

**Financial Assistance
Notice of Funding Opportunity
Part 1**



U.S. DEPARTMENT *of* ENERGY

**Department of Energy (DOE)
Office of Fossil Energy and Carbon Management**

**Infrastructure Investment and Jobs Act (IIJA) – Mines &
Metals Capacity Expansion – Piloting Byproduct Critical
Minerals and Materials Recovery at Domestic Industrial
Facilities**

Notice of Funding Opportunity Number: DE-FOA-0003583

Application due: January 15, 2026 5:00 pm EST

**All modifications to the Notice of Funding Opportunity (NOFO) are
HIGHLIGHTED in the body of the NOFO.**

Modifications

All modifications to the Notice of Funding Opportunity (NOFO) are HIGHLIGHTED in the body of the NOFO.

Mod. No.	Date	Description of Modification
1	12/3/2025	<p>Extension of application due date from December 15, 2025 to January 15, 2026 and other dates on page 6 of NOFO Part 1.</p> <p>Added verbiage on page 12 of Part 1: Office of Science National labs may provide a cognizant CO for the FFRDC authorization at time of award, not at time of application, in accordance with DOE OS memo dated June 3, 2025 titled "Streamlining Strategic Partnership Projects and Cooperative Research and Development Agreements".</p> <p>Removal of two paragraphs on page 21 and 22 of NOFO Part 2: 10. Work Proposal for DOE FFRDC and 11. Authorization for Non-DOE or DOE FFRDCs (if applicable)</p>

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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 DOE has separated the NOFO into two parts.

The NOFO Part 1 describes the specific DOE programmatic goals and evaluation criteria, eligibility, and other components that are specific to each funding opportunity. The 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. Applicants must review both the NOFO Part 1 and the NOFO Part 2 prior to applying. To facilitate navigation, you will find links throughout this document to additional information found in Part 2.

There are several required one-time actions applicants must take before applying to this NOFO. Some of these actions may take several weeks, so it is vital applicants build in enough time to complete them. Failure to complete these actions could interfere with application or negotiation deadlines or the ability to receive an award if selected. If you have previously completed the necessary registrations, make sure your registration is active and up to date. All registrations are free. Please refer to [NOFO Part 2, Get Registered](#), for additional information.

This announcement is published in conjunction with NOFO Part 2 Version 2.1.

I. Basic Information

A. Key Facts

Issuing Agency	Department of Energy, Office of Fossil Energy and Carbon Management (FECM), National Energy Technology Laboratory (NETL)
Funding Opportunity Title	Infrastructure Investment and Jobs Act (IIJA) - Mines & Metals Capacity Expansion – Piloting Byproduct Critical Minerals and Materials Recovery at Domestic Industrial Facilities
Announcement Type	Initial announcement
Funding Opportunity Number	DE-FOA-0003583
Funding Instrument	Cooperative Agreements
Assistance Listing Number	81.089 Fossil Energy Research and Development
Funding Opportunity Description	The focus of this NOFO is to invest in American industrial facilities that have the potential to produce valuable critical material byproducts from existing industrial processes. Industries such as mining and mineral processing, power generation, coal, oil and gas, specialty metals, and basic materials have the potential to address many of America’s most severe mineral vulnerabilities.
Program Goals & Objective(s)	This NOFO will solicit applications to derisk the technical uncertainty and financial risk for commercial deployment of critical materials byproduct recovery technologies through large pilot-scale production under real-world conditions.
Topic Areas (TA)	Topic Area 1: Mines & Metals Pilots—Coal-Based Industry Topic Area 2: Mines & Metals Pilots—All Industries
Eligible Applicants	Domestic entities (institutes of higher education; for-profit entities; non-profit entities; state and local government entities and Indian Tribes)
eXCHANGE URL and Helpdesk	https://netl-exchange.energy.gov/ NETL-ExchangeSupport@hq.doe.gov

KEY DATES

Notice of Funding Opportunity Issue Date:
November 14, 2025

Application Deadline:
January 15, 2026

Anticipated Selection Notification Date:
January 16, 2026

Anticipated Conditional Award Date:
February 23, 2026

Anticipated Award Date:
June 15, 2026

Estimated Period of Performance:
June 15, 2026 – June 14, 2030

1. Funding Details

Multiple Topic Areas

Approximate total available funding including all topic areas: up to \$275,000,000 from fiscal year (FY) 2024-2026 funds [IIJA Sec. 41003(b)-(c)].

