Financial Assistance
Notice of Funding Opportunity
Part 1

U.S. DEPARTMENT *of* ENERGY

Department of Energy (DOE)
Office of Electricity
Grid Supply Chain Alternatives to Lead Energy Dominance (SCALED)

Notice of Funding Opportunity Number: DE-FOA-0003641

Concept Paper Due: November 20, 2026, 5:00 PM E.T.

Application Due: February 8, 2027, 5:00 PM E.T.

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Before You Begin

Navigating the Notice of Funding Opportunity

To reduce the burden on applicants in the Notice of Funding Opportunity (NOFO) process and limit the length of the NOFO information requests, we separated the NOFO into two parts.

The NOFO Part 1 describes the Department of Energy (DOE) program goals and evaluation criteria, eligibility, and other components specific to each funding opportunity. NOFO Part 2 includes the fixed DOE requirements that generally do not change from NOFO to NOFO, including standard information for the application phase, expectations for award negotiations, and post-award requirements. You must review both parts before applying. To assist you in the process, you will find references throughout this document to additional information in Part 2.

You must also take several one-time actions before applying. Some of these actions may take several weeks, so be sure to allow yourself enough time to complete them. If you don't complete all required steps, it could interfere with application and negotiation deadlines or your ability to receive an award if selected. If you have already completed these one-time registrations, make sure they are active and up to date. All registrations are free. You can find additional information about registration in NOFO Part 2, *Get Registered*.

Hyperlinks are provided for the applicant's ease of reference. Links, and the information contained in them, may change over time. It is up to an individual applicant to make sure that they have the current information that is contained in the links.

This announcement is published with NOFO Part 2 Version 4.1 (June 2026).

I. Basic Information

A. Key Facts

Issuing Agency	Department of Energy, Office of Electricity
Funding Opportunity Title	Grid Supply Chain Alternatives to Lead Energy Dominance (SCALED)
Announcement Version	Initial
Funding Opportunity Number	DE-FOA-0003641
Funding Instrument	Cooperative Agreements
Expected Total Available Funding	$237 million
Assistance Listing Number and Name	81.122 Office of Electricity
Announcement Type	Non-Research Demonstration
Funding Opportunity Description	To enhance the domestic supply chain for essential grid components.
Program Goals & Objectives	This initiative will deploy a multifaceted approach to bolster domestic capabilities to withstand supply chain shocks, ensure a reliable energy infrastructure, and position the U.S. as a global leader in foundational grid technologies.
Topic Areas	• **Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment** will support efforts to mitigate supply chain constraints by identifying opportunities (at a Technology Readiness Level [TRL] 8 or higher) to reclaim components and materials from retired equipment from projects, storm damage, or end-of-life circumstances. • **Topic Area 2: Alternative Materials and Subcomponents** will support U.S. suppliers and manufacturers in adopting existing (TRL 6 or higher) domestically sourced alternative materials and subcomponents to enhance the resilience of the U.S. energy grid supply chain.
Eligible Applicants	Domestic Entities: • Institutes of higher education; • For-profit entities; • Non-profit entities; • State and local government entities; and • Indian Tribes See Section II. Eligibility for additional details.

KEY DATES

All deadlines are 5:00 p.m. ET unless indicated otherwise

Notice of Funding Opportunity Issue Date:
October 30, 2026

Concept Paper Deadline:
November 20, 2026

Application Deadline:
February 8, 2027

Anticipated Selection Notification Date:
June 25, 2027

Anticipated Award Date:
September 23, 2027

Estimated Period of Performance:

Topic Area One (1):

Oct. 2027 – Sept. 2029

Topic Area Two (2):

Phase 1: Oct. 2027 – Sept. 2028

Phase 2: Oct. 2028 – Sept. 2031

eXCHANGE URL and Helpdesk	https://exchange.energy.gov/ exchangehelp@hq.doe.gov
NOFO URL and NOFO Email	https://exchange.energy.gov/Default.aspx/ DE-FOA-0003641@netl.doe.gov

1. Funding Details

Multiple Topic Areas

Approximate total available funding for all topic areas: $237,000,000 in fiscal year 2027

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

- Approximate total available funding: $50,000,000
- Approximate number of awards: 3–20
- Approximate dollar amount of individual awards: $2,500,000–$15,000,000
- Minimum cost share required: 50%
- Approximate award project period: up to 24 months
- Anticipated length of budget periods: up to 24 months
- Anticipated number of budget periods: 1

Topic Area 2: Alternative Materials and Subcomponents

- Approximate total available funding: $187,000,000
- Approximate number of awards: 7–50
- Approximate dollar amount of individual awards: $1,000,000–$25,000,000
- Minimum cost share required: 50%
- Approximate award project period: up to 48 months
- Anticipated number of budget periods: 1
- Anticipated length of budget periods: Phase 1—up to 12 months. Phase 2—up to 36 months

2. Period of Performance

DOE anticipates both Topic Areas will be coextensive (singular budget period); however, Topic Area Two (2) will contain two Phases. For Topic Area 2, Phase 2 will be contingent on a Go/No-Go decision point. You can find a complete list of post-award requirements and more information on the Go/No-Go review in NOFO Part 2, *Award Administration Information*.

B. Executive Summary

The Department of Energy (DOE), Office of Electricity (OE), is launching a strategic grid supply chain program, as appropriated in the Energy and Water Development and Related Agencies Appropriations Act, 2026 (Pub. L. No. 119-74, Div. B), designed to significantly enhance the domestic supply chain for critical electric grid components such as (but not limited to) distribution transformers, larger power transformers, circuit breakers, switchgear, reclosers, insulators, busbars, and high-voltage bushings. This program seeks to (1) bolster domestic capabilities and capacity to handle supply chain shocks, (2) complement ongoing investments in domestic manufacturing capacity to meet increased equipment demands, and (3) strengthen supply chains for next-generation grid components that reduce demand for existing solutions and enable global dominance.

To accomplish these goals, this program will implement a variety of initiatives to target different objectives that will foster a more secure, resilient, and competitive domestic manufacturing base for the electric grid.

This NOFO targets the manufacture of distribution and power transformers, their associated components and materials, and other essential electric grid equipment. It will deploy a dual-pronged approach to address critical needs facing the Nation as the grid is being upgraded and expanded to meet new loads. First, it seeks to promote greater refurbishment and reuse of transformers and other grid components. This approach offers a quicker turnaround and a more cost-effective solution compared with procuring entirely new components, supplementing available inventory to meet growing demand. Second, the initiative aims to fast-track the identification, qualification, and integration of domestically sourced alternative materials and subcomponents used by grid equipment manufacturers in the United States (U.S.). This push will accelerate the adoption of alternatives or innovative solutions that will reduce reliance on constrained or foreign-dominated inputs.

C. Teaming Partner List

DOE is compiling a Teaming Partner List to help create project teams for this NOFO. The Teaming Partner List allows organizations interested in participating on a project to express their interest to other applicants and explore potential partnerships.

The Teaming Partner List is available on the eXCHANGE for this NOFO and will be regularly updated to reflect new teaming partners who provide their organization's information.

SUBMISSION INSTRUCTIONS:

To view this NOFO's Teaming Partner List, click "Teaming Partners" on the eXCHANGE homepage in the left-hand navigation pane. To join the Teaming Partner List:

- Click "Submit Entry to Teaming Partner List"
- Select the appropriate Teaming Partner List from the drop-down menu
- Fill in all required information: Investigator Name, Organization Name, Organization Type, Topic Area, Background and Capabilities, Website, Contact Address, Contact Email, and Contact Phone

DISCLAIMER:

When you submit a request to be included on the Teaming Partner List, the requesting organization consents to publication of the registration information. By facilitating the Teaming Partner List, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that ask to be placed on the Teaming Partner List. DOE will not pay for any information you provide, nor will it compensate any applicants or request organizations for developing such information.

D. Agency Contact Information

For questions relating to this NOFO, email us at DE-FOA-0003641@netl.doe.gov.

II. Eligibility

To be considered, your submission must meet the criteria set forth below. If your application does not meet these eligibility requirements, it will be removed from consideration for any award. DOE will not determine eligibility for potential applicants before the application due date. The information in this document is specific to this NOFO. You can find the eligibility requirements that apply to all NOFOs in NOFO Part 2, *Eligibility*.

A. Eligible Applicants

DOE strongly encourages applicants to form teaming partnerships of multiple eligible entities. For **Topic Area 1 (Refurbishment and Reuse of Critical Grid Equipment)**, partnerships could comprise any number of teaming utilities, grid component refurbishment facilities, other relevant private sector entities, and research institutions with complementary knowledge and expertise. For **Topic Area 2 (Alternative Materials and Subcomponents)**, partnerships could comprise multiple innovators, technology developers, supply chain providers, grid equipment and component manufacturers, and others involved in the supply chain and manufacturing of grid components.

1. Domestic Entities

The following types of domestic entities are eligible to participate as a recipient or subrecipient of this NOFO:

- Institutions of higher education (as defined in Title 20 U.S.C. § 1001)
- For-profit organizations
- Nonprofit organizations
- State and local government entities
- Indian Tribes (as defined in section 4 of the Indian Self-Determination and Education Assistance Act, 25 U.S.C. § 5304)[1]

To qualify as a domestic entity, the entity must be legally formed in the U.S. and have a physical location for business operations in the U.S.

Participant Limitations

Participation of the following entities is limited as follows:

- Provided there is no conflict, DOE FFRDCs[2] are eligible to apply for funding as a subrecipient but are not eligible to apply as a recipient.

[1] "Indian Tribe," as defined in section 4(e) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. § 5304), means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established according to the Alaska Native Claims Settlement Act (85 Stat. 688) [43 U.S.C. § 1601, et seq.], is eligible for the special programs and services provided by the U.S. to Indians because of their status as Indians.

[2] FFRDCs are federally funded research and development centers that conduct research for the U.S. Government. You can find a list of FFRDCs at https://ncses.nsf.gov/resource/master-gov-lists-ffrdc.

- Non-DOE FFRDCs are eligible to participate as a subrecipient but are not eligible to apply as a recipient.
- Federal agencies and instrumentalities (other than DOE) are eligible to participate as a subrecipient but are not eligible to apply as a recipient.
- The National Energy Technology Laboratory is ineligible to apply as a recipient or subrecipient.

2. Foreign Entity Participation

In general, foreign entities are not eligible to apply as either a recipient or subrecipient. In limited circumstances, we may approve a waiver to allow a foreign entity to participate as a recipient or subrecipient.

A foreign entity may apply to this NOFO, but the application must be accompanied by an explicit written waiver request. Likewise, if you want to include a foreign entity as a subrecipient, you must submit a separate explicit written waiver request in your application for each proposed foreign subrecipient. NOFO Part 2, *Application Content Requirements*, explains the requirements for submitting a foreign entity waiver request. DOE's determination of a waiver request is final, and you cannot appeal an adverse decision on a waiver request.

3. Performance of Work in the United States

All work for the awards under this NOFO must be performed in the U.S. To request a waiver of this requirement, you must submit an explicit waiver request in the application. Without an approved waiver, such costs will not be allowed under the award. NOFO Part 2, *Application Content Requirements*, lists the requirements for submitting a foreign work waiver request.

