Welcome to the Webinar

NETL Webinar on FE’s Minority Serving Institutions Program

Maria Reidpath
Project Manager, Enabling Technologies and Partnerships

November 13, 2019
Welcome and Introductions

• The objective of this Webinar is to assist officials at Minority Serving Institutions (MSIs) by
  o Increasing awareness of NETL’s Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) Program and its available opportunities
  o Presenting the context for these opportunities: NETL’s Mission and Priorities in general and of Crosscutting Research in particular
  o Reviewing NETL’s engagement with MSIs and its purpose
  o Briefing participants on the intricacies of doing business with the Federal Government and how to effectively respond to NETL Funding Opportunity Announcements (FOAs)
Welcome and Introductions

- This **Webinar is being recorded and will be posted** (in 7-10 days) on NETL Website: [www.netl.doe.gov](http://www.netl.doe.gov). Go to the “News and Events” tab on the upper right-hand side and click “Conference Proceedings”.

- If you are using computer audio, you may experience audio issues depending on your internet connection speed. To avoid this, we *recommend the phone call option*.

- Your telephones are muted and we will not be able to hear your questions, so please use the chat/question box that came up when you logged onto GoToWebinar for your questions. All questions will be answered, time-permitting, after all the presentations have been made.

- Questions that are not answered during the Webinar will be posted, along with the answers, at the same location as the Webinar recording.
Goals of NETL’s HBCU-OMI Program

• To reach the intended population – i.e. U.S. minority students.

• For minority students to benefit from high-quality learning experiences by participating in research activities that impact the Nation and potentially, the World.

• For minority students to have the opportunity to present project progress reports and final results at professional venues thus gaining valuable exposure and experience.

• For faculty Principal Investigators to use the research project(s) as teaching tool for minority students.
Agenda

1. Welcome and Introductions
   Maria Reidpath, Project Manager,
   Enabling Technologies and Partnerships

2. Overview of NETL’s Mission and Activities
   Sydni Credle, Technology Manager,
   University Training and Research

3. Overview of Crosscutting Research Program
   Sydni Credle, Technology Manager,
   University Training and Research

4. Doing Business with the Federal Government
   Sheldon Funk, Contract Specialist,
   Financial Assistance

5. Responding to the Areas of Interest (or Topics)
   Sydni Credle, Technology Manager,
   University Training and Research

6. Funding Opportunity Announcements (FOAs)
   Sheldon Funk, Contract Specialist,
   Financial Assistance

7. Questions and Answers
Questions?

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NETL Mission & Activities

NETL Webinar on FE’s Minority Serving Institutions Program

Sydni Credle, Ph.D., P.E.
Technology Manager, University Training and Research

November 13, 2019
MISSION

Discover, integrate and mature technology solutions to enhance the Nation’s energy foundation and protect the environment for future generations

- Effective Resource Development
- Efficient Energy Conversion
- Environmental Sustainability

VISION

Be the Nation’s renowned fossil-energy science and engineering resource, delivering world-class technology solutions today and tomorrow

- Technology Convener
- Knowledge and Technology Generation Center
- Responsible Steward
Research Focus by Site

Multiple Sites Operating as 1 LAB System

- Materials Performance
- Multi-environment Materials Characterization
- Alloy Development/Manufacture
- Geospatial Data Analysis

- Process Systems Engineering
- Decision Science
- Functional Materials
- Environmental Sciences
- Energy Systems Optimization

- Energy Conversion Devices
- Modeling, Simulation, and Analysis
- In-Situ Materials Characterization
- Supercomputer Infrastructure
- Diagnostics, Sensors, and Controls

OREGON

ALASKA

TEXAS

PENNSYLVANIA

WEST VIRGINIA

Oil and Gas Strategic Office

U.S. DEPARTMENT OF ENERGY

11/25/2019
NETL Snapshot

By the Numbers

3 labs across the U.S.

900+ R&D projects in 50 states

$6.3B total award value

$991M FY19 budget

NETL possesses an array of authorities to manage & implement complex R&D programs

- Program planning, development, and execution
- Legal, Financial, Procurement and Head of Contracting Authority (HCA)
- Project Management Expertise

Workforce

1,226 Full Time Equivalent Employees (FTEs)

70 Joint Faculty

109 Postdoctoral Researchers

54 Graduate Students

40 Undergraduate Students

3 labs across the U.S.