Topic Area 1: Mines & Metals Pilots—Coal-Based Industry

- Approximate total available funding: up to \$75,000,000 total in FY 2024, FY 2025, and FY 2026
- Approximate number of awards: 0-3
- Approximate dollar amount of individual awards: \$10,000,000-\$50,000,000
- Minimum cost share required: 20% of the total project costs
- Approximate award project period: 48 months
- Anticipated length of budget periods: 12-24 months

Topic Area 2: Mines & Metals Pilots—All Industries

- Approximate total available funding: up to \$200,000,000 total in FY 2024 and FY 2025
- Approximate number of awards: 0-10
- Approximate dollar amount of individual awards: \$10,000,000-\$75,000,000
- Minimum cost share required: 20% of the total project costs
- Approximate award project period: up to 48 months
- Anticipated length of budget periods: 12-24 months

2. Period of Performance

DOE anticipates making awards comprised of multiple budget periods. Project continuation will be contingent upon DOE's Go/No-Go decision. For a complete list and more information on the Go/No-Go review, see the [NOFO Part 2, Award Administration Information](#). Funding for all budget periods, including the initial budget period, is not guaranteed.

Given the distinct nature of the requested activities to include the development of a proving ground facility and the subsequent execution of technology testing at these grounds, multiple budget periods are necessary. The primary focus and a significant portion of the effort will be dedicated to the development of the proving ground facility. To facilitate more effective go/no-go decision points, it is intended that this development phase span multiple budget periods. Applicants are encouraged to propose and recommend the logical budget period breaks, as these points may vary considerably depending on the specific application.

B. Executive Summary

The Department of Energy's Critical Materials List¹ is defined by statute and includes all of the critical minerals on the Department of Interior List (which includes Rare Earth Elements), and additional materials the Secretary of Energy determines (i) has a high risk of supply chain disruption; and (ii) serves an essential function in one or more energy technologies, including technologies that produce, transmit, store, and conserve energy.

Many of America's most needed critical materials are primarily produced as byproducts of mineral production operations. For example, cobalt, a critical component in lithium-ion batteries, is a byproduct

¹ <https://www.energy.gov/cmm/what-are-critical-materials-and-critical-minerals>

of copper and nickel mining; indium, a critical semiconductor material, is commonly recovered during the processing of zinc ores. Mineral processing facilities that do not recover valuable byproducts allow these byproducts to deport to tailings facilities where the potential byproduct materials remain in mine waste. Other byproduct mineral production technologies have the potential to expand domestic mineral production from non-ore processing industries. For example, rare earth elements (REE), essential for today's magnet industry, could be recovered from industrial processes, like power generation, clay production, and fertilizer production waste streams. However, many of the technologies for byproduct recovery need to undergo pilot-scale testing at an industrial facility where actual industrial feedstocks can be processed in real-world conditions to reduce the technical uncertainty and financial risk for future commercial deployment.

This NOFO addresses the technology development for U.S. production of byproduct critical materials from coal-based and other industrial streams, including mine waste and other waste streams, to accelerate commercial domestic mineral production.

C. Agency Contact Information

Office of Fossil Energy and Carbon Management
U.S. Department of Energy
1000 Independence Ave SW
Washington, D.C. 20585

For questions relating to this specific NOFO, please send emails to DE-FOA-0003583@netl.doe.gov.

II. Eligibility

To be considered for substantive evaluation, an applicant's submission must meet the criteria set forth below. If the application does not meet these eligibility requirements, it will be considered ineligible and removed from further evaluation and ineligible for any award. DOE will not make eligibility determinations for potential applicants prior to the date on which applications to this NOFO must be submitted. The decision whether to apply in response to this NOFO lies solely with the applicant. The information included here is specific to eligibility requirements for this NOFO. For eligibility requirements applicable to all NOFOs, please consult the [NOFO Part 2, Eligibility](#).

D. Eligible Applicants

To be considered for substantive evaluation, an applicant's submission must meet the criteria set forth below. If the application does not meet these eligibility requirements, it will be considered ineligible and removed from further evaluation.