4. Ineligible Participants

The following entities are ineligible for this NOFO as a recipient, subrecipient, or subcontractor:

- In accordance with 2 CFR 200.214, entities banned from doing business with the U.S. government, such as entities debarred, suspended, or otherwise excluded from or ineligible for participating in federal programs (2 CFR § 200.214)
- Entities identified on the Department of the Treasury Office of Foreign Assets Control Treasury's Sanctions Program Specially Designated Nationals list. (OFAC – Sanctions List Service [treas.gov])
- Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995

Entity of Concern Prohibition

Entities of Concern are prohibited from participating in projects under this NOFO. You can find details and definitions in NOFO Part 2, *Eligibility, Other Eligibility Information, Entity of Concern Prohibition*.

B. Limitation on Number of Concept Papers and Applications Eligible for Review

You can submit more than one concept paper and associated application to this NOFO, provided that each describes a unique, scientifically distinct project concept, and you submit an eligible concept paper for each full application.

C. Cost Sharing

You must follow through on the estimated cost share commitments you proposed in your application if selected for award negotiations. You can find more information on cost sharing in NOFO Part 2, *Eligibility*.

1. Cost Share Requirements

The cost share must be at least 50% of the total project costs[3] for demonstration projects.[4] This NOFO solely funds demonstration projects.

Applications that do not meet the minimum required cost share will be deemed ineligible during the initial compliance review. The cost share must come from nonfederal sources unless otherwise allowed by law.

The cost share percentage is calculated by dividing the *cost share* by the *total allowable project costs* for the award. Total allowable project costs include the government share (including Federal Funded Research and Development Center [FFRDC] costs, if applicable) and cost share. You can find a cost share information sheet and sample cost share calculation in NOFO Part 2, *Eligibility—Cost Sharing, Cost Share Calculation Examples*.

2. Unallowable Cost Share Sources

The recipient or subrecipients may not use the following sources to meet cost share obligations including but not limited to:

- Cost share derived from Federal sources (unless otherwise authorized by law).
- Cost share that does not meet:
  - Requirements set forth in 2 C.F.R. §§ 200.306 and 910.130
  - Cost principles set forth in 2 C.F.R. §§ 200.400-476 and 2 C.F.R. §§ 910.352
  - For State Energy Programs, requirements set forth in 10 C.F.R. §§ 420
  - Cost share derived from the DOE loan program
  - Revenues or royalties from the prospective operation of an activity beyond the project period
  - Proceeds from the prospective sale of an asset of an activity

[3] Total project costs are the sum of the government share, including Federal Funded Research and Development Center (FFRDC) costs if applicable, and the recipient share of project costs.

[4] Energy Policy Act of 2005, Pub. L. 109-58, sec. 988. Also see 2 C.F.R. 200.306 and 2 C.F.R. 910.130 for additional cost sharing requirements.

- Federal funding or property (e.g., Federal grants, equipment owned by the Federal Government)
- Expenditures that were reimbursed under a separate Federal program
- Cash or in-kind contributions used to meet cost share requirements for another Federal project or program
- Existing data as an in-kind contribution (e.g., data owned by an entity that is not routinely sold commercially but is instead donated to the project and assigned a value)

D. FFRDC Eligibility Criteria

1. DOE and Non-DOE FFRDCs as a Subrecipient

As long as no conflict exists, DOE and non-DOE FFRDCs may be proposed as subrecipients on another entity's application subject to the following guidelines.

Authorization for non-DOE FFRDCs

The Federal agency sponsoring the FFRDC must authorize in writing the FFRDC's participation on the proposed project, and you must submit this authorization with the application. The FFRDC's use must be consistent with its authority under its award.

Authorization for DOE FFRDCs

The Cognizant Contracting Officer for the FFRDC must authorize in writing the FFRDC's participation on the proposed project, and you must submit this authorization prior to any award. The FFRDC's use must be consistent with the contractor's authority under its award.

Funding, Cost Share, and Sub-Award with FFRDCs

The recipient and FFRDC must enter into an appropriate sub-award agreement that will govern, among other things, how the recipient funds the FFRDC portion of the work under its DOE award. This agreement must be fully executed before the FFRDC starts work directly related to the financial assistance award. The DOE funding office will fund the DOE FFRDC or non-DOE FFRDC participating as a sub-awardee under the DOE financial assistance award to the recipient.

You should prepare the budgets in your application using rates that would fund the FFRDCs through sub-awards. Your cost share requirement will be based on the total cost of the project, including the applicant's, all subrecipient's, and all FFRDC's portions of the project.

Responsibility

The recipient is the responsible authority for settling and satisfying all contractual and administrative issues, including but not limited to disputes and claims arising out of any agreement between the recipient and the FFRDC.

Limit on FFRDC Effort

The FFRDC effort, in aggregate, must not exceed 25% of the total project cost.[5]

[5] Total project cost is the sum of the Government's share, including FFRDC costs, and the recipient's share.

III. NOFO Description

A. Background and Context

The electric power sector is the cornerstone of the American economy and is essential to quality of life, connection to family and community, and a strong job market. A reliable, affordable, and secure electricity grid is the backbone that the U.S. economy and national security depend on. Global supply chain disruptions, evolving technological landscapes, and increasing demands for critical products and services have highlighted the imperative to strengthen our national electric infrastructure, foster domestic innovation, and secure essential supply chains.

The U.S. electric sector is facing a severe supply chain bottleneck driven by an unprecedented surge in demand for power and distribution transformers. This demand, which has jumped by 116% for power transformers and 41% for distribution transformers since 2019,[6] is fueled by rising electricity demand due to data center growth, reshoring manufacturing, electrification, the urgent need to modernize the aging grid infrastructure, and energy generation additions.[7] In addition to increased transformer demand, demand across nearly every major category of electrical infrastructure has surged since 2019—by 35% to 274% depending on the equipment type.[8] Consequently, utilities are experiencing extreme equipment shortages, with lead times stretching up to two years—a fourfold increase compared with pre-2022 levels—while market prices have skyrocketed by five to six times over the same period.[9] This dramatic demand-supply imbalance is further exacerbated by insufficient domestic manufacturing capacity of grid components, forcing the U.S. to rely heavily on the import market, which is projected to supply 80% of U.S. power transformers and 50% of distribution transformers[10].

To meet this rising demand, manufacturers have committed nearly $2 billion to new or expanded transformer capacity[11]. Still, Original Equipment Manufacturers (OEMs) have cited raw material constraints and technical labor shortages as bottlenecks to capacity expansion.[12] Key subcomponent materials, such as grain-oriented electrical steel (GOES), copper, and aluminum, are in critically short supply.[13] This shortage is intensified by significant volatility in

[6] https://www.woodmac.com/press-releases/power-transformers-and-distribution-transformers-will-face-supply-deficits-of-30-and-10-in-2025/.

[7] making-the-connection-executive-summary-september-2025.pdf.

[8] Transformers in 2026: Shortage, Scramble, or Self-Inflicted Crisis?

[9] Killian McKenna, Sherin Ann Abraham, and Wenbo Wang, "Major Drivers of Long-Term Distribution Transformer Demand," National Renewable Energy Laboratory (NREL) / National Laboratory of the Rockies Technical Report, 2024.

[10] https://www.woodmac.com/press-releases/power-transformers-and-distribution-transformers-will-face-supply-deficits-of-30-and-10-in-2025/.

[11] Transformers in 2026: Shortage, Scramble, or Self-Inflicted Crisis?

[12] making-the-connection-executive-summary-september-2025.pdf.

[13] https://www.woodmac.com/press-releases/power-transformers-and-distribution-transformers-will-face-supply-deficits-of-30-and-10-in-2025/.

raw material and energy pricing, alongside persistent labor shortages within the manufacturing sector.[13]

OE leads DOE's efforts to ensure the affordability, reliability, and security of the U.S. electricity grid.[14] The Grid Supply Chain Program being implemented by OE seeks to (1) bolster domestic capabilities and capacity to handle supply chain shocks, (2) complement ongoing investments in domestic manufacturing capacity to meet increased equipment demands, and (3) strengthen supply chains for next-generation grid components that reduce demand for existing solutions and enable global dominance. To accomplish these goals, this program will implement a variety of initiatives to target different objectives that will foster a more secure, resilient, and competitive domestic manufacturing base for the electric grid.

This NOFO seeks to address the first goal by supporting projects that enhance the Nation's capacity to produce critical grid components and systems domestically, thereby reducing reliance on foreign sources and mitigating vulnerabilities inherent in extended global supply chains. This NOFO specifically targets the manufacturing and availability of distribution and power transformers, their associated components and materials, and other essential electric grid equipment, including but not limited to circuit breakers, switchgear, and battery energy storage systems. It will deploy a dual-pronged approach to address critical needs facing the nation as the grid is being upgraded and expanded to meet new loads.

The DOE OE recognizes that accelerating the pace of technological innovation and strengthening domestic manufacturing capabilities are crucial for maintaining economic competitiveness, creating high-quality American jobs, and ensuring national security. Through strategic investments, this solicitation aims to catalyze private-sector engagement, foster partnerships, and de-risk promising solutions. This NOFO targets projects that demonstrate a clear path to market, possess strong technical merit, and have the potential for significant domestic impacts that address critical vulnerabilities and strengthen the foundational elements of the Nation's electric infrastructure supply chain.

B. Program Purpose

This NOFO is designed to strengthen the Nation's energy security and energy dominance by building a more resilient, flexible, and domestically anchored supply chain for critical electric grid components. Through targeted investments, DOE aims to reduce reliance on vulnerable foreign-dominated supply chains, expand U.S. production capacity, shorten procurement lead times, and accelerate deployment of resilient grid assets. This NOFO will support projects that increase domestic manufacturing capability, enhance supply chain integration from raw materials to end customers, and enable timely delivery of critical grid equipment for capacity expansion, asset replacement, and system reliability.

The purpose of this NOFO is to reduce vulnerabilities in the current grid supply chain landscape—whether driven by constrained production capacity, foreign dependence, or long equipment lead times—by expanding U.S. capabilities across refurbishment and recycling as well as the production, integration, and adoption of alternative materials and subcomponents.

[14] https://www.energy.gov/oe/office-electricity.

- **Topic Area 1** fortifies near-term grid reliability by reclaiming, repairing, and recertifying existing grid equipment to quickly return functional components to inventory, relieving pressure on current supply chains and reducing procurement costs.
- **Topic Area 2** addresses structural bottlenecks by enabling U.S. suppliers to identify, adopt, qualify, and integrate alternative domestically sourced materials and subcomponents, reducing reliance on foreign-dominated supply chains and improving lead times.

The two NOFO topic areas work together to strengthen U.S. manufacturing, improve grid resilience and affordability, and ensure that essential grid technologies are available when and where they are needed.

C. Program Goals and Objectives

The overarching goal of this NOFO is to bolster domestic capabilities and capacity to handle supply chain shocks by strengthening domestic manufacturing and supply chains for critical grid components and technologies and reducing dependency on foreign suppliers, thereby enhancing the reliability, affordability, and security of the Nation's electric power system.

Applicants under this NOFO are expected to advance one or more of the following objectives:

1. **Expand domestic production capacity** for critical grid materials and subcomponents essential to transmission, distribution, and grid supporting functions, including but not limited to battery energy storage systems, through manufacturing scale-up.
2. **Strengthen U.S. supply chain integration** by connecting domestic, qualified material and subcomponent suppliers, manufacturers, system integrators, and end customers.
3. **Increase availability of critical grid equipment** by supporting refurbishment facilities and programs, reducing procurement lead times, and diversifying inputs.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

Topic Area 1 focuses on increasing inventory and availability of critical grid equipment by identifying opportunities for utilities, or other users of electric grid transmission and distribution equipment, to enhance efforts to refurbish equipment and/or reclaim subcomponents and materials from components taken out of service for reasons such as (but not limited to) storm damage or end-of-life. Extending useful life of an asset, reusing some of the subcomponents, or processing to make a more useful feedstock are all actions that will have a positive impact on the U.S. grid supply chain. Applicants are expected to demonstrate progress in developing systems and processes for reusing, refurbishing, and recycling grid components; demonstrate use cases that these systems are cost-effective and scalable; and quantify reductions/impacts to purchases of new components/equipment per year.

