Notice of Intent No. DE-LC-0000130

Notice of Intent to Issue
Lab Call No. DE-LC-000L130

Notice of Intent to Issue FY26 & FY27 Technology Commercialization Fund (TCF) Base Annual Appropriations Core Laboratory Infrastructure for Market Readiness (CLIMR): Technology Specific Topics Lab Call

The U.S. Department of Energy's (DOE's) Office of Technology Commercialization (OTC) intends to issue a base annual appropriated Technology Commercialization Fund (TCF) solicitation, a call for proposals from DOE National Laboratories, plants, and sites. The goal of TCF is to improve America's energy dominance, reliability, and security by accelerating commercialization and shepherding critical energy technologies from the lab to the market, where the private sector will continue to innovate. OTC anticipates releasing the Fiscal Years 2026 and 2027 (FY26 and FY27) TCF Base Annual Appropriations Technology-Specific solicitation in September 2026. OTC will post the solicitation to Exchange and distribute the TCF solicitation announcement to the Technology Transfer Offices at each of the eligible DOE National Labs, plants, and sites (hereby referred to as National Labs or labs). Subject to Congressional appropriations, the estimated total DOE funding available for this lab call is $33–41 million, based on the FY26 budget. The lab call represents the combined effort of five distinct DOE program offices and OTC. Appropriations will be transferred to a fund value established for TCF and managed by OTC.

This solicitation offers an opportunity for private industry to partner with DOE's National Labs to advance lab-developed energy-related technologies toward commercialization and to reduce the barriers toward commercialization. TCF projects may require cost-share from non-federal sources based on the eligibility requirements listed in Table 1 below. Some cost-share is required for commercial application and demonstration projects. Cost-share partner(s) can be any nonfederal entity, including private companies, state or local governments (or entities created by a state or local government), colleges, universities, tribal entities, nonprofit organizations and foundations, or private funders.

Cost-share	Eligibility
50% or more	All applicants are eligible.
Less than 50%	To be eligible, National Labs must be partnered with only the following: small business as defined by the U.S. Small Business Administration[1]; domestic institution of higher education; domestic nonprofit entities; U.S. state, local, or tribal government entities; or/and an early-stage startup company from LEEP.

Table 1: Cost-share Eligibility

[1] U.S. Small Business Administration, "Size Standards." https://www.sba.gov/federal-contracting/contracting-guide/size-standards.

Proposals to the solicitation will need to be submitted by the National Labs and focused on working towards commercialization of National Lab-developed technology or technologies[2]. Technologies must be at a minimum Technology Readiness Level (TRL) of 4 at the time of writing a concept paper, using TRLs defined by DOE[3], unless otherwise stated in the topic or Area of Interest (AOI). In FY27, DOE expects to select TCF projects from DOE National Labs, subject to Congressional appropriations, in the following five topics and AOIs:

Topic 1: Office of Critical Minerals and Energy Innovation (CMEI).

- Advanced Technologies for Domestic Critical Mineral Extraction, Midstream Processing, and Recycling
- Innovations in Manufacturing and Scale-up for Energy Applications
- Next-generation Technologies for Industrial Competitiveness
- Next-Generation Building Technologies
- Cutting Edge Energy Generation and Power Management Technologies
- Advanced Transportation Technologies and Fuels Production
- Battery Technologies for Dual-Use Applications

Topic 2: Office of Cybersecurity, Energy Security, and Emergency Response (CESER).

- Advanced Operational Technology (OT)/ Industrial Control Systems (ICS) Cybersecurity Technologies for Critical Energy Infrastructure. Potential applications include:
    - Autonomous anomaly detection in power plant control systems
    - Tools that secure distributed control systems (DCS) and supervisory control and data acquisition (SCADA) upgrades (e.g., similar to systems referenced across CESER-supported plant modernization projects)
    - Edge-based artificial intelligence (AI)/ machine learning (ML) models for predictive OT threat detection
    - Technologies that protect turbine, boiler, generator, and substation control interfaces
- Secure Energy Supply Chain Technologies for Critical Infrastructure. Potential applications include:
    - Hardware/software tools that validate authenticity and integrity of OT/ICS components (e.g., programmable logic controllers (PLCs), sensors, control modules)
    - Technologies that detect or prevent insertion of compromised components into energy generation or transmission systems

[2] To be considered a "National Lab-developed technology," at least 50% of the R&D have been developed at a National Laboratory, plant, or site.
[3] Technology Readiness Level, https://www.directives.doe.gov/terms_definitions/technology-readiness-level

  - Risk analytics platforms that help operators evaluate supply chain exposure for critical energy equipment
  - Technologies ensuring provenance of firmware updates

Topic 3: Hydrocarbons and Geothermal Energy Office (HGEO).

- Byproduct recovery and beneficial use from coal mining, processing and power generation
- Innovative production technologies of graphite/carbon fiber precursors from coal
- Advanced technologies of air separation unit (high purity oxygen) for modular gasification and oxy-combustion
- Advanced materials and technologies to cost-effectively prepare gas for enhanced oil recovery
- Deployment and analysis of advanced sensor technology to support fracture characterization
- Artificial intelligence-enhanced drilling to optimize unconventional and gas recovery
- Efficient, low-cost technologies for high sulfur content natural gas
- Technologies for utilizing stranded or underutilized natural gas
- Advanced pipeline monitoring and integrity for gas transport systems
- Advanced technologies to improve turbine reliability, flexibility, and efficiency
- Advanced sensors and materials for advanced gas turbines
- Geothermal exploration and characterization
- Geothermal power generation
- Drilling research and development for geothermal energy
- Commercial scale-up priorities for geothermal energy
- Other geothermal mission-supporting technologies

Topic 4: Office of Electricity (OE).