1. Domestic Entities

Domestic entities are eligible to apply as recipients or subrecipients. The following types of domestic entities are eligible to participate as a recipient or subrecipient of this NOFO (See Title 20 U.S.C. § 1001 for the definition):

- Institutions of higher education;
- For-profit organization;
- Nonprofit organization;
- State and local governmental entities; and
- Indian Tribes, as defined in section 4 of the Indian Self-Determination and Education Assistance Act, 25 U.S.C. § 5304²

To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States or under the laws of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.

Participant Limitations

Participation of the following entities are limited as follows.

- DOE FFRDCs are eligible to apply for funding as a subrecipient but are not eligible to apply as a recipient.
- 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 typically not eligible to apply as a recipient.

² "Indian Tribe," for the purposes of this NOFO and as defined in in section 4 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 pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688) [43 U.S.C. § 1601, et seq.], which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians

- NETL is not eligible for award under this announcement and may not be proposed as a subrecipient on another entity's application. An application that includes NETL as a recipient or subrecipient will be considered non-responsive.

2. Foreign Entity Participation

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

A foreign entity may submit an application to this NOFO, but the application must be accompanied by an explicit written waiver request. Likewise, if the applicant seeks to include a foreign entity as a subrecipient, the applicant must submit a separate explicit written waiver request in the application for each proposed foreign subrecipient. Please see [NOFO Part 2, Application Content Requirements](#) for the requirements for submission of a foreign entity waiver request. The applicant does not have the right to appeal DOE's decision concerning a waiver request.

Prime recipients and subrecipients must be legally formed in the United States, have majority domestic ownership and control, and have a physical location for business operations in the United States.

The National Energy Technology Laboratory (NETL) and NETL Research and Innovation Center (RIC) are not eligible for award under this announcement and may not be proposed as a subrecipient on another entity's application. An application that includes NETL or NETL RIC as a recipient or subrecipient will be considered non-responsive.

Performance of Work in the United States

All work for the awards under this NOFO must be performed in the United States. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the application. Absent an approved waiver, such costs will not be allowable under the award. The [NOFO Part 2, Application Content Requirements](#) lists the requirements for submission of a foreign work waiver request.

Ineligible Participants

The following entities are ineligible for participation in this NOFO as a recipient, subrecipient, or subcontractor.

- Federal agencies and instrumentalities are not eligible to participate as a subrecipient or recipient.
- 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.
- Entities identified on Department of the Treasury Office of Foreign Assets Control Treasury's Sanctions Program Specially Designated Nationals list are prohibited from doing business with the United States government and are not eligible. See [OFAC - Sanctions List Service \(treas.gov\)](https://www.treas.gov/sanctions).
- Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Entity of Concern Prohibition

Entities of Concern are prohibited from participating in projects selected under this NOFO (see **NOFO Part 2, Eligibility, Other Eligibility Information, Entity of Concern Prohibition** section for details and definitions).

E. Limitation on Number of Applications Eligible for Review

An entity may submit more than one application to this NOFO if each describes a unique, scientifically distinct project concept.

Applicants may not submit identical applications for multiple topic (or subtopic) areas.

F. Cost Sharing

Applicants are expected to follow through on estimated cost share commitments proposed in their applications if selected for award negotiations. Please refer to the **NOFO Part 2, Eligibility** for more information on Cost Sharing.

1. Cost Share Requirements

The minimum cost share is 20% of the total project costs³ for large pilot-scale research and development.⁴

Applications that do not meet the minimum required cost share will be deemed ineligible during the initial compliance review and will not be further reviewed. The cost share must come from non-federal 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 where the total allowable project costs include government share (including FFRDC costs if applicable) and cost share. To help applicants calculate proper cost share amounts, DOE has included a cost share information sheet and sample cost share calculation in the **NOFO Part 2, Eligibility—Cost Sharing, Cost Share Calculation Examples**.

2. Unallowable Cost Share Sources

Refer to **NOFO Part 2, Eligibility—Cost Sharing, Unallowable Cost Share Sources** for unallowable cost share sources applicable to all NOFOs.

G. FFRDC Eligibility Criteria

1. DOE and Non-DOE FFRDCs as a Subrecipient

As long as they have no conflict, DOE and non-DOE FFRDCs may be proposed as a subrecipient on another entity's application subject to the following guidelines:

³ Total project costs are the sum of the government share, including 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 CFR 200.306 and 2 CFR 910.130 for additional cost sharing requirements.