Topic Area 2: Alternative Materials and Subcomponents

Topic Area 2 focuses on providing support for U.S. suppliers and manufacturers in identifying, qualifying, integrating, and adopting alternative materials and subcomponents, or other domestically sourced material and subcomponents, to reduce bottlenecks and strengthen domestic supply chains for critical grid components. Applicants must present a plan to de-risk the evaluation and integration of alternative materials and subcomponents for domestically manufactured grid equipment; address the financial, technical, and logistical challenges of

establishing and qualifying new supply chains; and incorporate the alternative materials and subcomponents into production.

Detailed technical descriptions for each Topic Area are provided in Section III.E Topic Areas.

D. Expected Performance Goals

This section identifies the key performance goals that applicants are expected to advance, providing a foundation for consistent measurement of technical progress, supply chain enhancement, and domestic manufacturing impact. These performance goals ensure coherence across topic areas while preserving flexibility for diverse project approaches. These performance goals must include quantitative metrics with explicit targets defined. Additionally, the project approach must demonstrate a clear path toward achieving those targets and explain how progress will be evaluated.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

Successful projects are expected to demonstrate measurable progress toward grid component investment recovery, reduce supply chain constraints, and decrease procurement times. These performance goals must include quantitative metrics, and the project approach must demonstrate clear achievements outlining how each goal will be met, the expected cost reductions by using refurbished equipment instead of new purchases, and the cost savings per unit.

- Reducing baseline lead times for equipment by utilizing refurbished equipment.
- Improving supply chain resilience by increasing the component re-entry rate.

Topic Area 2: Alternative Materials and Subcomponents

Successful projects are expected to demonstrate measurable progress toward expanded domestic material and subcomponent production, enhanced domestic supply chain linkages, and reduced reliance on imports. These performance goals must include quantitative metrics, and the project approach must demonstrate clear achievements outlining how each goal will be met.

- Comparable or improved performance of critical grid equipment or components that incorporates alternative materials and/or subcomponents, either from innovations or from established technologies from alternative sources.
- Decreased domestic grid equipment and systems manufacturing lead times from integrated and streamlined supply chains that use domestically sourced materials and subcomponents.
- Scalability and suitability of alternative material or subcomponent identified through testing and/or customer commitments.

Additional performance goal details for each Topic Area are provided in Section III.E Topic Areas.

Additional information can be found here for the Technical Volume and Technical Review Criteria.

E. Topic Areas

The NOFO is structured into two topic areas: (1) Refurbishment and Reuse of Critical Grid Equipment and (2) Alternative Materials and Subcomponents. The two topic areas in this NOFO form a coordinated strategy to strengthen the reliability, security, and affordability of the U.S. electric grid by addressing complementary segments of the domestic supply chain. **Topic Area 1** focuses on near-term reliability by increasing the availability of critical grid components through refurbishment, reclamation, or improved sourcing pathways—reducing immediate bottlenecks and reinforcing grid supporting infrastructure. **Topic Area 2** builds on this foundation by advancing the use of alternative materials and subcomponents that diversify supply options and reduce dependence on vulnerable or foreign-dominated inputs, enabling manufacturers to adapt more rapidly to demand shifts and material constraints.

Topic Area Number	Topic Area Title
1	Refurbishment and Reuse of Critical Grid Equipment
2	Alternative Materials and Subcomponents

1. Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

A total of $50 million (M) is available for this Topic Area; projects will be funded in the $2.5M–$15M per project range.

When designing and building components for our electricity grid, it's crucial to think about how they are made, how long they will last, and their lifecycle impacts.[15] As our demand for electricity grows and old assets are replaced, so does the need for these grid components. Many utility companies are currently experiencing long delays in getting these essential parts. These delays are often due to global supply chain constraints and competition for the materials and subcomponent used to make them.[16] The U.S. is actively exploring various ways to overcome these shortages and reduce lead times, which will help speed up the expansion and construction of our electrical infrastructure.

One key approach is to find ways to repair, refurbish, and extend the lifespan of existing grid components. For instance, refurbished distribution transformers can be quickly put back into service, with much shorter waiting periods compared with new ones. These refurbished units are also typically more affordable than purchasing new equipment.

Another strategy involves increasing how products and materials can be reused, moving toward a "circular economy" for grid components. Circular supply chains not only support a strong and competitive manufacturing sector but also offer other benefits across the economy.

Using recycled materials sourced within the U.S. reduces reliance on foreign resources for the electric grid, which is vital for national security. Innovations in processes, programs, and technologies can enhance and broaden the opportunity to reuse, repair, recycle, remanufacture, and repurpose products and materials. Creating circular supply chains in the U.S. strengthens the

[15] DOE:Office of Electricity - Transformer Resilience and Advanced Components (TEAC) Program: Vision and Framework (June 2020), Trac-program-vision-and-framework.

[16] Electric Grid Supply Chain Review: Large Power Transformers and High Voltage Direct Current Systems, Supply Chain Deep Dive Assessment, Document.

manufacturing industry by establishing secure, domestic sources of critical materials, expanding the manufacturing workforce, and creating better-paying, higher-skilled, and safer jobs than traditional waste management. Beyond direct job creation, increased product and material circularity can also make U.S.-manufactured products more globally competitive[17].

This topic area specifically aims to strengthen grid supply chains by identifying opportunities to recover components and materials from grid equipment that is no longer in use, whether due to project completion, storm damage, or reaching the end of its life. The main goal is to reduce the lead times for critical grid equipment by improving domestic capacity to repair, refurbish, reuse, and recertify components such as (but not limited to) distribution transformers, larger power transformers, circuit breakers, switchgear, reclosers, insulators, busbars, and high-voltage bushings, and then return them to inventory for reuse. The desired outcome is for electric utilities or other service providers to create or expand programs that reclaim, repair, refurbish, and recertify essential grid equipment. This process will extend the life of functional assets and lessen dependence on new manufacturing.

This approach offers a significant opportunity to save money by directly lowering utility purchasing costs and reducing lead times by utilizing refurbished equipment. The projects resulting from this topic area will address market needs, as refurbishment reduces the production burden on manufacturers, helping the U.S. electric industry recover faster from the current grid equipment deficit by diverting functional assets from disposal and extending their lifetime. Further, success in this topic area could ease pressure on procurement and production processes, enhance technical capabilities at utilities, and improve the domestic supply chain for this equipment.

Applicants may propose any of the following approaches. Other practices may also be considered:

- Grid Investment Recovery Programs—Utilities may enhance, broaden, or implement programs to increase the amount of grid hardware that can be reused after being removed from service during regular maintenance.
- Grid Component Refurbishment—Demonstrating economically viable pathways to return equipment to service after it has been removed or retired from the grid, such as equipment that has reached its end-of-life or been damaged.
- Waste Management Improvement—Implementing better program, practices, or technologies to recover valuable materials such as copper, aluminum, and electrical steel.

Successful applicants must clearly demonstrate in their applications how their efforts will improve the rate at which materials re-enter the supply chain ecosystem, reduce procurement times, and lower costs.

2. Topic Area 2: Alternative Materials and Subcomponents

A total of $187 million is available for this Topic Area; projects will be funded in the $1M–$25M per project range.

The need to modernize and increase the capacity of the U.S. power grid is increasing due to growing population, aging infrastructure, grid resilience requirements, operational flexibility

[17] Circularity for Secure and Sustainable Products and Materials: A Draft Strategic Framework.

needs, an increasing amount of load being added to the grid in the form of artificial intelligence (AI) data centers, reshoring manufacturing, and greater electrification. However, many critical components supporting the power grid have limited to no domestic manufacturing capacity and face supply chain challenges in supporting a rapid expansion of the grid.[18] There are significant vulnerabilities in the U.S. grid supply chain, largely due to a historical trend of offshoring that has reduced domestic material and subcomponent manufacturing capabilities and capacity. This offshoring has led to strategic bottlenecks and overreliance on foreign sources, some of which are heavily influenced by adversarial nations.

Work performed under this topic area aims to support U.S. suppliers and manufacturers in adopting existing (TRL 6 or higher)[19] domestically sourced alternative materials and subcomponents such as (but not limited to) electrical steel, ceramic bushings, insulation, continuously transposed conductors (CTC), other copper windings, or chemical precursors used in critical grid equipment or battery energy storage systems. The goal is to reduce current bottlenecks and decrease reliance on foreign-dominated supply chains for materials and subcomponents. Establishing pathways for new or alternative materials and subcomponents to be integrated into domestically produced grid components and equipment can ensure a robust supply chain for years to come. A follow-on effect should be decreasing the lead times for grid components by utilizing domestically produced alternative materials and subcomponents.

Applicants must present a plan to source the raw materials, produce material or subcomponents at scale domestically, integrate them into grid components, perform testing and validation adequate to support industry adoption, and demonstrate a high probability of uptake while addressing the financial, technical, and logistical challenges of qualifying new supply chains and incorporating novel or alternative materials and subcomponents into production processes.

Applications must clearly articulate how the project will strengthen domestic material and subcomponent manufacturing, diversify the supply chain, and contribute to U.S. energy dominance through a robust technical approach outlining the specific alternative materials or subcomponents to be developed or integrated. Quantifiable metrics are crucial for demonstrating progress, and applications must include specific measures such as percentage reduction in foreign source dependency, increase in domestic supplier capacity, and lead time reductions. These metrics will enable effective tracking program objectives in achieving a more secure and resilient energy infrastructure.

Proposed alternative materials or subcomponents must have demonstrated performance and lifetime characteristics that meet equipment manufacturer requirements and industry standards. To be successful, applicants must structure their applications to clearly demonstrate how to mitigate supply chain shocks and price volatility in international markets through using domestically sourced alternative materials and subcomponents contributing to U.S. energy security and independence. Applicants must identify and partner with upstream supply chain contributors, such as feedstock suppliers and manufacturing equipment suppliers.

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[18] Electric Grid Supply Chain Review: Large Power Transformers and High Voltage Direct Current Systems, Supply Chain Deep Dive Assessment, Document.

[19] DOE G 413.3-4A, Technology Readiness Assessment Guide (2011), Page 9, Document.

For Topic Area 2, DOE will use a single award structure that includes Phase 1 and Phase 2 in a single project. These phases are both part of the same financial assistance award and do not represent separate funding opportunities, competitions, or application processes. At a defined internal Go/No-Go review point, DOE will assess each recipient's progress toward required Phase 1 deliverables and overall project performance including cost and schedule execution. Recipients that successfully meet the Go/No-Go criteria will proceed with Phase 2 activities under the same award, while recipients that do not meet these criteria will conclude work at the end of Phase 1.