900+ R&D projects in 50 states

$6.3B total award value

$991M FY19 budget
NETL Budget

FY19 Budget/FY20 CR
$991M

Coal Program
Carbon Capture $101M
Carbon Storage $98M
Crosscutting $56M
NETL Coal R&D $36M
Rare Earth Elements $18M
STEP $22M
Transform. Coal Pilots $25M

Oil & Gas Program
Natural Gas Tech. $51M
Unconvent. FE Tech. $46M

FE Program Support
Program Direction $27M
NETL Research & Ops. $50M
NETL Infrastructure $45M

Non-Fossil Programs
EERE $150M
OE $19M
CESER $65M

Strategic Partnerships
Other $52M

Updated June 25, 2019
An Active Portfolio from Concept to Market Readiness

**Technology Development Pathway**

- **Discovery**
  - TRL 1-3: Concept identified/proven at laboratory-scale

- **Development**
  - TRL 4-5: Technology component validated/integrated

- **System Testing**
  - TRL 6-7: System performance confirmed at pilot-scale

- **Demonstration**
  - TRL 8: Technology component validated/integrated

- **Commercialization**
  - TRL 9: Technology available for wide-scale deployment

**Tools**

- **Knowledge-Based Decision Making**
  - Systems Engineering and Integration
    - Engineering analysis
    - Pre-FEED/FEED studies
    - NEPA
  - Decision Science and Analysis
    - Screening studies
    - Techno-economic analysis
    - Technology Readiness Assessments

**Scale**

- Technology Confidence
- Investment
- Private Sector Cost Share

**Fundamental Studies**
Established & Expanding Partnerships

An Active Portfolio from Concept to Market Readiness

600+ partnerships with industry, academia & govt organizations

900+ research and development projects nationwide
Conclusions

• DOE’s Office of Fossil Energy and the National Energy Technology Laboratory are *aligned with the priorities of the America First Energy Plan*.
  
  o R&D, STEM, and Workforce

• **NETL manages a variety of research programs** on behalf of DOE’s Office of Fossil Energy
  
  o Including an HBCU-OMI program targeting fossil energy
Questions?

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Crosscutting Research Program Areas

Broad Applicability, Multiplier Impact

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University Training
Modeling, Simulation & Analysis
Water Management
Sensors & Controls
High Performance Materials
Crosscutting Research
## Budget

### All Crosscutting Budget Lines

<table>
<thead>
<tr>
<th>Year</th>
<th>Sensors &amp; Controls</th>
<th>Modeling</th>
<th>Water Management</th>
<th>Materials</th>
<th>HBCU</th>
<th>UCR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY17</td>
<td>$3.65M</td>
<td>$20.85M</td>
<td>$9.8M</td>
<td>$8M</td>
<td>$1M</td>
<td>$1.4M</td>
<td><strong>$44.7M</strong></td>
</tr>
<tr>
<td>FY18</td>
<td>$7.5M</td>
<td>$20M</td>
<td>$7M</td>
<td>$20M</td>
<td>$1M</td>
<td>$2.25M</td>
<td><strong>$57.75M</strong></td>
</tr>
<tr>
<td>FY19</td>
<td>$8M</td>
<td>$14M</td>
<td>$8M</td>
<td>$20M</td>
<td>$2.05M</td>
<td>$3M</td>
<td><strong>55.05M</strong></td>
</tr>
<tr>
<td>FY20*</td>
<td>$8M</td>
<td>$14M</td>
<td>$8M</td>
<td>$20M</td>
<td>$2.05M</td>
<td>$3M</td>
<td><strong>55.05M</strong></td>
</tr>
</tbody>
</table>

*Continuing Resolution

**Total**

- **FY17**: $44.7M
- **FY18**: $57.75M
- **FY19**: $55.05M
- **FY20***: $55.05M

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**Millions ($)**

- 2017: 44.7
- 2018: 57.75
- 2019: 55.05
- 2020*: 55.05
**New FOA Awards in FY19**

