on

development of an oxygen-compatible cathode for VLEO. Given this, would a water-based system that runs hydrogen through the cathode be in scope for CASTOR?

12A: See Q6 as well. A water-based cathode that operates on water (H_2O) as the working fluid would definitely be in scope. However, a water-based system that separates H_2 and O_2 and only runs the H_2 through the cathode would not be in scope. Hydrogen cathodes have been operated using LaB6 with good effect in the literature for some time (https://doi.org/10.1063/1.1135436). The goal is to create cathode technologies compatible with oxygenic species in general.

11Q: Is it within the rules to submit two different proposals in response to the Castor RFP?

11A: Yes. See 7A below.

10Q: I was left unsure of whether the intent of the program is to operate on "air or water" as the working fluid or "air and water" as the working fluid. Throughout sections B, C, and D of DARPA-PA-25-07-03 the text has phrases such as "either air or water", however section C paragraph 3 line 2 indicates that in phase 2 performers will test "with both air and water oxygenic species". Will proposals that have a credible path towards achieving the program metrics and test lifetime on only one candidate oxygenic species be considered, or is operation on both species a requirement of the program?

10A: This is a typo and will be updated in the solicitation. The Phase 2 LPTs need be performed on only one of either air *or* water. We encourage checking which species gives superior performance, but given the short duration of the program we only require one or the other.

9Q: Questions regarding DARPA Fundamental Research Risk-Based Security Review (FRRBS) requirements (see DARPA-PA-25-07 Section 4.2):

- Could you please confirm whether the Common Disclosure Forms (biographical (sketch) information and current and pending (other) support) are only required if the performer designates its proposal as fundamental research, or whether they are required for all Other Transactions proposals submitted under DARPA-PA-25-07-03?
- Could you please clarify how the Common Disclosure Forms should be submitted? Specifically, should they be included in a particular proposal volume, or, should they simply be submitted as attachments within the proposal zip folder?

9A: The Common Disclosure Forms are only required when fundamental research is proposed. They should be submitted attachments within the proposal zip folder.

8Q: First, we have questions regarding the Month 1 and 2 milestone requirements. Month 1 states: “All positions identified in the proposal are assigned to personnel, and names are provided

to the Government." Month 2 states: "All proposed personnel must be working on the project at the planned level of effort."
Since this is a fixed-price effort, we would appreciate clarification on how this will work. Specifically:

- Are all proposed personnel considered key personnel, or only certain identified individuals?
- We have staff members with similar skills sets that may be asked to work on the project depending on availability. Is Government approval required to substitute any proposed personnel or modify their proposed level of effort (or is that limited to key personnel)?
- How will level of effort be monitored for proposed personnel? Do proposed and actual hours need to be included in each milestone report?
- Is there an acceptable variance threshold that can be used for meeting the level of effort requirement? For example, would an employee's actual hours within +/- 10% of their planned hours be considered acceptable?

8A: We presume that, given the scoped budget and duration, progress will require focused effort by a relatively small number of key personnel. While we loosely consider key personnel as those who are critical to the prospects of success for the effort, we leave it to the proposers to define this small subset of individuals in the way that most makes sense given their unique proposals. Some individuals' skills (i.e., test fabrication, standard diagnostics) may be easily replaceable, while other skills (i.e., electron emission specialist) may be far more unique. We do not plan to monitor level of effort or actual hours in this OT effort. Phase 1 performance and advancement to Phase 2 will be based on the explicit metrics called out in the solicitation. Additionally, payments are directly tied to acceptance of milestones and deliverables, as will be outlined in the Schedule of Milestones and Payments schedule.

7Q: Is it permissible for an organization to participate as a non-lead, contributing team member on multiple proposals submitted by different lead institutions, provided that the organization's role is limited in scope and clearly defined within each proposal?

7A: Yes, potential awardees may be involved in multiple proposals. However, there is a potential conflict of interest if 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 in one effort differs from the other. The Government will not pay for the same work performed on multiple awards.