Phase 1 is the initial phase in which all recipients participate. The purpose of Phase 1 is to complete the technical, commercial, organizational, and supply chain groundwork required to enable rapid U.S. manufacturing scale-up and adoption by first customers. Phase 1 activities must focus on planning, manufacturing readiness, supply chain formation, domestic sourcing, and customer alignment—not laboratory research, technology maturation, or early-stage R&D. Phase 1 execution must include a credible manufacturing readiness and scaling pathway showing how the recipient would produce an industry-accepted material or subcomponent output in Phase 2, including identifying equipment, staffing, throughput, testing and validation, and domestic sourcing requirements. During Phase 1, recipients will:

- **Establish a fully integrated supply chain plan** that accounts for upstream materials suppliers, U.S. manufacturing partners, and first customers for engineered materials and subcomponents (e.g., electrical steel, transformers cores, bushings, windings, CTCs) used in critical grid equipment or battery energy storage systems.
- **Develop aligned system level technical specifications and manufacturability designs**, ensuring that all stakeholders agree on production ready requirements, interfaces, safety certifications, quality expectations, and manufacturing constraints. This alignment must support immediate manufacturing sequencing—not laboratory prototyping or early technology validation.
- **Define the U.S. manufacturing process flow**, including required equipment, facility layout, quality control protocols, throughput/yield targets, and commissioning sequences needed to support scale-up. This plan should reflect realistic production operations rather than bench scale experimentation.
- **Conduct detailed domestic sourcing assessments**, mapping critical materials and processing steps to U.S. suppliers, and outlining strategies to reduce foreign-dominated inputs and shorten procurement lead times.
- **Advance commercial alignment and demand certainty**, including draft offtake structures, memorandums of understanding (MOUs), or purchase intent agreements with first customers; supplier agreements for key materials or subcomponents; cost sharing arrangements; and business/legal frameworks to be executed in Phase 2.
- **Define quantitative manufacturing and impact metrics** that will be measured during Phase 2 (e.g., domestic content %, throughput, yield, cost reduction trajectory, production volume, reduction in lead times for the grid component being addressed.)

The outcome of Phase 1 efforts is a complete, commercially credible, and technically defensible manufacturing and integration plan that positions the project for immediate execution upon Go/No-go approval.

Phase 2 activities focus on implementing, commissioning, and scaling U.S. manufacturing operations and delivering solutions with first customers. Phase 2 must

emphasize production execution, domestic supply chain utilization, and commercial delivery—not laboratory testing, technology development, or research validation. Phase 2 recipients are expected to execute manufacturing ramp-up activities. During Phase 2, recipients will:

- **Begin or expand U.S. manufacturing operations**, including equipment installation, process commissioning, workforce hiring and training, and implementation of production-level quality systems aligned with the manufacturability designs completed in Phase 1.
- **Ramp domestic production throughput and yield**, demonstrating measurable increases in manufacturing capacity.
- **Execute domestic sourcing and supply chain plans**, including qualification of U.S. suppliers, activation of domestic subcomponent supply, and measurable reductions in reliance on foreign-dominated inputs.
- **Demonstrate operational readiness and commercial viability**, showing credible progress toward cost reduction milestones, workforce development, stable supply chain operation, customer acceptance, and private sector leverage that meet the technical specifications, safety requirements, and integration needs established in Phase 1.
- **Report on projected key manufacturing and impact metrics**, such as production volume, domestic content %, throughput and yield improvements, delivery timelines, cost trajectory, and customer outcomes.

The outcome of Phase 2 is a validated, commercially viable domestic manufacturing and product integration pathway that strengthens the U.S. electric grid supply chain and positions the technology for sustained production beyond the award period.

The following are the planned Go/No-Go criteria for approval to move from Phase 1 to Phase 2.

Go/No Go Criteria	Go/No Go Threshold
1. Supply chain Team Formation & Readiness	
1.1 A fully defined supply chain team spanning the minimum three required nodes: • **Upstream materials or subcomponent suppliers** for the proposed technology. • **Domestic manufacturing entity/entities** responsible for material or subcomponent manufacture. • **First customers** for grid component relevant integration.	DOE determines if the team is sufficiently structured, credible, and aligned to execute Phase 2 manufacturing and deployment activities.
1.2 Documentation of commitments, such as: • MOUs, partnership letters, teaming agreements, or framework agreements defining each entity's role, scope, and responsibilities. • Description of governance structure for the supply chain team.	

Go/No Go Criteria	Go/No Go Threshold
2. Aligned Technical Specifications & Manufacturability Design	
2.1 A complete, aligned technical specification package for the proposed alternative material or subcomponent. Specifications must reflect requirements for manufacturability and integration, not laboratory testing or research stage characterization.	DOE determines that the system specifications and manufacturability design are sufficiently aligned, feasible for near-term production, and suitable to support Phase 2 manufacturing scale-up and deployment activities.
2.2 A preliminary manufacturability design package, including: • Production ready process flow diagrams • Major equipment requirements • Quality control approaches • Projected throughput and yield assumptions • Facility readiness considerations The package must focus on production feasibility and supply chain integration rather than technology maturation, prototype experimentation, or R&D validation activities.	
3. Domestic Sourcing & Supply Chain Mapping	
3.1 A detailed mapping of all critical materials, subcomponents, and process steps, identifying: • U.S. suppliers • Remaining foreign-dominated inputs • Planned domestic substitution strategies • Lead-time reduction strategies	DOE determines that the recipient has a credible pathway to meaningfully increase domestic content and reduce reliance on constrained or foreign-dominated inputs during Phase 2.
3.2 A domestic content plan that provides quantified estimates of domestic content at the component level.	
4. First Customer Alignment & Demand Certainty Structures	
4.1 Evidence of first customer engagement, such as: • Letters of intent • Draft offtake terms • Purchase commitments • Preliminary project specific acceptance criteria	DOE concludes that the market alignment is strong enough to justify federal investment in manufacturing scale-up.
4.2 A credible demand certainty framework showing that manufactured units will be adopted in Phase 2.	
5. Phase 2 Manufacturing Execution Plan	
5.1 A manufacturing readiness package, including: • Facility readiness (new build, expansion, or retrofit) • Equipment, procurement, and commissioning plan • Workforce and training plan	DOE determines that the recipient has a realistic plan to begin or expand domestic manufacturing and meet

Go/No Go Criteria	Go/No Go Threshold
5.2 A refined cost model showing projected reductions in cost differential vs. incumbent imported materials.	Phase 2 production milestones.
6. Quantitative Metrics & Milestones	
Recipient must define **clear, measurable manufacturing and impact metrics for Phase 2**, including: • Annual domestic production volume • Domestic content percentage • Procurement lead time reduction • Production yield/throughput improvements • Cost reduction trajectory • Workforce expansion • Number/scope of first customer purchases Metrics must relate directly to manufacturing scale-up and market adoption and should not include laboratory-based technical performance measurements, experimental benchmarking, or R&D style validation indicators.	DOE determines that the proposed metrics are practical, measurable, aligned with domestic manufacturing and adoption objectives, and sufficient to evaluate Phase 2 execution and impact.
7. Risk Assessment & Mitigation Plan	
Recipient must provide: • A Phase 1 risk assessment identifying technical, commercial, supply chain, facility, and schedule risks • Mitigation strategies for each • A critical path schedule for Phase 2	DOE determines that risks are understood, well mitigated, and not prohibitive for Phase 2 execution.

F. Applications Specifically Not of Interest

DOE will not review or consider the following types of applications as determined by DOE without appeal (also refer to the Responsiveness Review section below):

- Applications that fall outside the technical parameters specified in Background and Context and Topic Areas
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics)
- Project concepts or approaches not based on established scientific principles
- Projects that include early-stage R&D, laboratory experimentation, fundamental technology development, or activities more appropriate for basic/applied research programs
- For **Topic Area 1**, applications specifically not of interest focus on general waste management, developing new technologies for recycling household waste, or other applications that do not result in putting grid components back into a utility's stock or materials and subcomponents into grid supply chains.
- For **Topic Area 2**, applications specifically not of interest focus on technologies below TRL-6 and are not ready for implementation into component production lines, or advanced materials and subcomponents outside of electric transmission systems, electric distribution systems, or battery energy storage systems.

- For **Topic Area 2**, applications that do not have Letters of Commitment from upstream supply chain contributor(s) to demonstrate the operational readiness and capacity of the proposed demonstration.

G. Statutory Authority

The programmatic authorizing statutes are:

- DOE Organization Act (Pub. L. No. 95-91 (1977)).
- Energy and Water Development and Related Agencies Appropriations Act, 2026 (Pub. L. No. 119-74, Div. B, § 311(b)).

Awards made under this announcement are subject to the OMB Guidance for Federal Financial Assistance (e.g., 2 C.F.R. Part 200) as adopted and DOE's Financial Assistance Regulations, 2 C.F.R. Part 910.

IV. Application Content and Form

This section includes application information specific to this NOFO. Refer to NOFO Part 2, *Application Content and Form*, for standard information that applies to all DOE NOFOs, such as formatting and content requirements and other requirements.

A. Use and Disclosure of Application Information

In addition to the information provided in NOFO Part 2, *Use and Disclosure of Application Information*, for compliance with implementation of Presidential Memorandum Simplifying the Funding of Energy Infrastructure and Critical Mineral and Material Projects, the Department of Energy may share and use within the Government any application information provided by or on behalf of the applicant. Accordingly, in accordance with applicable law and notwithstanding any other provisions herein, by submitting an application or agreeing to a financial assistance arrangement with the Department of Energy under this NOFO, the applicant is providing consent for any properly marked trade secret, confidential, proprietary, privileged or otherwise sensitive application information provided by or on behalf of the applicant to be disclosed to the Executive Office of the President and relevant Agencies offering loans, grants, equity, guarantees or other federal funding, for the purposes of the Presidential Memorandum on Simplifying the Funding of Energy Infrastructure and Critical Mineral and Material Project.

Use of Application Information with Artificial Intelligence Technology

Notwithstanding the above, DOE may use, review, and evaluate application information, including Proprietary Information, using AI technology, including for training and developing AI tools. By submitting an application or providing information related thereto, the applicant consents to DOE's use of application information with AI technology. DOE will retain in confidence and maintain the protection of proprietary information used with AI technology.

B. Summary

The application process includes two submission phases: concept paper and application.

Application Submission Phase	Eligibility for Submission
Concept Paper	Must be submitted by the specified due date and time to be eligible to submit an application.
Application	Must be submitted by the specified due date and time to be eligible for comprehensive merit review.

C. Concept Paper Requirements

You must submit a concept paper by the specified due date and time to be eligible to submit a full application. If you do not submit a concept paper, you cannot submit an application. Each concept paper must be limited to a single concept, technology, or project. The concept paper must conform to the requirements listed below, including the stated page limits. This concept paper must not exceed 7 pages, not including references.

Section	Page Limit	Description
Cover Page	1 page maximum	The cover page should include: • The project title • The specific Technical Topic or Area • Both the technical and business points of contact (including the Administrative Officer, if applicable) • Names of all team member organizations • The project locations • Any statements regarding confidentiality
Project Description	5 pages maximum (text should be no smaller than 12-point font)	Consistent with the topic area-specific guidance following this table, succinctly describe: • The proposed project and how it addresses the topic area for which it is submitted • How the proposed project will overcome the shortcomings, limitations, and challenges in the relevant field and application • The current state of the art in the relevant field and application, including key shortcomings, limitations, and challenges • The proposed project target performance level (provide technical data or other support to show how the proposed target could be met) • The potential impact the proposed project would have on the relevant field and application • The key risks or issues associated with the proposed project development plan • The impact DOE funding would have on the proposed project

Section	Page Limit	Description
		• Any potential impacts on Indian Tribes, including potential impacts on Tribal resources not on Tribal lands • How you would engage with potentially impacted Indian Tribes
References	Separate section; not included in page count	Include all references in a separate section. Provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Concept Paper. DOE and reviewers are under no obligation to review cited sources.
Addendum	1 page maximum	Succinctly describe the qualifications, experience, and capabilities of the proposed project team, including: • Whether the Principal Investigator (PI) or Lead Project Manager (LPM) and project team have the skill and expertise needed to successfully execute the project plan • Whether the applicant has prior experience that demonstrates an ability to perform tasks of similar risk and complexity • Whether the applicant has worked together with its teaming partners on prior projects or programs • Whether you have access to the equipment and facilities you need to accomplish the effort or how you intend to obtain access • Graphs, charts, or other data to supplement your Project Description

In addition to the information identified above, applicants should also include the following.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

A high-level technical description of the proposed project that explains how the processes will be implemented, which grid components will be targeted, and what the implementation schedule is.