29 new Crosscutting Research projects received $24 million in federal funding

<table>
<thead>
<tr>
<th>Topic</th>
<th>FOA</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Materials for High-Efficiency, Flexible and Reliable Coal-Fueled Power Plants</td>
<td>DE-FOA-0002002</td>
<td>5 projects DOE Funding: $4,469,403</td>
</tr>
<tr>
<td>Advanced Manufacturing of Embedded Sensors</td>
<td>DE-FOA-0002001</td>
<td>3 projects DOE Funding: $2,999,002</td>
</tr>
<tr>
<td>Coal Power Plant Cooling Technology - Cooling Tower Enhancement</td>
<td>DE-FOA-0002001</td>
<td>3 projects DOE Funding: $3,385,718</td>
</tr>
<tr>
<td>Modeling Existing Coal Plant Challenges</td>
<td>DE-FOA-0002001</td>
<td>4 projects DOE Funding: $2,909,485</td>
</tr>
<tr>
<td>Application of Novel Analytic Method(s) to Determine Arsenic and/or Selenium Concentrations in Fly Ash Waste Streams Generated from Coal Combustion</td>
<td>DE-FOA-0001991</td>
<td>2 projects DOE Funding: $799,706</td>
</tr>
<tr>
<td>Coal Plant Effluent Water Reuse</td>
<td>DE-FOA-0001991</td>
<td>1 project DOE Funding: $400,000</td>
</tr>
<tr>
<td>Cybersecure Sensors for Fossil Power Generation</td>
<td>DE-FOA-0001991</td>
<td>4 projects DOE Funding: $1,600,000</td>
</tr>
<tr>
<td>Modeling Existing Coal Plant Challenges using High Performance Computing</td>
<td>DE-FOA-0001991</td>
<td>3 projects DOE Funding: $1,199,238</td>
</tr>
<tr>
<td>Adaptive Data-Driven Approaches featuring Physics-Based Attributes for Improved Flexibility, Reliability, and Performance</td>
<td>DE-FOA-0001989</td>
<td>3 projects DOE Funding: $4,286,228</td>
</tr>
<tr>
<td>Artificial Intelligence for Enhanced Data Analytics and Control of Coal-based Power Plants</td>
<td>DE-FOA-0001989</td>
<td>1 project DOE Funding: $1,999,837</td>
</tr>
</tbody>
</table>
Program Areas

- University Training
- Modeling, Simulation & Analysis
- Water Management
- High Performance Materials
- Sensors & Controls

https://netl.doe.gov/coal/sensors-and-controls
Mission: Test and mature novel sensor and control systems operable in coal-fired power plants for real-time measurement capability, improved overall plant efficiencies, more effective ramp rates, and increased flexibility.
Program Areas

University Training
Modeling, Simulation & Analysis
Water Management
Sensors & Controls
High Performance Materials

https://netl.doe.gov/coal/university-training
**Educational Grant Programs**

- **Historically Black Colleges & Universities and Other Minority Institutions (HBCU/OMI)**
  - Provide and promote opportunities for HBCU/OMI in science and engineering.
  - Foster private sector participation and interaction with HBCU/OMI in fossil energy related programs.
  - Provide a forum to facilitate technology transfer, strengthen educational training, and develop/enhance the research infrastructure capabilities of HBCU/OMI.

- **University Coal Research (UCR)**
  - Sustain a national university program of fossil energy research that focuses on innovative and fundamental investigations pertinent to fossil fuel conversion and utilization.
  - Support development of future scientists and engineers through exposure to research in fossil energy technologies.
  - Improve our fundamental scientific and technical understanding of chemical and physical processes involved in the conversion and utilization of fossil fuels.
University Training and Research

Workforce & Talent Development

$32.3M and 101 grants
3,000 student researchers
Fossil Energy research
STEM training addresses workforce gap

Since Program Inception Through 2018

UCR Program Results:
• 1000+ Technical Papers
• 10+ Technical Awards
• 7 Patents Issued to Date

HBCU Program Results:
• 500+ Technical Papers
• 5+ Technical Awards
• 2 Patents Issued to Date

HBCU Summary 2010 – 2019
• 35 Awards
• $9.2M

UCR Summary 2010 – 2019
• 66 Awards
• $23.1M

$500,000 per award
No cost share requirement
Program Areas

https://netl.doe.gov/coal/modeling-simulation-analysis
**Mission:** Simulate coal fleet challenges to lift-up technology solutions, apply computational tools at multiple scales to accelerate development and deployment.

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**Multiphase Flow Science**

**Advanced Process Simulation**

**Addressing Existing Fleet Challenges with Modeling**

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- Input Wall Temperatures From Tube Side Model
  - $T_w$
  - $q_{conv}$
  - $h_{conv}$
  - $h_{conv.f}$

- Wall Temperature (K)
  - 1092
  - 1000
  - 900
  - 800
  - 700
  - 600
  - 500
  - 400
  - 300
  - 200
  - 100
  - 0

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**U.S. DEPARTMENT OF ENERG**
Program Areas

Water Management

University Training

Modeling, Simulation & Analysis

Sensors & Controls

High Performance Materials

https://netl.doe.gov/coal/water-management
Mission: Provide leadership, raise awareness, and offer cost-effective technical solutions to potential national issues in water quality and availability.
Program Areas

https://netl.doe.gov/coal/high-performance-materials
High Performance Materials

**Mission:** Characterize, produce, and certify cost-effective alloys and high performance materials suitable for extreme environments found in coal power generation to support existing and new plants.