- Transmission and distribution circuit digital twins for preventative maintenance and load interconnection support
- Federated and privacy-preserving learning architecture for operation technology and grid cybersecurity
- Commercializing innovations to reduce cost and complexity of energy storage safety monitoring and mitigation technologies at the system level
- Quantum-enabled sensing and timing with reduced size, weight, power, and cost (SWaP-C) for grid resilience

Topic 5: Office of Nuclear Energy (NE). Minimum TRL[4] of 5 required at time of writing a concept paper.

- Reactor Concepts Research, Development and Demonstration (Reactor Concepts RD&D) (NE-RCRDD). Potential applications include:
    - Optimizing nuclear power plant performance to improve economics, output capacity, and plant longevity
    - Improving the affordability of nuclear energy technologies
    - Enhancing safety and reducing technical and regulatory risks
    - Minimizing proliferation, cyber, and security risks for nuclear technologies
    - Improving the economic outlook for the U.S. nuclear industry through expansion of nuclear energy products
- Fuel Cycle Research and Development (NE-FCR&D). Potential applications include:
    - Enhancing domestic nuclear fuel supply chain capabilities
    - Enhancing fuel cycle safety and reducing technical and regulatory risk
    - Improving resource utilization and energy generation, including advanced recovery and reuse technologies
    - Advancing the technology readiness of nuclear fuels, cladding, and material compositions for current commercial light-water reactor (LWR), non-LWR, and advanced reactors
        - Key focus areas include, but are not limited to, metallic fuel forms, molten salt fuel, silicon carbide (SiC) cladding, and Tri-structural ISOtropic (TRISO) particle fuel
    - Reducing waste generation
    - Limiting proliferation risk
- Spent Nuclear Fuel and High-Level Waste Disposition R&D (NE-SFWD). Potential applications include:
    - Collaboration-based siting for nuclear waste storage and disposal facilities
    - Developing workforce pipeline starting with K-12 through vocational/trade schools as well as two and four-year academic institutions
    - Transporting used nuclear fuel and high-level radioactive waste
    - Optimizing repository designs (including deep boreholes) for the disposal of used nuclear fuel and high-level radioactive waste
- Nuclear Energy Enabling Technologies (NE-NEET). Potential applications include:
    - Demonstrating and deploying advanced sensors and instrumentation
    - Demonstrating advanced materials and manufacturing technologies
    - Enhancing domestic supply chain capabilities

[4] Technology readiness levels for advanced nuclear fuels and materials development

- Applying or demonstrating modeling and simulation tools to facilitate and accelerate nuclear technology deployment

Additional quantum technology areas of interest for one or more topic(s) may be added in the full lab call.

This is a Notice of Intent (NOI) only. DOE may issue a solicitation as described here, later than expected, that is significantly different than described here, or may not issue a solicitation at all. The anticipated solicitation will include information about how to apply. DOE will not respond to questions about the solicitation except from eligible entities. Other interested parties can consider joining the Teaming Partner List (TPL). Please see the appendix of this NOI for more information on the TPL.

Eligible applicants for the solicitation are DOE's National Labs, plants, and sites:

- Ames National Laboratory
- Argonne National Laboratory
- Brookhaven National Laboratory
- Fermi National Accelerator Laboratory
- Idaho National Laboratory
- Kansas City National Security Campus
- Lawrence Livermore National Laboratory
- Lawrence Berkeley National Laboratory
- Los Alamos National Laboratory
- National Energy Technology Laboratory
- National Renewable Energy Laboratory
- Nevada National Security Site
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Pantex Plant
- Princeton Plasma Physics Laboratory
- Sandia National Laboratories
- Savannah River National Laboratory
- SLAC National Accelerator Laboratory
- Thomas Jefferson National Accelerator Facility
- Y-12 National Security Complex

Appendix

DOE is compiling a Teaming Partner List (TPL) on Exchange to allow organizations that may wish to participate in an application, to express their interest in partnering with National Labs.

The TPL will be regularly updated to reflect new interested partners who provide their organization's information. Updates to the TPL will be available on the Exchange website as requesting parties are approved.

TPL Submittal Instructions:

Any organization that would like to be included on this list should find the TPL for this solicitation (TPL-0000077) on Exchange and submit the following information: organization name, organization type, website, contact name, contact address, contact email, contact phone, area of expertise, brief description of capabilities, and applicable topic. Please refer to the Manuals section on Exchange for more detailed instructions on using the TPL.

Disclaimer: By submitting a request to be included in the TPL, the requesting organization consents to the publication of the submitted information. By enabling and publishing the TPL, DOE is not endorsing, sponsoring, nor otherwise evaluating the qualifications of the individuals and organizations that are identifying themselves for placement on this TPL. DOE will not pay for the provision of any information, nor will it compensate any applicants or request organizations for the development of such information.