Preliminary identification of team members to include any utility partners or equipment refurbishment facilities.

A preliminary description of quantitative metrics the applicant expects to influence—such as the applicant's experienced lead times and expected cost savings—and how these metrics will support DOE's broader supply-chain objectives.

Topic Area 2: Alternative Materials and Subcomponents

A high-level technical description of the proposed material or subcomponent and an explanation of how the technology is sufficiently mature for manufacturing scale-up rather than research or laboratory development.

A clear articulation of market relevance for grid-scale applications such as what supply chain bottlenecks will be impacted and how the component production will be affected.

Preliminary identification of supply-chain team members, including upstream material providers, U.S.-based manufacturers, and sources of manufacturing equipment, along with the intended structure of technical, commercial, and legal agreements that will establish demand certainty.

A description of Phase 1 outcomes the team intends to achieve (e.g., agreed specifications, manufacturability designs, foundational business/legal agreements, supply-chain commitments) and **an overview of the anticipated Phase 2 execution plan**, demonstrating how early work will translate into large-scale manufacturing and deployment.

A preliminary description of quantitative metrics the applicant expects to influence—such as domestic content percentage, production volume, expected revenue growth, private investment leverage, and manufacturing readiness—and how these metrics will support DOE's broader supply-chain objectives.

We independently assess each concept paper based on the technical review criteria for Concept Papers described below. We will either encourage or discourage applicants to submit applications based on these assessments. You can find more information on this process in NOFO Part 2, *Selection and Award Notices—Concept Paper Notifications*.

D. Application Content Requirements

Each application must be limited to a single concept. Applications must conform to the following requirements and must not exceed the stated page limits. NOFO Part 2, *Application Content and Form*, includes a complete list of application requirements. You can find detailed guidance on the content and form of NOFO-specific requirements in the Summary of Application Requirements table below.

1. Covered Individual Definition, Designation, and Responsibility

Several of the Application Content Requirements in the table below and in the NOFO Part 2 are required for Covered Individuals.

For this NOFO, a ***Covered Individual*** is an individual who both:

- Contributes in a substantive, meaningful way to develop and execute the scope of work of a project proposed for DOE
- Is designated as a Covered Individual by DOE

Often, these individuals have doctoral or other professional degrees, although the following may be considered Covered Individuals if their involvement meets this definition:

- Individuals at the master's or PhD-candidate level
- Consultants

- Graduate students
- Individuals with a postdoctoral role

DOE designates Covered Individuals as any:

- Principal investigator (PI)
- Project director (PD)
- Co-principal investigator (Co-PI)
- Co-project director (Co-PD)
- Project manager
- Any individual functionally performing as a PI, PD, Co-PI, Co-PD, or project manager

You must assess how DOE's definition of a Covered Individual applies to each person listed on your application. You are also responsible for identifying any individual to DOE who should be designated as a Covered Individual if DOE does not already designate them as described above.

When you submit a current and pending support disclosure and bio sketch or resume for a person, you are acknowledging that DOE designates that person as a Covered Individual.

We may further designate Covered Individuals during award negotiations or the award period of performance.

Throughout the life of the award, you have an ongoing responsibility to submit:

- Current and pending support disclosure statements and resumes or bio sketches for any new Covered Individuals
- Updated disclosures if a current and pending support disclosure statement, resume, or bio sketch previously submitted to DOE changes

2. Summary of Application Requirements

Component	File Format	Page Limit	File Name
Application for Federal Assistance (SF-424)	PDF	n/a	ControlNumber_LeadOrganization_424
Technical Volume	PDF	25	ControlNumber_LeadOrganization_TechnicalVolume
Letters of Commitment	PDF	1 page each	ControlNumber_LeadOrganization_LOCs
Impacted Indian Tribes Documentation	PDF	n/a	ControlNumber_LeadOrganization_ImpactedTribes
Statement of Project Objectives	MS Word	7 - TA1 10 - TA2	ControlNumber_LeadOrganization_SOPO
Project Management Plan	PDF	7	ControlNumber_LeadOrganization_PMP
Budget Information Non-Construction Programs (SF-424A)	PDF	n/a	ControlNumber_LeadOrganization_SF-424A
Budget Justification Workbook	MS Excel	n/a	ControlNumber_LeadOrganization_Budget_Justification

Component	File Format	Page Limit	File Name
Subrecipient Budget Justification	MS Excel	n/a	ControlNumber_LeadOrganization_ Subrecipient_Budget_Justification
Work Proposal for FFRDC, (see DOE O 412.1A)	PDF	n/a	ControlNumber_LeadOrganization_ WP
Authorization for Non-DOE or DOE FFRDCs	PDF	n/a	ControlNumber_LeadOrganization_ FFRDCAuth
Waiver for Foreign Entity Participation	PDF	n/a	ControlNumber_LeadOrganization_ FEW
Performance of Work in the United States (Foreign Work Waiver)	PDF	n/a	ControlNumber_LeadOrganization_ FWW
Biosketch (for each Covered Individual)	PDF	n/a	ControlNumber_LeadOrganization_ Biosketch
Current and Pending Support (for each Covered Individual)	PDF	n/a	ControlNumber_LeadOrganization_ CPS
Transparency of Foreign Connections	PDF	n/a	BusinessSensitive_ControlNumber_ LeadOrganization_TFC
Potentially Duplicative Funding Notice	PDF	n/a	ControlNumber_LeadOrganization_ PDFN
Locations of Work	Excel	n/a	ControlNumber_LeadOrganization_ LOW
Environmental Questionnaire	PDF	n/a	ControlNumber_LeadOrganization_ ENV
Disclosure of Lobbying Activities, if applicable (SF-LLL)	PDF	n/a	ControlNumber_LeadOrganization_ SF-LLL
Certification Regarding Lobbying (OMB 4040-0013)	PDF	n/a	ControlNumber_LeadOrganization_ Cert Lobbying
Summary for Public Release	PDF	1	ControlNumber_LeadOrganization_ Summary
Summary Slide	MS Power Point	1	ControlNumber_LeadOrganization_ Slide

3. Letters of Commitment (Upstream Supply Chain Contributor)

In addition to the standard Letters of Commitment (Section IV.B.2. in Part 2 of the NOFO), a supplementary Letter of Commitment is a mandatory requirement for this NOFO.

For Topic Area 2 only, a mandatory Letter of Commitment is required with the application from an upstream supply chain contributor (such as feedstock suppliers and/or manufacturing equipment suppliers).

Per Part 1 of the NOFO, specifically Section III.F., "For Topic Area 2, applications that do not have Letters of Commitment from upstream supply chain contributor(s) to demonstrate the operational readiness and capacity of the proposed demonstration" will be considered non-

compliant with the NOFO requirements and will not receive a merit review evaluation (in alignment with Part 1 of the NOFO, specifically Section VI).

The Letter of Commitment must clearly define the upstream supply chain contributor's formal commitment and specific role in the project, including any proposed cost-share contributions. Additionally, it must articulate why the contributor's unique technical involvement or supply delivery is necessary to support the overall success of the project such as quality of materials, specialized equipment, technical expertise, and/or available volume/quantity toward the project.

Letters of Commitment Content (Upstream Supply Chain Contributor)	
Organization Name	Phone, email, and address
Proposed Contribution	Role/value of contribution

Each letter must not exceed one page and must be signed by an authorized representative of the third-party entity.

4. Impacted Indian Tribes Documentation

For any application that potentially impacts Indian Tribes,[20] including when the potentially impacted Indian Tribe is the applicant, you must submit additional documentation:

- For projects sited on Tribal lands [21] or intersecting with Tribal subsurface rights:
  - You must submit documentation of support from the relevant Indian Tribes with the application. See below for Requirements for Documentation of Tribal Support

For applications potentially impacting Indian Tribes' resources and reserved rights in other ways:

- We encourage you to submit documentation of support from the relevant Indian Tribes. You must, at a minimum, provide documentation confirming that an authorized representative from each potentially impacted Indian Tribe is aware of the application's nature and its potential impacts to the Indian Tribe. See below for helpful resources for evaluating potential impacts and requirements for documenting Tribal awareness.

We encourage you to reach out to Indian Tribes as early as possible to give them ample time to evaluate and respond. Documentation will not be scored; however, if you do not submit documentation of an Indian Tribe's awareness or a letter of support, it may result in determining your application ineligible, non-responsive to the NOFO, not subject to further review, or not otherwise subject to selection or award.

[20] Indian Tribe as defined in 25 U.S.C. § 5304 and includes Alaska Native Villages and Alaska Native Corporations.

[21] Tribal land is as defined in 25 U.S.C. §§ 3501(2), (3), (4)(A) and (13).

Documentation of Tribal Support	
Item	**Criteria**
Letter of Support from Tribal Leadership	The letter must be signed by an authorized representative[22] of the Indian Tribe and express support for the project. The signers must be holding their positions while the NOFO is open for applications or when subsequently submitted.
Tribal Council Resolution, Board Resolution, or similar act passed by the legislative body of the Tribal government or Board of Directors of an Alaska Native Corporation	Must express support for the project.

Documentation of Tribal Awareness	
Item	**Criteria**
Any Documentation of Tribal Support (see above)	See above
An email reply or documentation of certified mail delivery	Must demonstrate that an authorized representative of the Indian Tribe is the one who was notified and made aware of the nature of the project and its potential impacts to the Indian Tribe.

The following resources and guidance may be useful to help determine if a project may impact Indian Tribe resources or reserved rights and to find the appropriate contacts. These resources are not exhaustive, and many Indian Tribes have resources or reserved rights that extend beyond their Tribal lands or are covered within treaties, statutes, or case-law. You should do additional research, while respecting Tribal privacy over sacred sites.

Any outreach, impact assessment, and mitigation plans must be documented and made available to DOE on request after award selection or during award negotiation. If the applicant is an Indian Tribe, we recommend these resources and guidance be used to ascertain impacts to other Indian Tribes.

Resources for Evaluating a Project's Potential Impact on an Indian Tribe	
Item	**Location**
Map of Indian Lands	https://bia-geospatial-internal.geoplatform.gov/indianlands/

[22] An authorized representative must be an elected official or designated leader according to the traditions, constitution, or charter of the Indian Tribe, or someone with relevant delegated authority within the Tribal government. Examples include Chief, Chairman, Chairwoman, Governor, Nation Representative, President, Chief Executive Officer, Chief Financial Officer, Speaker of the Council, Speaker of the Congress, Tribal administrator.