- ** Computational Materials Design**
- **Advanced Structural Materials**
- **Functional Materials for Process Performance**
- **Advanced Manufacturing**
Announcements

Annual Crosscutting Project Review Meeting
April 21-23, 2020
Omni-William Penn Hotel, Pittsburgh PA

Links to Proceedings of Previous Project Review Meetings

2019 2016
2018 2015
2017 2014
Useful Links

NETL
• www.netl.doe.gov

Office of Fossil Energy
• www.energy.gov/fe

Crosscutting Research
• www.netl.doe.gov/research/coal/crosscutting

Project Information
• https://www.netl.doe.gov/node/2476

Project Portfolios/Publications
• https://netl.doe.gov/crosscutting/publications
Questions?

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Doing Business with the Federal Government

NETL Webinar on FE’s Minority Serving Institutions Program

Sheldon Funk
Contract Specialist, Finance & Acquisition Center

November 13, 2019
Steps to Apply for an NETL Grant

- Identify opportunity of interest through **Funding Opportunity Announcement (FOA)**
  - Discussed in detail later in presentation
- Meet registration requirements
- Prepare and submit application
The Funding Opportunity Announcement (FOA)

- A publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds.
- May be known as program announcements, requests for applications, notices of funding availability, solicitations, or other names depending on the agency and type of program.
- See most recent DE-FOA-0001991
  - FUNDING IS CLOSED; FOR EXAMPLE USE ONLY
  - http://www.fedconnect.net/fedconnect/?doc=DE-FOA-0001991&agency=DOE
Registration/Submission Requirements

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (dnb.com/duns-number.html)
- Register with the System for Award Management (SAM) (sam.gov/SAM)
- Register with grants.gov
- Register with fedconnect.net
Registration Requirements: Grants.gov

• Register with Grants.gov
  
  There are 3 steps to this process:

  1. The **Authorized Organizational Representative (AOR)** must register
  
  2. An email is sent to the **E-Business (E-Biz) POC listed in SAM**. The E-Biz POC must approve the AOR registration using their MPIN from their SAM registration

  3. AOR verifies that registration was **completed** at [Grants.gov](http://Grants.gov)

• [Grants.gov](http://Grants.gov) is where you will submit your application package
Registration Requirements: Fedconnect.net

- Applicants must register with FedConnect (fedconnect.net) to submit questions
- View and download announcement documents or amendments
- Communicate with Federal representatives managing the announcement
- Allow at least 44 days to complete entire registration process
• Questions related to the registration process, system requirements or how an application form works must be directed to grants.gov; 1-800-518-4726; or support@grants.gov

• Questions related to the content of the announcement must be submitted to the FedConnect portal

• Must be registered with FedConnect to submit questions and view responses
Application Preparation and Submission

- Applicants must download application package, forms and instructions at grants.gov

- Applications must be submitted through FedConnect or grants.gov (this will be indicated in the solicitation document)
  - Must register at FedConnect or Grants.gov!
  - Update SAM annually

- Applications must be submitted through grants.gov by a qualified HBCU/OMI (Minority Serving Institution) authorized representative
Accessing NETL FOAs in FedConnect

• In an internet browser, enter the FedConnect URL fedconnect.net

• On the Main Page, click on Search Public Opportunities Only
• Under **Search Criteria**, select **Issuing Office**, type “**National Energy Technology Lab**”, and click on **Search**.
Accessing NETL FOAs in FedConnect (cont.)

• Click the **hyperlink** under the title to view
Accessing NETL FOAs in FedConnect (cont.)

- Click on the **FOA Reference Number** under **Funding Opportunity** to view the FOA instructions.

- To view Amendments to the FOA, click on the **FOA Reference Number** under **Amendment 1**.
Accessing NETL FOAs in FedConnect (cont.)

- **Help** buttons are available on each page to assist you navigate FedConnect.
- To submit questions about this FOA or submit an application, Registered Users click on **Sign In**.
- Click on **Register Now** to receive notifications and agency alerts, and view the message center.
Opportunities for Work with NETL

- NETL Research Programs use the websites below to post solicitations/funding opportunity announcements, receive proposals/applications, and disseminate other information for competitive awards. **Entities wishing to participate in these solicitations must register at these websites.**
  - Fedconnect  [https://www.fedconnect.net/](https://www.fedconnect.net/)
  - Grants.gov  [https://grants.gov/](https://grants.gov/)

- **Proposals will only be accepted through FedConnect or Grants.gov** (this will be indicated in the solicitation document). Each website has the ability to send email messages to potential applicants when a new solicitation from NETL is posted.

