

Additional Topics in Fusion Energy Sciences under the Continuation of Solicitation for the Office of Science Financial Assistance Program Notice of Funding Opportunity

Notice of Funding Opportunity
DE-FOA-0003432

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Office of Science, Fusion Energy Sciences

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Agenda and Q&A

- **Solicitation Overview and General Guidance**
 - Award Mechanism: Technology Investment Agreements
 - Milestone-based, fixed-support, non-federal share of $\geq 50\%$.
- **Topic 1: Milestone-Based Fusion Development Program– Section III.4o**
- **Topic 2: Capability Enhancements via Section III.4a,b,c,g,i,j**
- **At this time only milestone-based public-private partnership applications are requested. Due to procurement timelines this webinar is focused on existing and new milestone teams who wish to add capability-enhancements.**

Q&A: Please enter your questions in the Q&A window. We will have a Q&A session after the Milestone section *and* after the Capability Enhancements section. Please label your question according to the topic



Solicitation Overview - DE-FOA-0003432

- See Oct. 1 SC office hour slides and video for general FOA information: https://science.osti.gov/-/media/Office-Hours/pdf/2024/FY25_Open_Call.pdf
- For the topics discussed today, application is open to teams led by private companies.
- Award mechanism discussed today will be Technology Investment Agreements
- Applications are received, peer reviewed, and recommended for funding or declined
- Programs request a white paper or pre-application before a full application is submitted.
- FES topics have submission dates to be considered for a review and funded this fiscal year. Applications received after that date will be held for future decision.
- **Today's webinar:** Tailored guidance for select public-private partnership themes in Fusion Energy Sciences



Award Mechanism and General Guidance

- Award Mechanism: Technology Investment Agreements (TIAs)
 - Milestone-based, fixed-support awards with a non-federal share of 50% (or higher)
 - Similar to the previous Milestone solicitation, https://science.osti.gov/fes/-/media/grants/pdf/foas/2022/SC_FOA_0002809.pdf

Topics in Open NOFO

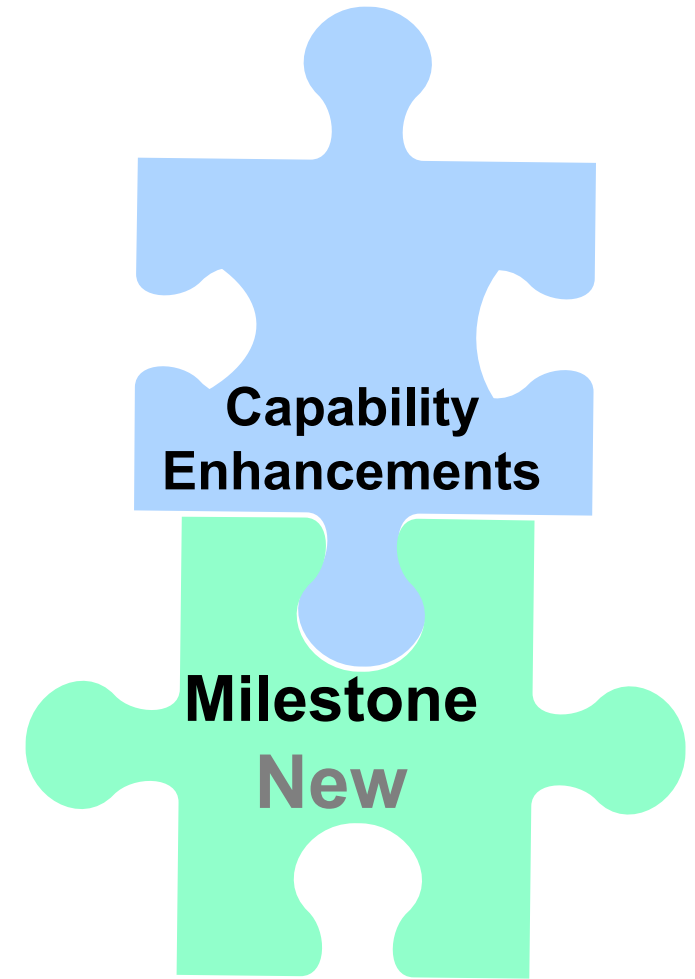
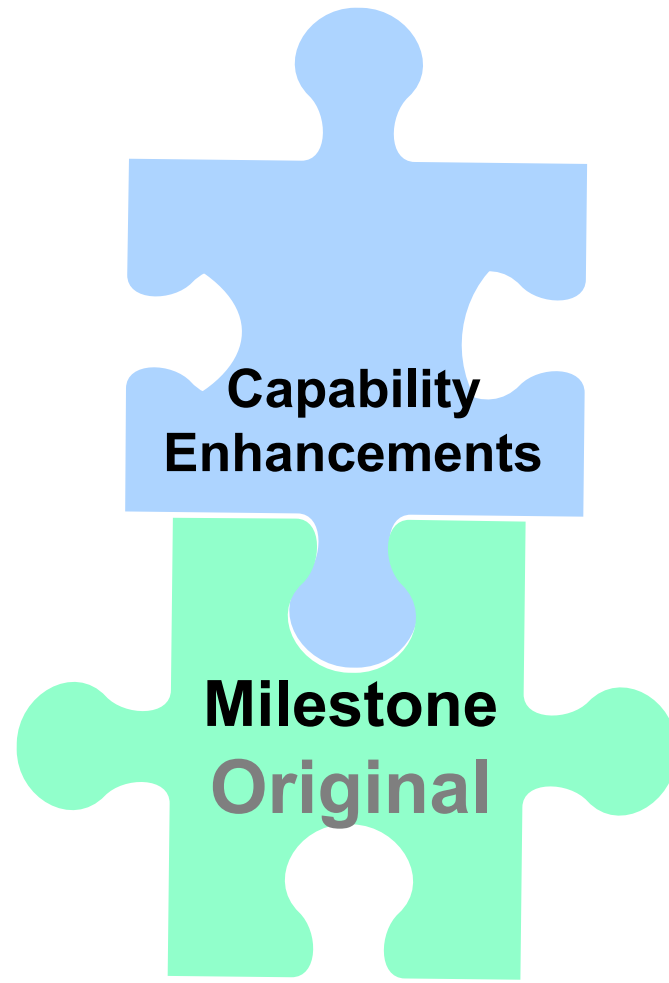
- 4.a, Theory & Simulation
- 4.b, Artificial Intelligence and Machine Learning for Fusion & Plasma Science
- 4.c, Fusion Materials and Internal Components
- 4.g, Inertial Fusion Energy
- 4.i, Closing the Fusion Cycle: Fusion Nuclear Science
- 4.j, Closing the Fusion Cycle: Enabling Research and Development.
- **4.o, PPPs (Milestone)**