Resources for Evaluating a Project's Potential Impact on an Indian Tribe	
Item	**Location**
Tribal Directory Assessment Tool (TDAT)	https://egis.hud.gov/TDAT/
Tribal Treaties Database	https://treaties.okstate.edu/
Directory of Federally Recognized Tribes and Tribal leaders	https://www.bia.gov/service/tribal-leaders-directory
Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions	Best Practices For Identifying And Protecting Tribal Treaty Rights, Reserved Rights, And Other Similar Rights In Federal Regulatory Actions And Federal Decision-Making

Guidance on Assessing Potential Impacts to Indian Tribe Resource or Reserved Rights		
Type of Action	**Assessment**	**Mitigation**
Research and Development (R&D)	• Identify any resources you will quantify or model on or near Tribal land, traditional homelands, Tribal historic sites, sacred sites, or in areas where an Indian Tribe maintains rights to these resources. • Identify which Indian Tribes may be impacted. • Explain any instances of uncertainty or need for confidentiality.	Explain any actions you took to mitigate or address any potential impacts identified, including engaging with the potentially impacted Indian Tribes, in the application.
Surface Impacts	• Identify any Indian Land (as defined in 25 U.S.C. § 3501), traditional homelands, or Tribal historic and sacred sites that will be crossed or are near to the proposed infrastructure. • Identify which Indian Tribes might be impacted. • Explain any instances of uncertainty or confidentiality.	
Subsurface Resource Activities (e.g., carbon sequestration, oil & gas, geothermal, critical minerals, groundwater)	• Identify any Tribal mineral rights, subsurface, or water rights at or near the proposed project location. • Explain any relevant studies already performed, such as groundwater studies. • Identify which Indian Tribes might be impacted. • Explain any instances of uncertainty and any potential for subsurface resource migration that has been considered.	

Guidance on Assessing Potential Impacts to Indian Tribe Resource or Reserved Rights		
Type of Action	**Assessment**	**Mitigation**
Hydropower, Offshore Wind, or Other Water Related Projects	• Identify any Tribal resources or reserved rights (e.g., water, fishing, or other treaty rights) that could be impacted by the proposed project. • Identify any Tribal historic sites, sacred sites, or relevant vistas that could be impacted by the project. • Identify the potentially impacted Indian Tribes and explain any sources of uncertainty or confidentiality.	

Other Actions Not Categorized Above	• Identify any other proposed actions that may impact an Indian Tribe's resources or reserved rights. Tribal resources and reserved rights include, and are not limited to:
	  ○ An Indian reservation or land (as defined in 25 U.S.C. § 3501)
	  ○ Intersecting Tribal sub-surface rights
	  ○ Historic homelands they were removed from
	  ○ Cultural sites
	  ○ Sacred sites
	  ○ Water rights
	  ○ Mineral and other subsurface rights
	  ○ Fishing rights
	  ○ Hunting rights
	• Identify the Tribes potentially impacted and any sources of uncertainty or confidentiality.	

We may share any application that could impact Indian Tribes with those Indian Tribes, subject to any proper Proprietary Information markings on the submission. Accordingly, you should include a "Notice of Restriction on Use and Disclosure of Information" to identify any Proprietary Information (NOFO Part 1, *Use and Disclosure of Applicant Information*). After selection, you may be asked to include a "Notice of Restriction on Disclosure and Use of Data" to identify any Proprietary Information. Properly marked application information will only be used or disclosed for evaluation purposes when we must determine if the proposed project impacts an Indian Tribe, and we will only share that information with the potentially impacted Tribes.

Data you submit once under award that could impact Indian Tribes may be shared with the potentially impacted Indian Tribes, subject to any restrictions included on properly marked data per the award terms.

If you or DOE determines an Indian Tribe will be impacted, you must provide information on the project location, potential impacts, and how you will engage with Indian Tribes during the performance period of the agreement and, if necessary, after the end of the agreement. In addition to your engagement, we will determine if formal government-to-government consultation could be appropriate, and we will conduct that consultation accordingly.

5. Technical Volume

The Technical Volume must conform to the following content and form requirements and address the technical review criteria in "Technical Review Criteria" of Section VI.C.2. below.

You must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Technical Volume. However, DOE and reviewers are under no obligation to review cited sources.

The Technical Volume to the application may not be more than **25 pages**, including the cover page; table of contents; all citations, charts, graphs, maps, photos, or other graphics and all information below. You should consider the weight of each technical review criteria listed in Section VI.C.2. below when preparing the Technical Volume.

Evaluators will review only the number of pages indicated above.

The Technical Volume should clearly describe and expand on information provided in the concept paper.

Cover Page

The cover page must include all of the following:

- The project title
- The recipient's name (and organization, if applicable), and entity type(s)
- The project team (if applicable), including names of all team members, their respective organizations, and entity types
- Technical and business POC(s) (email address(es) and telephone number(s))
- Senior/key personnel, and other covered individuals, and their respective organizations
- The project location(s)
- The proposed total federal funding level, cost share, and period of performance
- The proposed federal funding level and cost share for each project participant
- Statements regarding confidentiality

Table of Contents

- Include, at a minimum, all the required sections identified below.

Project Objectives:

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

- Provide a concise project overview that clearly states the proposed recovery program and the specific grid-relevant components being targeted.

Topic Area 2: Alternative Materials and Subcomponents

- Provide a concise project overview that clearly states the proposed project, the specific grid-relevant components or materials being targeted, and the supply chain problem your project addresses.

Build America, Buy America (BABA) Requirements for Infrastructure Projects

- Include a short statement in the first two pages of the SOPO on whether the project will involve construction, alteration, maintenance, or repair of public infrastructure in the U.S.

- See Build America, Buy America and 2 C.F.R. 184 for definitions and other information regarding Infrastructure Projects and the Buy America Requirement.

Merit Review Criteria Discussion

We will evaluate and consider only the applications that address separately each of the merit review criterion and sub-criterion.

- Address each of the merit review criterion and sub-criterion listed in Technical Review Criteria.
- Provide enough information so that reviewers can evaluate the application based on these merit review criteria.

Technical and Project Maturity

This section should describe the current technical and project readiness state of the proposed solution in a manner appropriate to the specific topic area. Applicants must clearly demonstrate that their proposed approach is sufficiently mature to execute the scope of work outlined in the NOFO. Applicants should summarize prior work completed to date; discuss any empirical performance evidence, engineering assessments, pilot scale activities, or qualification efforts; and describe the extent to which the underlying technology, process, or solution has already been validated for the intended use.

This section should focus on readiness to perform the proposed project, including technical feasibility, manufacturability or process viability, supply chain readiness, and any safety, quality, or certification considerations relevant to project execution. Applicants should emphasize practical capability to begin project activities at award, rather than early-stage research or fundamental technology development.

Topic specific considerations for Technical and Project Maturity are provided below.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

Applicants must demonstrate that the recovery programs proposed are ready for implementation. The technical volume should describe the material flow, components included, refurbishment processes, and testing and certification, as well as the components to be reintegrated into the system.

- Provide a detailed description of which components have been targeted for refurbishment and reuse. Include approaches for evaluating and testing the removed equipment and criteria for equipment that cannot be salvaged.
- Describe refurbishment processes, including what will be done in house and what will be sent to a third party. Identify any other partners included in these processes.
- Provide detailed testing and validation requirements for the refurbished equipment. List any certifications and which team members will be responsible for certification. Describe what kinds of warranties will be applied to this equipment.
- Describe how the refurbished equipment will be treated once it reenters inventory.
- Include a rollout plan and schedule.
- Explain how the proposed manufacturing and deployment strategy will contribute to resolving long-term U.S. supply chain bottlenecks and congestion.

Topic Area 2: Alternative Materials and Subcomponents

Applicants must demonstrate how the proposed high TRL technology will impact the domestic supply chain for electric grid components, and how their plan for scale-up will be successful. The technical volume should describe how the applicant will achieve the following items:

- Establish a fully integrated supply chain team.
- Develop aligned system level technical specifications and manufacturability designs.
- Define the U.S. manufacturing process flow, including required equipment, facility layout, quality control protocols, throughput/yield targets, and commissioning sequences needed to support accelerated scale-up.
- Conduct detailed domestic sourcing assessments, mapping critical materials, and processing steps to U.S. suppliers.
- Advance commercial alignment and demand certainty, including draft offtake structures, MOUs, or purchase intent agreements with first customers.
- Define quantitative manufacturing and deployment metrics.

Relevance and Outcomes/Impacts

- Explain the relevance of the effort to the objectives in the program announcement and the expected outcomes or impacts.
- Include a clear statement of the importance of the project in terms of the utility of the outcomes and the target community of beneficiaries in the justification.

Specifically, this section should address the following industry impacts:

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

- Describe impact of the reentry rate, cost reduction, and lead time of the targeted components.
- Describe impact to waste management practices including impact to amount of waste reduced.
- Describe how the program will be sustainable and impact operating costs at the applicant's organization.

Topic Area 2: Alternative Materials and Subcomponents

- Describe the market share of the targeted material or subcomponent that can be produced domestically if the project is successful. Include analysis on the ability of the increase to relieve market shock for this material or subcomponent.
- Describe the impact on cost and procurement times to the component that the proposed material or subcomponent will be used in. Include analysis on this impact on the grid's reliability and resiliency.
- Describe the impact this material or subcomponent can have on the electric grid supply chain as a whole.

For each Topic Area, include references, as appropriate, in the Bibliography section.

Project Objectives & Management

Details about the project approach, the project team, the project schedule, and other project management information should be provided in the Project Management Plan (PMP)

referenced in the table summarizing application requirements in Summary of Application Requirements. Details about the project scope and objectives, as well as the tasks to be performed, deliverables, technical briefings, and other relevant details, should be provided in the Statement of Project Objectives (SOPO) referenced in the same table of application requirements.

Roles of Participants

- For multi-organizational or multi-investigator projects, describe:
  - The roles and the work to be performed by each participant and investigator
  - Business agreements between the applicant and participants
  - How the various efforts will be integrated and managed

Multiple Principal Investigators

- The applicant must indicate if the project will include multiple PIs
- If you designate multiple PIs, the application must:
  - Identify the Contact PI/Project Coordinator
  - Provide a "Coordination and Management Plan" that describes the organization structure of the project as it pertains to the designation of multiple PIs. This plan should, at a minimum, include:
    - Process for making decisions on scientific or technical direction
    - Publications
    - Intellectual property issues
    - Communication plans
    - Procedures for resolving conflicts
    - PIs' roles and administrative, technical, and scientific responsibilities for the project

Facilities and Other Resources

- Identify the facilities (e.g., office, laboratory, computer) to be used at each performance site listed.
- Indicate the facilities' capacities, pertinent capabilities, relative proximity, and extent of availability to the project, if applicable.
- Describe only those resources directly related to the proposed work.
- Provide any information about other resources available to the project, such as machine and electronics shops.

Equipment

- List important items of equipment already available for this project.
- Note the location and pertinent capabilities of each, if appropriate.
- Describe comparable equipment, if any, already at your organization to any equipment you are proposing to acquire, and explain why you cannot use it for this project.

Potential Conflicts of Interest or Bias in Selection of Reviewers (not included in page count)

- **Collaborators and Co-Editors**:
  - List the names and current organizational affiliations of current and former collaborators or co-authors you have worked with on research projects, books or

book articles, reports, abstracts, or papers during the 48 months before you submit your application.
  - List any individuals who are, or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months before you submit your application.
  - Write "none" if you have no collaborators or co-editors to report.