- Additional information can also be found at NETL Business website:  [https://netl.doe.gov/business/solicitations](https://netl.doe.gov/business/solicitations)
Questions?

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Responding to Areas of Interest (AOIs)

NETL Webinar on FE’s Minority Serving Institutions Program

Sydni Credle, Ph.D., P.E.
Technology Manager, University Training and Research

November 13, 2019
HBCU/OMI Role in Crosscutting Research

• Fossil energy R&D that supports program goals while educating and training next generation highly-skilled scientists and engineers in advanced technology systems with knowledge of, and sensitivity for, cultural diversity

• **Identify student roles** when/where possible

• **Research crosscuts many different technology areas** (sensors, materials, simulation, water management, etc.)
### Areas of Interest

The FOA provides background materials regarding the topics often called “Areas of Interest” (AOIs)

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe in detail each area of research where NETL is seeking proposals</td>
<td>Should be carefully considered as a potential topic for research proposals</td>
</tr>
<tr>
<td>Number/types of areas of interest are dependent on funding in particular areas, DOE mission goals, and technology maturity</td>
<td>Areas of Interest change annually</td>
</tr>
<tr>
<td>May also include descriptions of research that are NOT being sought in the FOA</td>
<td></td>
</tr>
</tbody>
</table>
Previous Areas of Interest

Application of Novel Analytic Method(s) to Determine Arsenic and/or Selenium Concentrations in Fly Ash Waste Streams Generated from Coal Combustion

Cybersecure Sensors for Fossil Power Generation

Modeling Existing Coal Plant Challenges using High Performance Computing

Coal Plant Effluent Water Reuse

Coal Contaminant Partitioning in Power Plant Wastewater

Automated Plant Component Inspection, Analysis, and Repair Enabled by Robotics

Improved Ab Initio Models of High Performance Structural Alloys for Existing and Advanced Technologies Fossil Energy (FE) Power Plants

Improved Water Usage at Existing Power Generation Facilities
Responding to FOAs

**Read the FOA Carefully**

- Understand the Background/Description
- Understand the specific Objectives
- Understand the topics NETL is interested in funding

**Read AOI Language Closely**

- Understand where your research strengths best fit with NETL AOIs
- Look for specific thresholds or requirements
- Determine items that are not of interest within that topic area/area of interest

*Recycling Applications is Generally NOT a Successful Approach*
Responding to FOAs

Get Organized Early

- Create a Proposal Team
- Identify key research team members
- Consider teaming with another institution
  - Provide letters of support
  - Financial investment if applicable
  - Be as specific as possible
- Develop Application Preparation Schedule and Key Submittal Dates

Ask Questions

- Use FedConnect to ask questions while FOA is open
  - Can be used for technical, administrative, or FOA clarification (differences between milestones, success criteria, deliverables, etc.)
- See if your questions have already been asked/answered on the server
Responding to FOAs

**Identify Required Submittals**

- SF-424, Narrative, Abstract, Project Management Plan, Budget Justifications etc.
- Address **ALL** Areas
  - Follow the review criteria and ensure that all aspects are clearly addressed by your application

**Address the “Cake” prior to the “Icing”**

**Submit All Documentation**

- Ensure that all required documentation is submitted
- **Failure to do so can result in a non-responsive application**
- Ensure Page limits, margins, spacing, font size (all specified within the FOA)
- Ensure cohesiveness and consistency between documentation (budgets, narrative, SOPO, PMP, etc.)

Verify that the final application complies with **ALL FOA requirements**
Questions?

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Funding Opportunity Announcements (FOAs)

NETL Webinar on FE’s Minority Serving Institutions Program

Sheldon Funk
Contract Specialist, Finance & Acquisition Center

November 13, 2019
# Table of Contents

- **General Observations**
- **Typical FOA Organization**
- **Award Information**
- **Eligibility Information**
- **Application and Submission Information**
  - SF 424 – Application for Federal Assistance
  - Project/Performance Site Location(s)
  - Project Summary/Abstract File
  - Resume File
  - SF 424-A, Budget Information – Non-Construction Programs File
  - Budget Justification File
  - Project Management Plan
  - Environmental Questionnaire
- **Application Content**
  - Project Narrative – Address each item!
    - Project Objectives
    - Merit Review Criteria Discussion
    - Relevance and Outcomes/Impacts
    - Roles & Responsibilities of Participants
    - Decision-making and Communication Strategy
    - Management Capabilities
    - Multiple Principal Investigators
    - Facilities and Other Resources
    - Equipment
    - Bibliography and References
    - Other Project Narrative Considerations
- **Application Review Information**
  - Review Criteria
  - Review and Selection Process
  - Award Administration Information
- **Questions/Agency Contacts**
- **Other Information**
- **Two Keys to Writing Effective Applications**
A typical FOA issued for Minority Serving Institutions (usually referred to as HBCU-OMI) tends to follow a standard format.