- **Available funding:**

- Up to \$10M total for new Milestone awards,
- Up to \$15M for Capability Enhancements in FY 2025.

Activity	Target Date
Pre-Application Submission	June 12, 2025 (3 PM ET)
Pre-Application Responses	June 18, 2025
Full Applications	June 27, 2025 (noon ET)





Milestone-Based Fusion Development Program

- Topic 4.o. Milestone-Based Fusion Development Program
 - The Milestone Program aims to accelerate progress toward the development of commercial fusion energy by establishing partnerships with the private sector... Key goals of this program in the near term include the achievement of preliminary designs and technology roadmaps for a fusion pilot plant and enabling significant performance improvements of fusion pilot plant concepts. DOE may award Other Transactions (OT) agreements via Technology Investment Agreements (TIAs) under this topic. DOE implements its OT authority through awarding and administering TIAs (governed by 10 CFR 603). TIAs are assistance instruments used to increase the involvement of commercial entities in DOE's research, development, and demonstration programs. DOE has greater flexibility in tailoring the terms and conditions of a TIA. “

Consistent with the Energy Act of 2020,

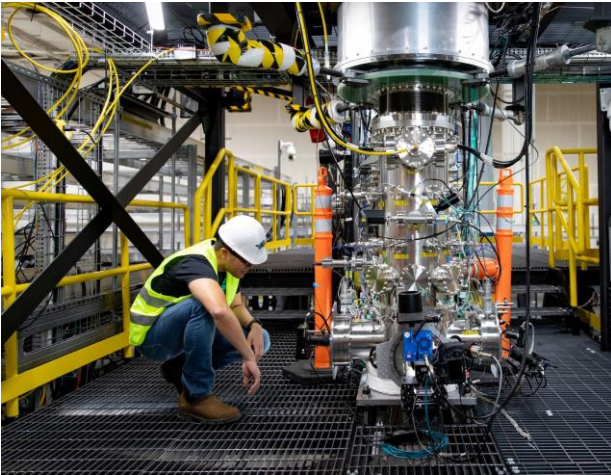
- The purpose of the milestone-based development program... “shall be to support the development of a U.S.-based fusion power industry through the RD&D of technologies that will enable the construction of new full-scale fusion systems capable of demonstrating significant improvements in the performance of such systems, as defined by the Secretary, within 10 years of the enactment of this section.”