- **Graduate and Postdoctoral Advisors and Advisees**:
  - List the names and current organizational affiliations of your graduate advisors and principal postdoctoral sponsors during the past five years.
  - List the names and current organizational affiliations of your graduate students and postdoctoral associates.

Bibliography (not included in page limitation)

- Provide a bibliography for any references cited in the Project Narrative section, if applicable.
- Include only bibliographic citations.

6. Biographical Sketch

Every Covered Individual at the applicant and subrecipient levels must submit a biographical sketch (biosketch). Use SciENcv (Science Experts Network Curriculum Vitae) to produce a DOE-compliant PDF version of the biosketch. The biosketch does not have page limits, though some fields in SciENcv have character limitations for consistency.

Use the NOFO-Specific Biosketch Instructions and the NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support[23] to develop the biosketch.

Instructions for First-Time SciENcv Users:

1. Navigate to SciENcv (Science Experts Network Curriculum Vitae).
2. To log in, click More Options, Login.gov, then sign in.
3. From the dashboard, click Manage SciENcv, then click Create New Document.
4. Select DOE Biographical Sketch.
5. From there, it's an easy web interface to add education and work history.
6. When ready, click Download PDF, which will prompt the user to certify their responses, then the document will download and can be added to the NOFO application.

The biosketch and CPS Common Forms must together include a list of all sponsored activities, awards, and appointments, whether:

- Paid or unpaid
- Full-time, part-time, or voluntary
- Faculty, visiting, adjunct, or honorary

[23] This table supersedes in its entirety Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

- Cash or in-kind
- Foreign or domestic
- Governmental or private sector
- Directly supporting your research
- Indirectly supporting your research by supporting students, research staff, space, equipment, or other research expenses.

Every covered individual must also identify all connections with malign foreign talent recruitment programs.

Please note the following:

- All definitions in the biosketch except Covered Individual (which is defined in the NOFO Part 1, *Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility)* are available at: NSPM-33, Definitions.
- If the NOFO-Specific Biosketch Instructions conflict with the NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support, follow the DOE NOFO-Specific Biosketch Instructions.

DOE/NNSA NOFO-Specific Biosketch Instructions	
Persistent Identifier (PID) of the Covered Individual	The PID field is required for all NOFOs and awards for R&D activities or technical assistance to support R&D activities. For NOFOs and awards that do not meet the criteria above, the PID field is optional.
Professional Preparation	In addition to the professional preparation listed on the Biosketch Common Form, Covered Individuals may use this section to list other types of training or programs, such as a certification or credential from a Registered Apprenticeship or Labor Management Partnership.
Appointments and Positions Reporting Timeframe	Identify all domestic and foreign professional appointments and positions, both inside and outside the primary organization. There should be no lapses in time over the past 10 years or since age 18, whichever is shorter.
Products: Limitation on Number Provided	List up to 10 products or activities most closely related to the proposed project. Products may also include professional and scholarly activities related to the proposed effort (e.g., conference or committee participation).

7. Current and Pending (Other) Support

Current and pending (other) support (CPS Common Form) helps us identify potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support.

Every Covered Individual at the applicant and subrecipient levels must submit a CPS Common Form. Use SciENcv (Science Experts Network Curriculum Vitae) to produce a DOE-compliant PDF version of the CPS Common Form. The *CPS* Common Form does not have page limits, though some fields in SciENcv have character limitations for consistency.

Use the NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support[24] and the DOE NOFO-Specific CPS Instructions below to develop the CPS Common Form. The *CPS Common Form* and *Biosketch Common Form* must together include a list of all sponsored activities, awards, and appointments, whether:

- Paid or unpaid
- Provided as a gift with terms or conditions
- Full-time, part-time, or voluntary
- Faculty, visiting, adjunct, or honorary
- Cash or in-kind
- Foreign or domestic
- Governmental or private sector
- Directly supporting your research
- Indirectly supporting your research by supporting students, research staff, space, equipment, or other research expenses

Every covered individual must identify all connections with malign foreign talent recruitment programs in current and pending support.

Please note:

- All definitions in the CPS Common Form, except Covered Individual (which is defined in the NOFO Part 1, *Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility)* are available at: NSPM-33, Definitions.
- If the DOE NOFO-Specific CPS Instructions conflict with NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support, follow the DOE NOFO-Specific CPS Instructions.

DOE/NNSA NOFO-Specific CPS Instructions	
Persistent Identifier (PID) of the Covered Individual	The PID field is required for all NOFOs and awards for R&D activities or technical assistance to support R&D activities. For NOFOs and awards that do not meet the criteria above, the PID field is optional.

[24] This table supersedes in its entirety Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

DOE/NNSA NOFO-Specific CPS Instructions	
Reporting Timeframe for Proposals, Projects, and In-Kind Contributions	• Disclose only **current** and **pending** support, as defined in the "Status of Support" field of the SciENcv CPS Common Form.
Disclosure Instructions for In-Kind Travel	DOE's in-kind disclosure requirements for the "Travel supported/paid by an external entity to attend a conference or workshop" line of the table titled NSPM-33, Implementation Guidance Pre- and Post-Award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support differs as follows: Disclosure is required for: • "Travel supported/paid by an external entity to attend a conference or workshop" located in a foreign country of concern (FCOC). • "Travel supported/paid by an external entity to attend a conference or workshop" when the supporting/paying external entity is located in an FCOC. Disclosure is **not** required for: • "Travel supported/paid by an external entity to attend a conference or workshop" that is **not** located in an FCOC. • "Travel supported/paid by an external entity to attend a conference or workshop" when the supporting/paying external entity is **not** located in an FCOC.
Current and Pending (Other) Support Addendum	The Current and Pending (Other) Support Addendum is **not** required for this NOFO.

E. Additional Requirements

Program-specific requirements that apply to awards funded under this NOFO are identified below. Standard requirements are described in NOFO Part 2, *Additional Requirements*.

Funding Restrictions		
Title	**Location**	**Additional Information**
Buy America Preference for Infrastructure Projects	NOFO Part 1	Applies to awards made under this NOFO
Allowable Costs	NOFO Part 2	Applies to awards made under this NOFO

Funding Restrictions		
Title	**Location**	**Additional Information**
Pre-Award Costs	NOFO Part 2	Applies to awards made under this NOFO
Performance of Work in the United States (Foreign Work Waiver Requirement)	NOFO Part 2	Applies to awards made under this NOFO
Foreign Travel	NOFO Part 2	Foreign Travel is not allowed for awards made under this NOFO
Equipment and Supplies	NOFO Part 2	Purchasing American-made equipment and supplies applies to this award

1. Buy America Preference for Infrastructure Projects

Awards funded through this NOFO that are for or contain construction, alteration, maintenance, or repair of public infrastructure in the U.S. require that:

- All iron, steel, and manufactured products used in the infrastructure project are produced in the U.S.
- All construction materials used in the infrastructure project are manufactured in the U.S.

Refer to the DOE's Standard Terms and Conditions and 2 C.F.R. Part 184 to determine whether the Buy America Preference applies and if we should consider the Buy America Preference in the proposed project's budget and schedule. The Buy America Preference does not apply to prime recipients that are for-profit entities.

V. Submission Requirements and Deadlines

You **must** take several one-time actions before applying to this NOFO. Some of these tasks may take several weeks. These requirements are outlined in detail in the NOFO Part 2, *Get Registered and Required Registrations*.

A. Submission Date and Times

You must submit all required submissions to the eXCHANGE site identified in the Key Facts section of this NOFO no later than 5:00 p.m. Eastern Time (ET) on the dates provided in the Key Facts section. Concept papers and the application each have a different deadline.

Applicants are strongly encouraged to submit all required application documents at least 48 hours before the submission deadline. Under normal conditions (i.e., at least 48 hours before the submission deadline), set aside at least one hour to submit application documents. Once you submit the application documents, you can revise or update your submission before the deadline passes. If you change any of your documents, you must resubmit them before the deadline. We will not extend the submission deadline for server or connection congestion.

B. Intergovernmental Review

This NOFO is not subject to Executive Order 12372, Intergovernmental Review of Federal Programs.

VI. Application Review Information

A. Standards for Application Evaluation

Eligible applications will be evaluated based on this NOFO and the guidance in the "DOE Merit Review Guide for Financial Assistance," effective October 1, 2020.

B. Responsiveness Review

We will not review or consider the following concept papers and applications:

- Project concepts or approaches identified as NOT of interest (see the Applications Specifically Not of Interest section above)
- Applicants and applications that do NOT meet the Eligibility Criteria in NOFO Parts 1 and 2

C. Review Criteria

1. Compliance Criteria

All submissions for concept papers and applications must:

- Comply with the content and form requirements listed in *NOFO Parts 1 and 2, Application Content Requirements and Submission Requirements and Deadlines of the NOFO*
- Include all required documents
- Be uploaded successfully in the eXCHANGE site indicated in the Key Facts section at the beginning of this NOFO
- Meet the submission deadlines stated in Key Facts no later than 5:00 p.m. Eastern Time (ET)

DOE will not review or consider submissions submitted that:

- Are not submitted through the correct eXCHANGE site for this NOFO
- Are submitted after the due date and time
- Are incomplete

If required, you must submit a concept paper by 5:00 p.m. ET on the due date listed in the Key Facts section to be eligible to submit an application.

2. Technical Review Criteria

Concept Papers

Concept papers are evaluated based on the following factors. All sub-criteria are of equal weight.

Concept paper criterion: Overall NOFO Responsiveness and Viability of the Project (Weight: 100%)

- You clearly describe the proposed project, how the project addresses the scope of the NOFO topic area for which the concept paper was submitted, and how the project will advance the current state of the art.
- You identify the risks and challenges associated with the project and the regulatory and financial aspects of the proposal, including possible mitigation strategies, and you show the impact that DOE funding and the proposed project would have on the relevant field and application.
- You have the qualifications, experience, capabilities, and other resources necessary to complete the proposed project.
- The proposed work, if successfully accomplished, would clearly meet the objectives in this NOFO.

Applications

The Technical Evaluation Committee and Federal Merit Review Panel members will use the following evaluation criteria in conducting their evaluations of applications subjected to comprehensive merit review.

Review Criterion Overview	
Criterion	**Weight**
Project Merit	**30%**
Significance and Impact	**40%**
Project Execution and Management Approach	**15%**
Team and Resources	**15%**

Criterion 1: Project Merit (30%)

This criterion will evaluate the overall technical merit, soundness, and feasibility of the proposed project as presented in the application. It assesses how clearly the applicant defines the project's objectives, technical approach, and expected outcomes; how well the proposed work addresses the requirements and intent of the NOFO; and the extent to which the project is structured to achieve credible, achievable, and meaningful results within the proposed period of performance.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

1. Recovery programs are feasible and ready to implement, complete with material flows, processes, and objectives clearly stated. The items targeted for recovery have detailed

processes outlined to ensure the refurbished/recycled component will meet industry standards for use.
2. The outlined processes are able to be incorporated in the organization's normal workflows by the end of the period of performance.
3. Refurbished equipment meets industry certification standards for use on electric grids.