Some FOA sections provide information to the applicant:
- Who is eligible
- How to submit
- Contact information

Other FOA sections offer critical guidance on how to create a responsive application:
- What information should be provided
- What are the review criteria that will be used to evaluate an application?
Typical FOA Organization

- Funding Opportunity Description
- Award Information
- Eligibility Information
- Application and Submission Information
- Application Review Information
- Award Administration Information
- Questions/Agency Contacts
- Other Information
Award Information

- Type of Application
- Type of Award Instrument
  - Grant
- Estimated Funding
- Expected Number of Awards
- Anticipated Award Size
- Maximum DOE Share
- Estimated Period of Performance
Eligibility Information

• The **Principal Investigator and/or Co-Principal Investigator(s) must be teaching professors at an HBCU/OMI**. Other participants who do not hold teaching or student positions may be included in the research team.

• Applications from university-affiliated research institutions must be submitted through the college or university with which they are affiliated

• At least one student registered at the university is to receive compensation for performing research related to a grant

• The scope of work to be performed by subcontractors may not be more significant than what’s to be performed by the Applicant
Application and Submission Information

- Form and Content Requirements
- Full Applications
- Post-Selection Information Requests
- Submission Dates And Times
- Intergovernmental Review
- Other Submission And Registration Requirements
- Funding Restrictions
- Pre-Award Costs
- Pre-Award Costs Related to National Environmental Policy Act (NEPA) Requirements
- Performance of Work in the United States
- Foreign Travel
- Equipment and Supplies
- Lobbying
- Additional Application and Submission Requirements
Applications usually include online forms such as
  o SF 424 – Application for Federal Assistance
  o Project/Performance Site Location(s)
  o SF-LLL Disclosure of Lobbying Activities

Attachments to the online forms project narrative file
  o Project Summary / Abstract File
  o Resume File
  o SF 424A Excel, Budget Information – Non-Construction Programs File
  o Budget Justification File
  o Subaward Budget File(s)
  o Project Management Plan
  o Environmental Questionnaire
• Complete this form first to populate data in other forms

• Complete all required fields in accordance with the pop-up instructions on the form

• The list of certifications and assurances referenced in Field 21 can be found on DOE Financial Assistance Forms Page at https://www.energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms under Certifications and Assurances
Project/Performance Site Location(s)

• Use this form to indicate the primary site where the work will be performed. **If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided**

• Note that the Project/Performance Site Congressional District is entered using a 2-digit state code followed by a dash and a 3-digit Congressional district code. For example VA-001
Project Summary/Abstract File

- Self-contained, one (1) page document
- Summary of the proposed activity for public dissemination
- Identifies:
  - name of the applicant
  - project director/principal investigator(s)
  - project title
  - objectives of the project
  - description of the project
  - methods to be employed
  - potential impact (i.e., benefits, outcomes)
  - major participants

- Must not include any proprietary or business sensitive information
• **Resumes of each key person proposed including sub-awardees and consultants are required.**
  o A key person is any individual who contributes in a substantive, measurable way to the project.

• Each resume **should not exceed 2 pages** including (if applicable):
  o **Education and Training**: provide institution, major/area, degree, and year (Undergraduate, graduate, and postdoctoral training)
  o **Professional Experience**: Beginning with the current position, list in chronological order, include brief description of professional/academic positions
  o **Publications**: Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address (if available).
    - Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications
  o **Synergistic Activities**: List no more than 5 professional and scholarly activities related to the effort proposed

• All resumes are saved in a single file
• A separate budget for each year of support requested and a cumulative budget for the total project period are usually required.

