

Private Facility Research Program

Notice of Funding Opportunity
DOE-FOA-0003516

Josh King

Private Facility Research Program Manager,
Office of Science, Fusion Energy Sciences

Disclaimer: This presentation summarizes the contents of the Notice. Nothing in this webinar is intended to add to, take away from, or contradict any of the requirements of the Notice. If there are any inconsistencies between the Notice and this presentation or statements from DOE personnel, the Notice is the controlling document.



U.S. DEPARTMENT
of **ENERGY**

Secretary Wright Delivers Welcome Remarks:

https://www.youtube.com/live/SZBTtW3a7_s?si=c9GuYKL1SNKWQI4

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U.S. DEPARTMENT
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A Big Thank You to All Pre-applicants!

Funding Details

Expected total available funding	\$23 million
Expected number of awards	1 to 8
Expected dollar amount of individual awards	Public Research Award, Standard: \$2 – \$21 million Public Research Award, Novel Diagnostic Development: \$25,000 – \$3 million Data Mirroring Award: \$25,000 – \$500,000
Expected award project period	3 to 5 years

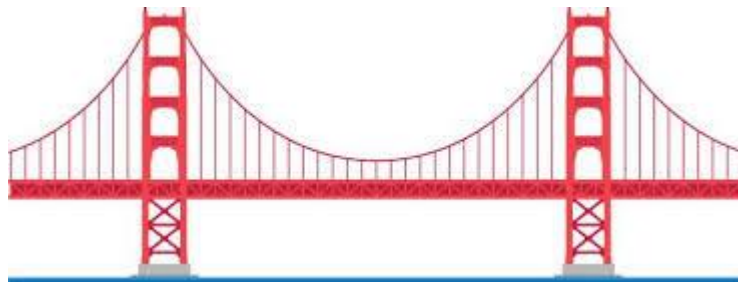
- Depending Congressional appropriations **approximately 5 awards** might be supported (2 or 3 standard and 3 novel diagnostic awards)
- **10 applications** (50% success) would be **normal**
- **20 applications** (25% success) would be **oversubscribed**
- **Grand Total** PFR NOFO pre-applications 
- For discouraged pre-apps: Keep coming back, *we expect future opportunities*, your interest has motivated discussions to grow the program → **THANK YOU!**

87!



Private Facility Research (PFR) Program NOFO Context

- **Objective:** The Private Facility Research (PFR) program NOFO supports public research utilizing world leading S&T experimental capabilities owned by private companies
- The PFR NOFO aligns with the FES Building Bridges Vision
- The scope of this NOFO has been informed by a dedicated PFR Workshop (Feb. 29, 2024), the FESAC LRP, and NASEM report ‘Bringing Fusion to the US Grid’, etc.
- This NOFO is aligned with the present FES Mission to support **“the development of a competitive fusion power industry in the U.S.”** and **“the scientific foundations needed to develop a fusion energy source”** via partnership with private companies



PFR Program Timeline

Sept. 2018 – Josh visits TE in UK to discuss possible ST40 scientific collaboration

March 2023 – ST40 achieves fusion temps pub. (record for all STs)