Authorization for non-DOE FFRDCs

The federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC 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 use of the FFRDC on the proposed project and this authorization must be submitted with the application. (Office of Science National labs may provide a cognizant CO for the FFRDC authorization at time of award, not at time of application, in accordance with DOE OS memo dated June 3, 2025 titled "Streamlining Strategic Partnership Projects and Cooperative Research and Development Agreements".) The following wording is acceptable for this authorization:

Authorization is granted for the Laboratory to participate in the proposed project. The work proposed for the Laboratory is consistent with or complementary to the missions of the Laboratory and will not adversely impact execution of the DOE assigned programs at the Laboratory.

Funding, Cost Share, and Subaward with FFRDCs

The recipient and FFRDC are responsible for entering into an appropriate subaward that will govern, among other things, the funding of the FFRDC portion of the work from the recipient under its DOE award. Such an agreement must be fully executed prior to the FFRDC starting work directly allocable to the financial assistance award. The DOE funding office will provide funding for the DOE FFRDC or non-DOE FFRDC, participating as a sub awardee under the DOE financial assistance award to the recipient.

The applicant should prepare the budgets using rates appropriate for funding the FFRDCs through subawards. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's, the subrecipient's, and the FFRDC's portions of the project.

Responsibility

The recipient will be the responsible authority regarding the settlement and satisfaction of 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, shall not exceed 25% of the total project cost.³

III. Program Description

A. Background and Context

The Office of Fossil Energy and Carbon Management is issuing this NOFO. Awards made under this NOFO will be funded with up to \$275 million of appropriated IIJA Section 41003⁵ funds. IIJA Sections 41003(b) *Rare Earth Mineral Security* and (c) *Critical Material Innovation, Efficiency, and Alternatives* have appropriations of approximately \$727 million for the five-year period encompassing FY 2022 through 2026. Specifically, IIJA Section 41003(b) authorizes appropriations to carry out activities under Section 7001(a) of the Energy Act of 2020 (42 U.S.C. 13344(a)) and IIJA Section 41003(c) authorizes appropriations to carry out activities under Section 7002(g) of the Energy Act of 2020 (30 U.S.C. 1606(g)).⁶

The activities to be funded under this NOFO support Sections 7001(a) and 7002(g) of the Energy Act of 2020, as funded by IIJA Sections 41003(b) and (c), as well as the broader government-wide approach to advance and potentially commercialize technology developed through the design, construction, and/or operation of large pilot-scale facilities that produce critical minerals and materials (CMM) for our Nation's energy, national security, and domestic industry needs. These provisions are focused on:

- Rare Earth Mineral Security (42 U.S.C. 13344(a))
 - Developing and accessing advanced separation technologies for the extraction and recovery of other critical materials from coal and coal byproducts.
 - Determining if there are, and mitigate, any potential environmental or public health impacts that could arise from the recovery of REE from coal-based resources.
- Critical Material Innovation, Efficiency, and Alternatives (30 U.S.C. 1606(g))
 - Developing alternatives to critical materials that do not occur in significant abundance in the United States.
 - Promoting the efficient production, use, and recycling of critical materials, with special consideration for domestic critical materials, throughout the supply chain.
 - Ensuring the long-term, secure, and sustainable supply of critical materials.
 - Prioritizing work in areas that the private sector by itself is not likely to undertake due to financial or technical limitations.

B. Program Purpose

The U.S. is nearly 100% dependent on imports of industrial byproduct metals like gallium, germanium, indium, antimony, and bismuth. Each of these byproduct materials are vulnerable because the U.S. private sector has not had a durable profit motive to invest in their recovery. Recently implemented

⁵ Infrastructure Investment and Jobs Act, Pub. L. 117-58, div. D, title X, § 41003(b)-(c), Nov. 15, 2021, <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>.

⁶ Energy Act of 2020, Pub. L. 116-260, div. Z, title VII, §§ 7001(a) and 7002(g), Dec. 27, 2020, as amended, <https://www.govinfo.gov/content/pkg/PLAW-116publ260/pdf/PLAW-116publ260.pdf>.

export restrictions on all of these and other critical materials^{7,8,9,10,11} are impacting global supply chains, triggering price volatility, and increasing the urgency of DOE action.