6Q: The call specifies a 10 sccm maximum propellant flow rate limit. This would preclude the use of light gases, especially in any stoichiometric ratio for common molecular propellant concepts. Is the intent of the call to not use the same type of propellant that may be applied to

the HET gas distributor itself (e.g., molecular byproducts, such as the products of water electrolysis)?

6A: The call specifies a 10 sccm/A metric, which at the 1 A level corresponds to 10 sccm. A higher capacity cathode may use a larger flow of gas. The intent of the call is to identify cathode concepts that are sufficiently robust against oxygen attack to operate directly within an oxygenic environment, such as in air or water. While various filtering technologies exist, such as to separate water into hydrogen and oxygen or to separate air into nitrogen and oxygen, these approaches are tailored to a specific fuel and lack generality. The intent of the call is to develop cathode technologies that are directly compatible with oxygen, rather than develop upstream flow filters to generate a hydrogen, nitrogen or other non-oxygenic environment.

5Q: The call specifies an external environment of regular air for the 1, 10, and 100 h life tests. Is there a requirement or specification on the propellant type?

5A: CASTOR seeks cathodes that are generally compatible with oxygenic propellant species. The call solicits proposals operating on a fuel of air, or water if desired, with comparison against an argon baseline. For example, a proposal to develop a cathode operating on noble gas propellant while immersed in an air environment would not be competitive.

4Q: For the 50 W/A requirement, is the 50 W the total input power to the cathode including or excluding the power associated with the 1 A discharge? I assume it would be excluding the discharge power since the discharge voltage is a variable that is highly dependent on anode configuration...

4A: It is assumed that for most performers and cathode concepts, the cathode itself is the source of the discharge, and the likely test configuration is a diode configuration between the cathode electrode and a nearby keeper or anode. For example, in a traditional thermionic hollow cathode drawing current to a metal anode without a thruster, the cathode forms a plasma discharge. In this case, the cathode plasma itself is already in a thruster representative environment (TRE), since the cathode plasma dominates the local environment even when operating with a thruster. This assumption may not hold in the case of some cathode concepts, such as field emitters, that may not generate a plasma under typical operation without a thruster. In cases where the cathode does not naturally form its own plasma and needs an auxiliary plasma to form the TRE, the power to form the auxiliary TRE plasma does not count against the cathode power consumption. In general, we simply advise being explicit about where power is consumed in your proposal.

3Q: Could you please confirm whether questions submitted via email are treated as private correspondence, or if they are shared publicly (e.g., through an FAQ or other posting)?

If questions are posted publicly, could you clarify:

- Whether identifying information (e.g., name, organization) is removed
- How questions and responses are typically summarized or edited before posting

3A: Technical questions and answers related to the solicitation are posted to an FAQ for all potential respondents. Identifying information is removed. Please scope your questions so they do not include proprietary information or other information you would not like to have publicly posted.

2Q: Regarding the budget for the CASTOR proposal, I wanted to confirm that there are effectively only two budget files:

1) Streamlined_Cost_Buildup_Workbook.xlsx
2) PROPOSAL_TEMPLATE_-_VOLUME_2_PRICE.docx

On past DARPA solicitations my company has responded to there was a more detailed workbook with many spreadsheets that broke out all costs by year, etc. I just wanted to confirm that that particular spreadsheet is not also required (though to some degree there are details that would be contained in the VOLUME_2_Price document).

2A: A complete Volume 2 submission consists only of the Streamlined Cost Buildup Workbook (from the Prime and each subcontractor) and the Volume 2 Price Template. Templates from past solicitation should not be used. Proposal submissions must utilize the templates provided on SAM.gov under announcement DARPA-PA-25-07 and solicitation DARPA-PA-25-07-03. An Amendment is forthcoming, which clarifies the list of documents required for proposal submission.

1Q: We are planning to propose and are wondering if there will be an industry day to ask questions.

1A: There will be no Industry Day. Questions should be submitted to CASTOR@darpa.mil and DARPA's responses will be posted in this FAQ.