July 2023
JP arrives

PFR appears in FY25 narrative language of president's budget

2020 – ST40 Pilot Project TE, PPPL, ORNL Kicks Off



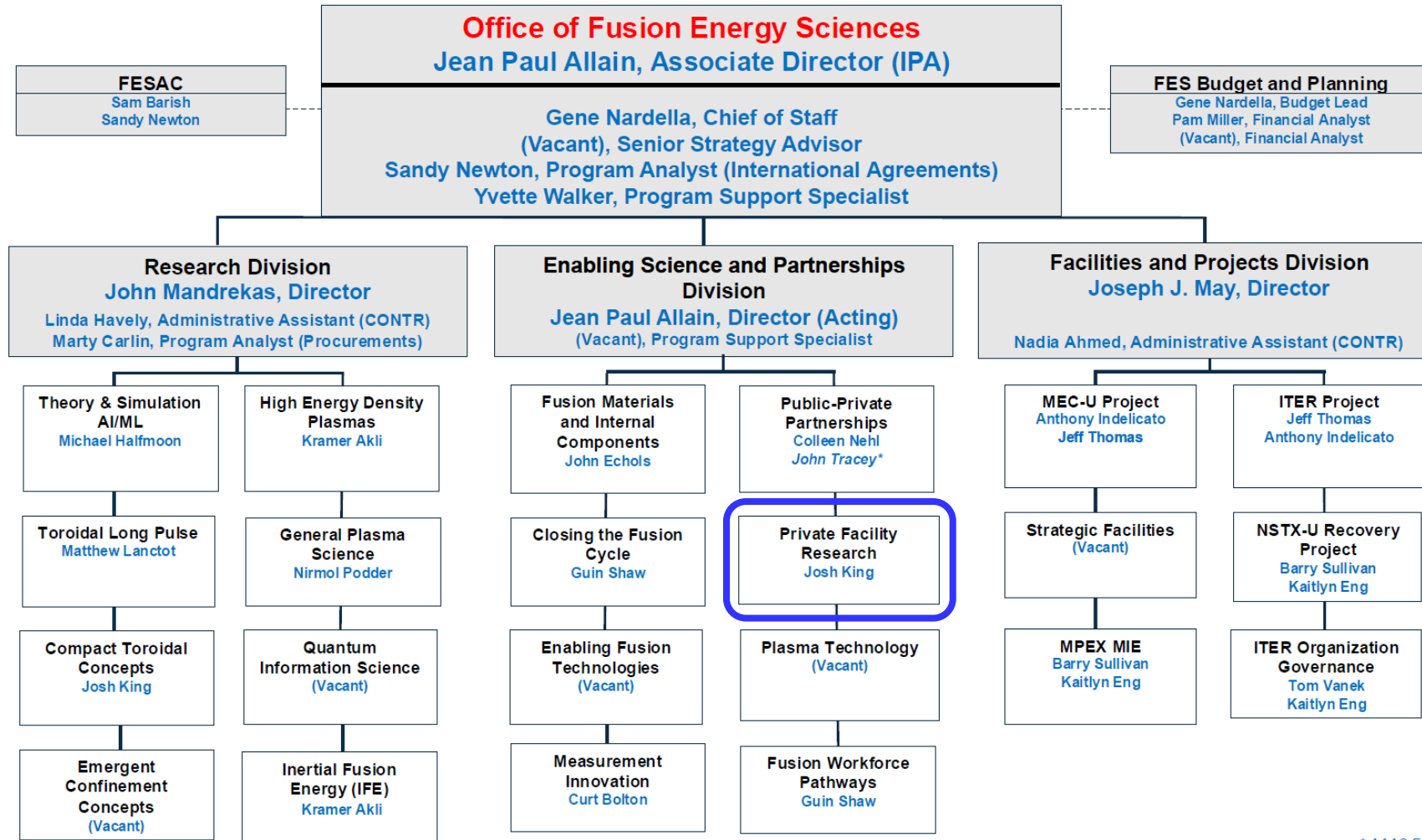
Feb. 29, 2024
PFR Workshop



Jan. 8, 2025
PFR NOFO posts!



The PFR Program is in the new ESP Division

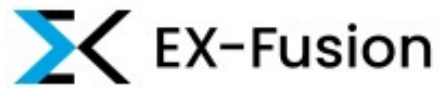


* AAAS Fellow



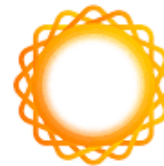
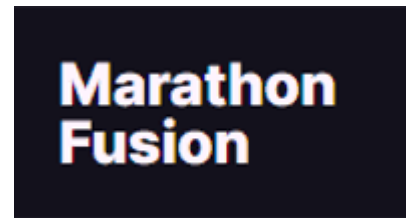
PFR has experienced significant PRIVATE interest via SMLs

- **The response has been great:** 12 private fusion companies (and counting) are participating, offering more than 23 unique S&T facilities
- The 12 companies worked with FES to prepare Statements of Mutual Interest
- **The participating companies (not exclusive) include the following:**



FOCUSED
ENERGY

generalfusion



OPENSTAR
TECHNOLOGIES LTD



Tokamak Energy



TYPE ONE
ENERGY



Data Access and Publications

- **A fundamental tenet of the PFR program is data openness**
- This NOFO only supports non-proprietary research
- PIs must be granted private facility data access prior to applying
 - Acknowledgement of data access must be documented in the Record of Discussion (RoD) with the private company, which can be found at the following links:
 - <https://science.osti.gov/-/media/grants/pdf/foas-resources/2025/DE-FOA-0003516-RoD.pdf>
 - <https://grants.gov/search-results-detail/358072>
- **PFR researchers must have the right to publish** scientific results
- Private facilities may have manuscript internal review processes to ensure accurate reporting of data, the resolution of topical overlaps, and/or exclusion of proprietary data
 - Internal reviews should take **no longer than 1 month** to complete



Proposal and Award Information

NOFO Issue Date:	January 8, 2025
Submission Deadline for Pre-Applications:	February 19, 2025 at 5 pm ET A Pre-Application is required. Pre-Applications must be submitted by an authorized institutional representative.
Pre-Application Response Date:	March 5, 2025 at 11:59 pm ET
Submission Deadline for Applications:	April 23, 2025 at 11:59 pm ET

- **Type of Proposal:** DOE will accept only new applications under this NOFO.
- **Estimated Funding:** DOE anticipates that, subject to the availability of future year appropriations, funding not to exceed \$23 million in current and future fiscal year funds will be used to support awards under this NOFO.
- **Period of Performance:** DOE anticipates project periods of 3 to 5 years
- **Maximum/Minimum Award Size:** Depends on the type of award (see next slides)
- **Expected Number of Awards:** The exact number of awards will depend on the number of meritorious applications and the availability of appropriated funds.