It is estimated that the United States imports greater than 80% of its rare earth elements from non-domestic suppliers, and domestic industrial and defense sectors are entirely reliant on China for more than 25% of our critical minerals.¹² Recent accounting of critical mineral flows¹³ indicates that the U.S. continues to lose market share to other countries.

In 2025, recognizing the need to secure America's critical material supply chain, President Donald Trump included "critical minerals" in the definition of Executive Order (EO) 14156, *Declaring a National Energy Emergency*,¹⁴ which highlighted the role critical materials (which includes critical minerals) play in all parts of the U.S. energy system, including hydrocarbon energy production, refining, and other industries. President Trump also released EO 14241, *Immediate Measures to Increase American Mineral Production*,¹⁵ which highlights the need to immediately increase domestic mineral production.

The current funding opportunity, NOFO DE-FOA-0003583, aims to leverage ongoing American industrial activity to recover valuable critical material byproducts from coal-based and other industrial feedstocks. This NOFO will support technology development within industries such as mining and mineral processing, power generation, coal, oil and gas, specialty metals, and basic materials. These industries have the potential to address many of America's most severe material vulnerabilities by producing valuable byproduct minerals. This NOFO will enable pilot-scale production at U.S. industrial facilities accelerating the commercial scale production of affordable, reliable, and secure domestic mineral resources as byproducts of ongoing profitable industrial operations.

⁷ International Energy Agency, Announcement on the Implementation of Export Control of Items Related to Gallium and Germanium (2023), <https://www.iea.org/policies/17893-announcement-on-the-implementation-of-export-control-of-items-related-to-gallium-and-germanium>.

⁸ International Energy Agency, Catalogue of Commodities subject to the Administration of Export Licenses (2023), <https://www.iea.org/policies/17894-catalogue-of-commodities-subject-to-the-administration-of-export-licences>.

⁹ International Energy Agency, Decision to implement export controls on tungsten, tellurium, bismuth, molybdenum and indium related items (2025), <https://www.iea.org/policies/26795-decision-to-implement-export-controls-on-tungsten-tellurium-bismuth-molybdenum-and-indium-related-items>.

¹⁰ International Energy Agency, Strengthening the Export Control of Relevant Dual-Use Items to the United States (2025), <https://www.iea.org/policies/26794-strengthening-the-export-control-of-relevant-dual-use-items-to-the-united-states>.

¹¹ International Energy Agency, Export controls on certain medium and heavy rare earth items (2025), <https://www.iea.org/policies/26796-export-controls-on-certain-medium-and-heavy-rare-earth-items>.

¹² Critical material is defined in [30 U.S.C. § 1606\(a\)\(2\)](#) as (A) any non-fuel mineral, element, substance, or material that the Secretary of Energy determines- (i) has a high risk of a supply chain disruption; and (ii) serves an essential function in 1 or more energy technologies, including technologies that produce, transmit, store, and conserve energy; or (B) a critical mineral. See also <https://www.energy.gov/cmm/what-are-critical-materials-and-critical-minerals>.

¹³ U.S. Geological Survey, 2025, Mineral commodity summaries 2025 (ver. 1.2, March 2025): U.S. Geological Survey, 212 p., <https://doi.org/10.3133/mcs2025>

¹⁴ Exec. Order No. 14156 of January 20, 2025, *Declaring a National Energy Emergency*, 90 Fed. Reg. 8433 (Jan. 29, 2025), <https://www.federalregister.gov/documents/2025/01/29/2025-02003/declaring-a-national-energy-emergency>.

¹⁵ Exec. Order No. 14241 of March 20, 2025, *Immediate Measures to Increase American Mineral Production*, 90 Fed. Reg. 13673 (March 25, 2025), <https://www.federalregister.gov/documents/2025/03/25/2025-05212/immediate-measures-to-increase-american-mineral-production>.

In order to comply with EO 13817,¹⁶ DOE's program expanded its technology development effort in 2019 from a focus on coal-based resource recovery of REE to include the full suite of critical materials. As a result, DOE's program in 2020 required existing domestic small pilot-scale facilities to co-produce other critical materials in addition to producing REE. In 2021, DOE's program initiated basinal coalition efforts to address realization of the full economic potential value of U.S. natural resources for producing REE, other critical materials, and high-value, nonfuel, carbon-based products. Efforts were to also holistically assess not only upstream mining of resources and physical separation (e.g., beneficiation), but also midstream extraction, separation, recovery, and purification of critical and high-value materials, and, ultimately, onshore downstream manufacturing that incorporates these materials into commodity or national defense products.