Justify the costs proposed in each Object Class Category/Cost Classification category. For example:

- Identify key persons and personnel categories and the estimated costs for each person or category
- Provide a list and cost of equipment
- Identify proposed subaward/consultant work and cost of each subaward/consultant
- Describe purpose of proposed travel, number of travelers, and number of travel days
- List general categories of supplies and cost for each category
Project Management Plan

• This plan typically includes the following sections:
  o Executive Summary
  o Risk Management
  o Milestone Log
  o Funding and Costing Profile
  o Project Timeline
  o Success Criteria at Decision Points
Environmental Questionnaire

- Environmental questionnaire for each geographic site where project activities will take place must be completed

- The form is located at https://www.netl.doe.gov/sites/default/files/2018-02/451_1-1-3_0.pdf
Application Review Information

- Review Criteria
- Other Selection Factors
  - Program Policy Factors
- Other Review Requirements
  - Risk Assessment
  - Reporting Matters Related to Recipient Integrity and Performance
- Review and Selection Process
- Anticipated Notice of Selection and Award Dates
Review Criteria

• **Initial Review Criteria** determine if:
  - the applicant is eligible for an award
  - the information required by the FOA has been submitted
  - the proposed project is responsive to the objectives of the FOA

• **Merit Review Criteria** to evaluate and score each application can include:
  - Scientific and Technical Merit
  - Technical Approach and Understanding
  - Applicant/Team Capabilities, Facilities, and Equipment

• **Other selection factors such as program policy** are sometimes considered by the Selection Official.
Review and Selection Process

• Merit Review
  o Applications that pass an initial review will undergo a merit review

• Selection Official Consideration
  o Selection Official can consider the merit review recommendation, program policy factors, and the amount of funds available

• Government Discussions with Applicant
  o The Government may enter into discussions with a selected applicant for any reason deemed necessary
  o Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant
Award Administration Information

- **Award Notices**
  - Ineligible Submissions
  - Full Application Notifications
    - Successful Applicants
    - Unsuccessful Applicants
    - Alternate Selection Determinations
    - Notice of Award

- **Administrative and National Policy Requirements**
  - Administrative Requirements
    - DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements
    - National Policy Requirements
  - DUNS and SAM Requirements
  - Other Requirements

- **Reporting**
Questions

Questions

- Questions regarding the content of the announcement must be submitted through the FedConnect portal.
- Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov. DOE/NNSA cannot answer these questions.

Agency Contact*

- Name/E-mail:

*As noted above, the typical FOA will note that applicant questions must be submitted through FedConnect or at grants.gov, as appropriate, and shall not be submitted to the Agency Contact. Questions submitted directly to the Agency Contact will not be answered, but party asking the question will be advised to submit such question(s) via the appropriate portal. No response to questions via email.
Other Information

- Modifications
- Government Right to Reject or Negotiate
- Commitment of Public Funds
- Treatment of Application Information
- Evaluation and Administration by Non-Federal Personnel
- Intellectual Property Developed Under This Program
- Notice Regarding Eligible/Ineligible Activities
- Notice of Right to Conduct a Review of Financial Capability
- Notice of Potential Disclosure Under Freedom of Information Act (FOIA)
- Requirement for Full and Complete Disclosure
- Other Information
Two Keys to Writing Effective Applications

- **Adhere to FOA Guidance** on key submittal items such as:
  - Project Narrative
  - Statement of Project Objectives (SOPO)
  - Project Management Plan
  - Project Summary/Abstract

- **Specifically Address Merit Review Criteria** as they relate to the FOA Areas of Interest
Project Narrative – Address each item!

- Project Narratives Can Include:
  - Project Objectives
  - Merit Review Criterion Discussion
  - Relevance and Outcomes/Impacts
  - Roles & Responsibilities of Participants
  - Decision-making and Communication Strategy
  - Management Capabilities
  - Multiple Principal Investigators
  - Facilities And Other Resources
  - Equipment
  - Bibliography And References
  - Statement of Project Objectives (SOPO)
The project objective in a project narrative should provide a clear, concise statement of the specific objectives/aims of the proposed project.
Applications are evaluated and scored in accordance with the merit review criteria and weights provided in the FOA.

It is critical to provide sufficient information so reviewers can evaluate applications in accordance with the merit review criteria provided in the FOA.

Only applications that address each merit review criterion and sub-criterion separately will be considered and evaluated.

Applications that avoid substantial discussion of requested information by referring to other publications, project narrative appendices, and/or attachments outside the project narrative can be judged as nonresponsive to the criterion.