Milestone-Based Fusion Development Program

Resilient public-private partnerships that provide a bridge to our public expertise and know-how in FES

- Award mechanism is Technology Investment Agreements (TIAs)—more freedom to negotiate IP, less cumbersome budget requirements.
- Teams receive payments only upon milestone completion. **No progress? No payments.**
- Diversified portfolio of 8 teams
- Three budget periods— 18 months, 18 months, 24 months.



Guidance

- Preapplication: 2 Pages maximum. Applicants should include:
 - Amount of funding requested and the proposed non-federal share (must be >50% non-federal)
 - Proposed period of performance
 - Expected team members
 - Full application:
 - Partners for a milestone project do not need to be fully defined, but firmer commitments (e.g., letters of support) are likely to strengthen an application.
 - Applicants should propose a few milestones to advance goals of the Milestone program.
 - Milestone targets and any associated federal payments will be refined through award negotiations.
- Available funding:**
- Up to \$10M total for new Milestone awards



Why now?

- The original eight teams have raised over \$350M since the initial DOE \$46M investment.
- New entrants into private fusion have expanded the envelope of fusion teams and concepts.
- Additional milestone-based DOE investment(s) may offer a strong return-on-investment for US taxpayers.



FAQ

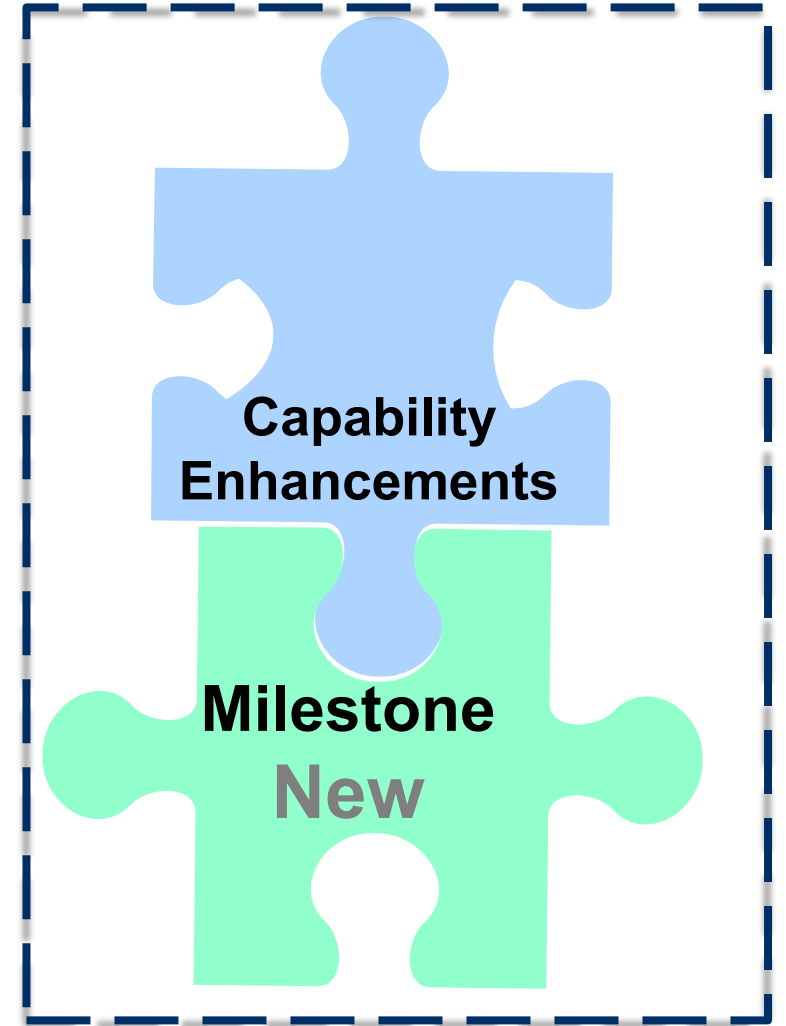
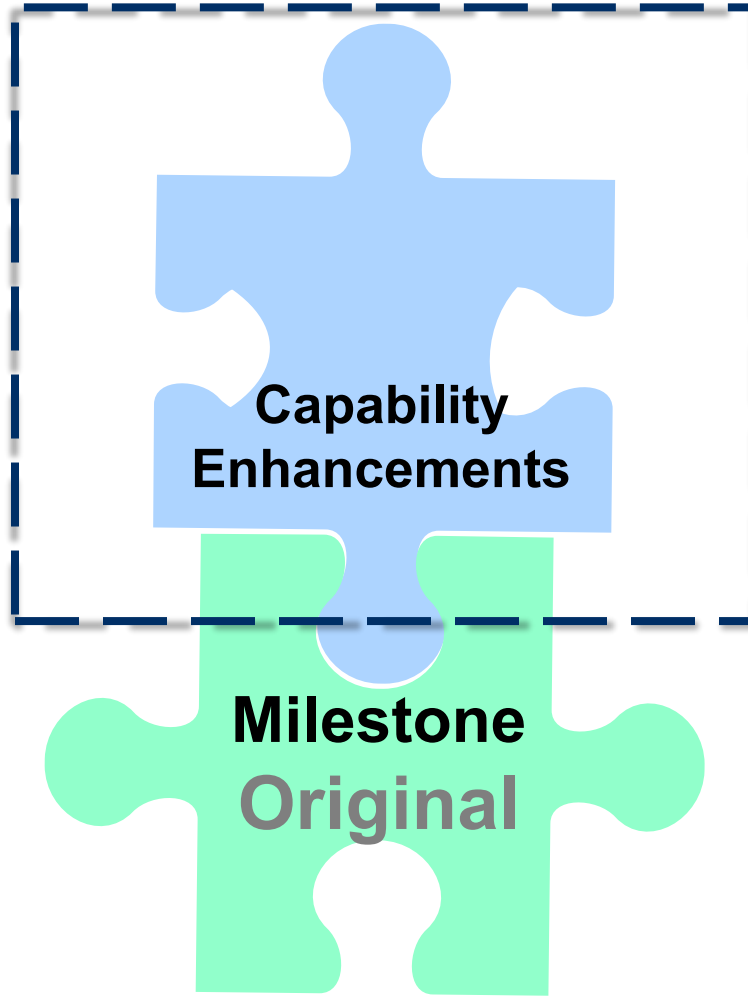
- 1. Is there enough time for FES to make awards this fiscal year?** We hope so, and acknowledge the challenge. Unlike the original milestone awards (M8), we will not negotiate individual elements of the Technology Investment Agreements. Teams will be offered the M8 terms.
- 2. Will this award call be repeated in FY2026?** Future award calls are dependent on availability of appropriated funding.