Topic Area 2: Alternative Materials and Subcomponents

1. **The proposed manufacturing approach is technically sound**, production feasible, and based on established engineering understanding of system level requirements (not laboratory maturation or R&D).
2. **The manufacturing scale-up plan is realistic**, including equipment needs, process flow, staffing, throughput/yield expectations, commissioning steps, and quality control structures.
3. **The proposed system level specifications and manufacturability designs are complete and aligned** across the supply chain team (materials providers → manufacturers → integrators → first customers).
4. **The domestic supply chain structure is well defined,** with credible sourcing pathways, supplier readiness, and a clear strategy for reducing foreign-dominated inputs.
5. **The deployment and field integration plan is technically grounded**, consistent with first customer requirements, and suitable for real world grid applications.
6. **The project demonstrates a clear ability to execute immediately** at award (i.e., no dependence on R&D, prototype development, or unproven technology steps).
7. **The proposed quantitative manufacturing and deployment metrics are clearly defined, realistic, and directly tied to production-ready outcomes** such as domestic content percentage, throughput and yield, manufacturing line-rate improvements, cost and lead-time reduction, and the applicant's proportional contribution toward Topic Area 2's collective domestic capacity objective.

Criterion 2: Significance and Impact (40%)

This criterion will evaluate the significance of implementation of the proposed project on the energy storage technology manufacturing sector and other potential benefits, including those that help grow America's scientific leadership, reduce costs for American families, strengthen the reliability of our energy system, and bolster America's manufacturing competitiveness and supply chain security.

Topic Area 1: Refurbishment and Reuse of Critical Grid Equipment

1. Recovery programs will reduce procurement costs, reduce overall costs, and reduce the procurement times for grid components.
2. The components targeted for refurbishment and reuse will help alleviate procurement issues for the applicant.
3. The components targeted for refurbishment and reuse will help alleviate supply chain issues for domestic manufacturers.
4. The proposed program will result in cost reduction for the utility over the long term.

Topic Area 2: Alternative Materials and Subcomponents

1. The project will materially expand U.S. manufacturing capacity for next generation grid systems.

2. The project will increase domestic content, reduce reliance on foreign-dominated supply chains, and meaningfully shorten procurement lead times.
3. The project accelerates deployment by enabling timely delivery of systems to first customers, producing real world validation of U.S. manufactured technology in grid relevant applications.
4. The project offers strong domestic economic benefits, such as workforce development, supplier activation, facility utilization, or regional economic impact.
5. The project demonstrates credible commercial opportunities, including demand certainty, private sector leverage, cost reduction potential, and long-term market viability.

Criterion 3: Project Execution and Management Approach (15%)

This criterion will evaluate the level of the applicant's management skills and the adequacy, appropriateness, and reasonableness of the proposed management strategy to achieve the stated goals and objectives of both the NOFO and the proposed technical concept/project as articulated through the PMP and SOPO.

1. Level of the applicant's project management skills and thoroughness of the PMP as demonstrated by using sound project management principles to clearly define the roles and responsibilities of the project team, an appropriate schedule of tasks (with associated interdependencies and milestones), and the use of sound risk mitigation strategies and plans. At a minimum, the PMP must address the following elements:

    - Executive Summary/Technical Approach—clarity and conciseness of the project description which, at a minimum, must discuss the objectives, goals, expected results, and technical approach.
    - Key Personnel—appropriate utilization of the project team's key personnel; including the principal investigator (PI), business point of contact, and any other individuals having significant tasks or responsibilities in the execution of the project.
    - Funding and Costing Profile—adequacy of detail (including a Budget Table and Quarterly Spending Plan) in describing how the applicant will manage and monitor the execution of the project budget.
    - Milestone Log—extent to which each milestone in the Milestone Log is appropriate, specific, measurable, achievable, relevant, timely, verifiable, and shows progress toward achievement of project goals. At a minimum, each milestone must include a short title, description, planned completion date, and verification method.
    - Technical Deliverables Log—description of deliverables and progress toward delivery. Each deliverable should be identified by a short title, description, planned delivery date, and delivery method.
    - Project Schedule—adequacy and relevance of interdependencies between tasks. The schedule must clearly indicate milestones identified in the Milestone Log and include a proposed project timeline broken down by phase and task (as identified in the SOPO) with team members and their roles. The schedule must also indicate the deliverables identified in the Technical Deliverables Log, which must include each deliverable's title, associated phase/task, and planned completion date.

- Risk Management—extent to which the application identifies and defines the potential risks that may impact project success, potential mitigation measures, and the adequacy of the proposed approach to continue to assess and mitigate risks throughout the project.

2. Degree to which the SOPO provides a sufficiently detailed, concise, and understandable description of the tasks, subtasks, and Technical Deliverables by which the overall project scope will be performed and the project objectives will be achieved. At a minimum, the SOPO must address the following:

    - Objectives—extent to which the overall objectives of the project, and the objective for each phase of work (if applicable), are clearly described.
    - Scope of Project—appropriateness of the focus and effort to achieve the objectives of the proposed technical concept/project.
    - Tasks (and Subtasks) to be Performed—extent to which tasks (and subtasks) are clearly defined and organized in a logical sequence that increases the likelihood of achieving the objectives of the proposed technical concept/project. As warranted, Go/No-Go decision point(s) are to be included that demonstrate meaningful and measurable technical progress and provide justification for the continuance of the proposed technical concept/project.
    - Technical Deliverables—appropriateness of proposed deliverables (beyond those required by this NOFO) and their relevance to the corresponding task.
    - Briefings/Technical Presentations—appropriateness of the applicant's planned briefing(s) and/or technical presentation(s).

Criterion 4: Team and Resources (15%)

This criterion will evaluate the likelihood that the project team, facilities, and other resources are appropriate and sufficient to achieve the project's proposed goals and objectives. At a minimum, the proposal should address the following considerations:

1. Adequacy and appropriateness of the qualifications, expertise, and experience of key personnel and team members.
2. Adequacy of the project team composition, including, as appropriate, representation from multiple technology developers or producers and research institutions with complementary knowledge and expertise.
3. Availability of key personnel.
4. Appropriateness and quality of past peer-reviewed publications of key personnel and team members, which demonstrate the team's technical expertise and past results.
5. Degree of demonstrated experience and past collaboration of the project team in completing comparable efforts that yielded successful technology development and deployment.
6. Level of dedication of the project team is demonstrated by Letters of Commitment that clearly identify each participant's role, contribution, and amount of proposed cost share.
7. Availability, appropriateness, adequacy, and condition of facilities and equipment.

D. Other Selection Factors

In addition to the above criteria, the Selection Official may consider the following program policy factors to determine which applications to select for award negotiations:

- The degree to which the proposed project exhibits technological diversity when compared with the existing DOE project portfolio and other projects selected from the subject NOFO.
- The degree to which the proposed project, including proposed cost share, optimizes the use of available DOE funding to achieve programmatic objectives.
- The level of industry involvement and demonstrated ability to accelerate demonstration and commercialization and overcome key market barriers.
- The degree to which the proposed project is likely to lead to increased high-quality employment and manufacturing in the U.S.
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.
- The degree to which the proposed project, or group of projects, represents a desired geographic distribution (considering past awards and current applications).
- The degree to which the proposed project will procure U.S. iron, steel, manufactured products, and construction materials.
- The degree to which the proposed project demonstrably advances the President's policy priorities.
- The degree to which the applicant contributes to a broad range of recipients is likely to produce immediately demonstrable results and recipients with the potential for longer-term, breakthrough results, consistent with the objectives of the NOFO.
- The degree to which the proposed project has broad public support from the communities most directly impacted by the project.
- The degree to which the proposed project avoids duplication and overlap with other publicly or privately funded work.
- The degree to which the proposed project supports complementary efforts or projects, which, when taken together, will best achieve the research goals and objectives.
- The degree to which the proposed project enables new and expanding market segments.

VII. Selection and Award Notices

The NOFO Part 2, *Selection and Award Notices*, provides information on notifications for concept papers (if applicable), applications, award negotiations, and post-selection information requests.

VIII. Award Administration Information

A. Post-Award Requirements and Administration

DOE requires all award recipients to follow and accept requirements governed by laws and policies—both Federal and DOE. These post-award requirements include:

- National and administrative policy requirements
- National Assurance Policies
- Financial assistance general certifications and representations
- Build America, Buy America requirements
- Davis-Bacon Act requirements
- Infrastructure Investment and Jobs Act-specific requirements
- Fraud, waste, and abuse requirements
- Safety, security, and regulatory requirements
- Environmental review with the National Environmental Policy Act requirements

Please review the Standard Award Terms and Conditions, the sample Federal Assistance Reporting Checklist, and standard Intellectual Property (IP) Provisions to better understand post-award requirements and administration.

Post-award requirements and administration that apply to awards funded under this NOFO are identified below. Detailed descriptions of standard requirements are provided in NOFO Part 2, *Post-Award Requirements and Administration*. Detailed descriptions of NOFO-specific requirements are provided below the table.

Post Award Requirements and Administration		
Title	**Location**	**Additional Information**
Cybersecurity Plan	NOFO Part 1	Does not apply to awards made under this NOFO
Government Rights in Data	NOFO Part 1	Applies to awards made under this NOFO
Real Property and Equipment Continued Use	NOFO Part 2	Applies to awards made under this NOFO
Program Down-Select	NOFO Part 2	Does not apply to awards made under this NOFO
Go/No-Go Review	NOFO Part 2	Applies to awards made under this NOFO
Energy Data eXchange	NOFO Part 2	Does not apply to awards made under this NOFO
Invoice Review and Approval	NOFO Part 2	Applies to awards made under this NOFO

Post Award Requirements and Administration		
Title	**Location**	**Additional Information**
Cost-Share Payment	NOFO Part 2	Applies to awards made under this NOFO
U.S. Manufacturing Commitments	NOFO Part 2	Applies to awards made under this NOFO
Subject Invention Utilization Reporting	NOFO Part 2	Applies to awards made under this NOFO
Data Management and Sharing Plan (DMSP)	NOFO Part 2	Does not apply to awards made under this NOFO

1. Government Rights in Data

You can find the U.S. Government rights to application information in the Use and Disclosure of Application Information section. The U.S. Government rights to data produced under an award or used in the performance of the award varies according to the following classifications.

Limited Rights Data:

Limited-Rights Data are data (other than computer software) developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged. For limited-rights data used in the performance of an award, the U.S. Government may inspect such data to verify the limited-rights data and restricted rights assertion or to evaluate work performance. However, award recipients are not normally required to deliver such data. For awards that require an award recipient to deliver limited-rights data and to ensure the protection of such data, you must properly mark this data as described in the award's intellectual property terms and conditions.

Unlimited Rights:

Unlimited-Rights Data are data first produced under an award or are unmarked data delivered to the U.S. Government as part of an award. *Unlimited rights* mean the U.S. Government has the right to (in any manner and for any purpose whatsoever and to have or permit others to) take the following actions with these data:

- Use
- Disclose
- Reproduce
- Prepare derivative works
- Distribute copies to the public
- Perform publicly and display publicly

Patentable Information:

In addition to any other protection allowed under the award, invention disclosures and other patentable information may be protectable from public disclosure for a reasonable time to allow you to file a patent application.

Protected Data:

Despite the unlimited rights the U.S. Government normally obtains in data first produced under an award, under special statutory authority and with DOE concurrence, certain categories of data first produced under awards resulting from this NOFO may be marked as *protected data*. Protected data are technical data or commercial or financial data first produced under the award that, if obtained from and first produced by a nonfederal party, would be privileged or confidential. This data is protected from public disclosure for up to five years after the data is first produced. To qualify as protected data, we must agree with the classification, and you must properly mark the data as set forth in the award's intellectual property terms and conditions.

B. Helpful Websites

Office of Electricity | Department of Energy

IX. Other Information

Please see NOFO Part 2, *Other Information*, for additional information, acronyms, and requirements that apply to all DOE NOFOs.