- Referenced publications, project narrative appendices, and attachments are to be supplied to validate the discussion.
Relevance and Outcomes/Impacts

• Should explain the project’s relevance to the objectives in the FOA and the expected outcomes and/or impacts

• Justification for the proposed project should include a clear statement of the importance in terms of the utility of the outcomes and the target community of beneficiaries
A project narrative will often require multi-organizational or multi-investigator projects to **describe the roles and the work to be performed** by each participant/investigator, business agreements between the applicant and participants, and how the various efforts will be integrated and managed.
This section provides a discussion of how communication and decision-making will occur within the context of the organizational structure, with particular emphasis on scientific/technical direction and mechanisms for controlling project scope, cost, and schedule.
Management Capabilities

• Provide information relevant to the capabilities and experience of the PI and project team in managing technical projects of similar nature and complexity.
  
  o Include examples that demonstrate the ability to successfully meet research objectives within **scope**, **budget**, and **schedule**.
Multiple Principal Investigators

- Project narratives can require applicants to indicate if the project will include multiple PIs
  - This decision is solely the responsibility of the applicant
Facilities and Other Resources

- Project narratives typically identify the facilities (e.g., office, laboratory, computer, etc.) to be used at each performance site listed
  - If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project
  - Describe only those resources that are directly applicable to the proposed work
  - Provide any information describing other resources available to the project such as machine and electronics shops
• Project narratives may request a list of important items of equipment already available for this project.

• If you are proposing to acquire equipment, describe comparable equipment, if any, already at your organization and explain why it cannot be used.
Bibliography and References

• If applicable, provide a bibliography for any references cited in the Project Narrative section

• This section must include only bibliographic citations

• This section is not typically included in the page limitation of the project narrative
Other Project Narrative Considerations

- Project narratives will typically specify a “not to exceed” length, e.g. “20 pages, (single spaced)”
  - This includes cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations
  - **Evaluators will review only the number of pages specified**
- There may be instructions on how to mark proprietary information in the application
The project narrative will likely request a single, detailed SOPO that addresses how the project objectives will be met.

The SOPO should contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below.

Typically the SOPO cannot contain proprietary or confidential business information.

The SOPO typically will count as part of the page limitation on the project narrative for the proposed work.

The FOA may include a prescribed format for the SOPO.
Common SOPO Format

- Title of work to be performed, divided into four sections
- Objectives
  - One paragraph on the overall objective(s) of the work is usually sufficient
  - Objective(s) for each phase of the work should also be included
- Scope of work
  - The scope of work in a typical SOPO should summarize the effort and approach to achieve the objective(s) of the work for each proposed phase
  - This section often may not exceed one-half page
- Tasks to be performed
  - In a typical SOPO the proposed tasks should be provided in a concisely written, logical sequence
  - This section usually provides a brief summary of the planned approach each task and subtask (if applicable) in a format based on the task structure
  - The SOPO should be divided into the phases of the project, as appropriate
- Deliverables
Typical Merit Review Criteria

- **Scientific and Technical Merit**
  - The application is evaluated to determine the overall technical merit and quality of the proposed concept

- **Technical Approach and Understanding**
  - The application can be evaluated to determine the overall quality, soundness, and reasonableness of the technical approach to fulfill the requirements of the proposed work

- **Applicant/Team Capabilities, Facilities, and Equipment**
  - Applications can be evaluated in terms of the qualifications and experience of key personnel, the qualifications of the participating organizations, the proposed management of the effort, and the facilities and equipment
Scientific and Technical Merit

The application is evaluated to determine the overall technical merit and quality of the proposed concept. This can include the following:

- The degree to which development of the proposed technology can be expected to contribute to a developmental breakthrough for the challenges described in the topic area.
- The thoroughness and relevance of the scientific, engineering, and technical information and data provided to support readiness of the proposed technology.
- The degree to which the proposed work is based on sound scientific and engineering principles.
• Technical Approach and Understanding

  The application is evaluated to determine the overall quality, soundness, and reasonableness of the technical approach to fulfill the requirements of the proposed work. This can include the following:

  • The likelihood that the overall approach will result in successful achievement of the objectives and deliverables described in the applicable topic area
  • The proposed approach must satisfy the requirements, goals and objectives of the applicable topic area
  • Adequacy and completeness of project risks should be identified with mitigation strategies including technical, organizational, cost share support and other risks affecting the potential for success
• Applicant/Team Capabilities, Facilities, and Equipment
  
  o Applications can be evaluated in terms of the qualifications and experience of key personnel, qualifications of participating organizations, proposed management of the effort, facilities, and equipment
  
  o If appropriate, emphasize the following:
    • scientific mastery of the described technology,
    • pertinent systems operations and analysis experience,
    • project management experience, and
    • demonstrated R&D experience and capabilities relevant to the proposed work.
• Emphasize prior university experience in managing projects of similar type, size and complexity, and in successfully completing similar R&D projects.

• Present the project organization showing responsibilities. Lines of authority should be clearly described and optimized to assure successful project execution.

• Discuss the appropriateness and availability of facilities, equipment, and their relevance to technology development and/or commercial applications as applicable.
Questions?

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