

Notice of Intent No.: DE-FOA-0002176

DISCLAIMER: The “Notice of Intent to Issue” is for informational purposes only; the Department of Energy is not seeking comments on the information in this notice and applications are not being accepted at this time. Any information contained in this notice is subject to change.

This is a Notice of Intent to issue

**Funding Opportunity Announcement No. DE-FOA-0002180
“Design Development and FEED Studies for Coal FIRST Systems”**

AND

**Funding Opportunity Announcement No. DE-FOA-0002057
“Critical Components for Coal FIRST Power Plants of the Future”**

The Department of Energy (DOE) National Energy Technology Laboratory (NETL) intends to issue two research and development announcements on behalf of the Office of Fossil Energy (FE). These announcements, anticipated to be issued in January 2020, will advance the technology concepts under investigation through the Pre-Front End Engineering Design (Pre-FEED) studies (see [link](#) for systems being studied) that resulted from Request for Proposal 89243319RFE000015 for Coal-Based Power Plants of the Future. These efforts are in support of the Department of Energy’s Coal FIRST (Flexible, Innovative, Resilient, Small, Transformative) Initiative. Coal FIRST will develop the coal plant of the future needed to provide secure, stable, and reliable power. Coal FIRST plants will: be capable of *flexible* operations to meet the needs of the grid; use *innovative* and cutting-edge components that improve efficiency and reduce emissions; provide *resilient* power to Americans; be *small* compared to today’s conventional utility-scale coal; and *transform* how coal power plant technologies are designed and manufactured.

The first announcement will be a Funding Opportunity Announcement (FOA) titled “Design Development and FEED Studies for Coal FIRST Systems”. A draft FOA is anticipated to be issued in January 2020 with the (final) FOA anticipated to be issued in May 2020. The FOA is expected to make available up to approximately \$76 million for cost-shared research and development (R&D) projects focused on performing Front End Engineering Design (FEED) studies for the Coal FIRST plant with allowances for limited design development. Topics in this FOA will be focused on Coal FIRST system concepts that do not require substantial research and development and instead are ready to proceed to a FEED study after 1-2 years of design development. If needed, projects resulting from this FOA may include the prototyping of advanced processes for manufacturing or fabricating parts or components.

Topics in this FOA are anticipated to include the following types of plants, each of which include carbon capture systems:

1. Flexible Ultra Supercritical (USC) Coal-Fired Power Plant
2. Pressurized Fluidized Bed Combustor with Supercritical Steam Cycle Power Plant
3. Hybrid Natural Gas Turbine / USC Coal Boiler Power Plant

Please see the Pre-FEED system concepts associated with these topics via this [link](#) for further explanation of these systems.

It is anticipated that up to two (2) projects may be awarded to develop the FEED studies to inform future Coal FIRST activities. The DOE/FE and NETL encourages host site owners to take a central role at the outset or early in the project and for the project team to include a system developer(s), original equipment manufacturers of the plant components, architect engineers, and others.

If a FOA is released, it will be posted at Grants.gov (<http://www.grants.gov>) and at FedConnect (<http://www.fedconnect.net>). Entities interested in applying for awards under the FOA are strongly encouraged to register at these sites to receive notification of announcements regarding the FOA.

The second announcement will be titled “Critical Components for Coal FIRST Power Plants of the Future” and is anticipated to be issued in January 2020. This FOA is expected to make available up to approximately \$100 million for cost-shared research and development (R&D) projects focused on developing the critical components required by Coal FIRST systems.

The topics included in this announcement may include, but are not limited to, research to develop the critical components in the following areas:

- Pressurized Fluidized Bed Combustor with Supercritical Steam Cycle Power Plant System
- Indirect Supercritical Carbon Dioxide Power Plant System
- Direct-fired Supercritical Carbon Dioxide Power Plant System
- Gasification Based Poly-generation (for power and other products, such as NH₃)
- Coal-Fired Direct Injection Combustion Engine & Gas Turbine Compound Reheat Combined Cycle Power Plant System
- Modular Staged Pressurized Oxy-combustion Power Plant System
- Flameless Pressurized Oxy-combustion Power Plant System
- Modular Gasification Syngas Combined Heat and Power Plant System

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This notice is issued so that interested parties are aware of the DOE’s intention to issue announcements in the near term. DOE may issue announcements as described herein, may issue announcements that are significantly different than the announcements described herein, or DOE may not issue any announcement at all. Any information contained in this NOI is subject to change.

DOE will **not** entertain questions at this time. Details on how to submit questions will be provided in the announcements (if released).