Questions on Milestone?



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Capability Enhancements

- Capability Enhancements
 - Section III.4a,b,c,g,I,j
 - (a) Theory & Simulation
 - (b) Artificial Intelligence and Machine Learning for Fusion & Plasma Science
 - (c) Fusion Materials and Internal Components
 - (g) Emergent Plasma Concepts: Inertial Fusion Energy
 - (i) Closing the Fusion Cycle: Fusion Nuclear Science
 - (j) Closing the Fusion Cycle: Enabling Research and Development

We do not anticipate awards in other topic areas, While applicants may apply under other topics, they must justify their request.



Guidance

- Preapplication: 2 Pages maximum. Applicants should include:
 - The topic from the Open NOFO
 - Amount of funding requested and the proposed non-federal share (must be >50% non-federal)
 - Proposed period of performance
 - Expected team members
- Full application:
 - Partners do not need to be fully defined, but firmer commitments (e.g., letters of support) may strengthen an application.
 - Applicants should propose a few milestones that may be refined through negotiations.

Available funding:

- Up to \$15M for Capability Enhancements in FY 2025.



FAQ

- 1. Is there enough time for FES to make awards this fiscal year?** We hope so, and acknowledge the challenge. By adding milestones focused on capability enhancements on to new or existing Milestone awards we can leverage the terms from the original M8 awards, we will not negotiate individual elements of the Technology Investment Agreements.
- 2. May I apply and suggest award through an existing award (e.g., an existing Milestone award)?** Absolutely, but please note that the award mechanism will be at the discretion of the Office of Science.
- 3. Will this award call be repeated in FY2026?** Future award calls are dependent on availability of appropriated funds.
- 4. May applicants include international partners?** Applicants may include team members or funding commitments from like-minded nations that share US goals and values.
- 5. Is there a recommended team structure?** Private companies must lead the application, but the team can include private companies, universities, philanthropic organizations, and state or local government.



Questions on Capability Enhancements?



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