Pre-applications

Responsiveness Criteria considered:

- Was pre-app connected with FES mission?
- Were Institutional Limitations followed?
- Were PI Limitations followed?
- Were Subrecipient Limitations followed?
- Were subcategory criteria followed?
 - *Standard*
 - *Novel Diagnostic*
- For facilities with Statements of Mutual Interest (SMIs) included in the NOFO, was pre-app proposing topics contained in the mutual interest doc?

- For facilities w/o an SMI, was the material of interest to FES?
- Did the pre-app include clear 'objectives and technical approach'?

Pre-applications are required:

- Applications that have not been encouraged by DOE may be declined without merit review



Types of PFR Awards

There are two types of awards and two subcategories within one award type

- Award Type 1 – **Public Research Awards** (Supports public researchers only)
 - **Standard Subcategory**
 - Novel Diagnostic Development Subcategory
- Award Type 2 – Data Mirroring Award (Supports both private and public staff)



Public Research Award – Standard (Description)

Description

- Supports public researchers w/ larger awards, comprehensive scope including data analysis, modeling and validation, and appreciable hardware or diagnostic installations
 - **On-site presence:** Awards involving diagnostic and/or hardware installations should involve hands-on in-person efforts and a plan documenting how on-site presence at the private facility will be achieved must be included in the narrative
- Applications are permitted only for facilities that will be operational between now and CY2027 – *companies with SMIs meet this criteria*
- Both single institution and multi-institution applications are welcome
 - Multi-institution applications will follow a sub-prime model
 - All publicly sponsored institutions may serve as either a prime recipient or a sub recipient on an application



Public Research Award – Standard (Eligibility & Size)

Eligibility Limitations

- **Institutional Limits:** Each application must propose work involving only one private facility. *For each private facility*, applicant institutions are limited to no more than one application as the lead institution or subrecipient.
 - **YES:** Univ. B may submit a single-institution application for private facility X, a multi-institutional application as the lead institution for private facility Y, and may be a subrecipient on a multi-institutional application for private facility Z (3 applications)
 - **NO:** National Lab B submits 2 applications (one sub, one prime) for private facility X
- **PI Limits:** PIs may submit multiple pre-applications or applications to the PFR NOFO, but only *one per private facility*

Award Size

- **Floor:** Single institution apps and multi-institutional prime awards must exceed \$2M
- **Ceiling:** \$7M per year or \$21M total



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 - Standard Subcategory
 - **Novel Diagnostic Development Subcategory**
- Award Type 2 – Data Mirroring Award (Supports both private and public staff)



Public Research Award – Novel Diagnostic Development

Description

- Supports public researchers w/ smaller awards with scope focused on the development of measurement techniques, not their corresponding physical inferences
- Must involve deploying an instrument on a private facility
- **Topics:** (1) Next Step FPP diagnostics requiring fusion prototypic environment (2) New techniques needed for unique parameter spaces of an emergent private concept
- Rad hard conventional diagnostics are supported through Standard award, not here
 - **NO:** ITER MSE – resolves rad issues without reinvention of technique → Standard
 - **YES:** Develop entirely new approach for internal magnetic field pitch angle measure

Eligibility Limitations and Award Size

- **Institutional Limits:** None. **PI Limits:** PIs may submit multiple pre-applications or applications to the PFR NOFO, but only *one per private facility*
- **Floor:** \$25k, **Ceiling:** \$3M



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 - Novel Diagnostic Development Subcategory
- Award Type 2 – **Data Mirroring Award** (Supports both private and public staff)



Data Mirroring Award

Description

- Small awards to private companies to cover the cost of mirroring a copy of their non-proprietary facility data to the Private Facility Data Repository (PFDR) hosted by PPPL
- Applications will all be multi-institutional with the private company as the lead applicant and PPPL as a subrecipient
- The mirrored data may be the primary access point for PFR researchers, or simply preserve the data in a public repository for future examination
- The data must be useful, and applicants should include detailed plans about metadata, websites, data viewing software, etc. that allow for analysis (FAIR principles encouraged)

Eligibility Limitations and Award Size

- Only private companies may apply
- **Institutional Limits:** One application per private company
- **Floor:** \$25k, **Ceiling:** \$500k



Records of Discussion (RoD)

- **Purpose:** To ensure there is mutual interest in the proposed work between the public researcher and the private facility. *Facility is not obligated to sign for all applicants*
- **Three Essential RoD Elements:**
 1. **Scope** - Outline of the scope and timeline for shared tasks are agreed
 2. **Data** - Acknowledgement that applicant has been granted access to the facility's data
 3. **Publications** – A notional publication plan that identifies the area of intellectual pursuit of the Public Researcher
- PFR NOFO applications **must** include a signed RoD to be considered complete
- **Engage private companies NOW!**
 - It's essential to engage private companies early to give enough time to evaluate proposed efforts
- **RoD Links:** <https://science.osti.gov/-/media/grants/pdf/foas-resources/2025/DE-FOA-0003516-RoD.pdf> <https://grants.gov/search-results-detail/358072>



Questions?



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josh.king@science.doe.gov

240-535-0834