During 2022-2023, three funding opportunities were released using IIJA Section 41003(b) funds to support development of Association for the Advancement of Cost Engineering (AACE) Class 3 cost estimates for the design of facilities to produce up to a demonstration-scale rate of 1-3 tonnes/day of mixed rare earth oxides/salts (MREO/MRES) from unconventional feedstock resources, as well as development of advanced unconventional rare earth processing circuits (aka 'pathways' or 'processes') for the reduction of overall process system capital and operating expenditures by approximately 20% in comparison to process operations that use conventional separations and refining circuits. All opportunities allowed for or required coproduction of other critical minerals.

All told, prior DOE FECM-funded research and development (R&D) efforts have successfully demonstrated the technical feasibility of separating and recovering MREO/MRES and other critical minerals and materials such as nickel, cobalt, manganese, gallium, germanium, lithium, etc., from unconventional and secondary, domestic, coal-based resources using conventional processing technologies at the bench- and small pilot-scale or larger.

C. Program Goals and Objectives

This NOFO invests in American industrial facilities that have the potential to produce valuable critical materials from existing industrial processes and legacy waste streams. Industries such as mining and mineral processing, power generation, coal, oil and gas, specialty metals, and basic materials have the potential to recover valuable materials that will address many of America's most severe mineral vulnerabilities. The goal of this NOFO is to increase domestic critical material production.

American industrial facilities have enormous potential to recover valuable mineral coproducts and byproducts from ongoing operations and legacy waste streams such as mine tailings, impoundments, and coal ash. To de-risk industry investments, the technology for recovering these materials must be piloted under real-world conditions and at a scale relevant to each industry.

This NOFO will support the design, construction, and operation of large (1:50 scale or larger), 'right-sized' pilot processing systems at domestic industrial facilities. Successful pilots may produce a wide variety of critical material products, including oxides, salts, metals, alloys, and non-critical material value-added products.

¹⁶ Exec. Order No. 13817 of Dec. 20, 2017, *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*, 90 Fed. Reg. 60835 (Dec. 26, 2017); *see also* U.S. Dep't of Interior, Notice of Final List of Critical Minerals 2018, 83 Fed. Reg. 23295 (May 18, 2018).

DOE envisions that the large pilots will generate critical information resulting in near-term commercial project viability. Successful pilots will reduce technical uncertainty and financial risk prior to commercial deployment. Should funding and DOE goals align, NOFO award recipients may be considered eligible for possible follow-on scale-up funding opportunities, should DOE pursue such ventures.

D. Expected Performance Goals

Performers will design, construct, and operate large pilot facilities (1:50 scale or larger) to produce critical materials necessary for our energy, defense, and economic security and to de-risk commercial scale production technologies to grow new economic and manufacturing opportunities.

Projects will produce qualified market-ready critical material products and other value-added materials with potential offtake agreements. Projects will show they are on track to meet their pilot objectives by producing defined quantities of critical materials at the proposed scales in each phase, subject to evaluation through go/no-go milestones. In addition, projects will generate the critically needed information and operational data required for the development of a near-term commercial facility within the U.S.

Two topic areas are defined based on eligible feedstock and the technology readiness level (TRL). See the attached Technology Readiness Level Reference for TRL definitions.¹⁷

1. Topic Area 1: Mines & Metals Pilots—Coal-Based Industry

Topic Area 1 requires the use of coal and coal byproducts as feedstocks with minor or limited emphasis on the use of other (non-coal) industrial-based mining materials. This includes domestic coal-based feedstock materials (e.g., lignite, refuse tailings, etc.) and/or industrial coal-based wastes (e.g., prep plant wastes, power generation fly/bottom ash, coal-based acid mine drainage (AMD), etc.).

Previously developed bench-scale efforts are expected to advance the TRL of their process/system from 5 to 7.

Applications to Topic Area 1 must recover rare earth elements from the feedstock and can recover other critical materials and value-added products.

2. Topic Area 2: Mines & Metals Pilots—All Industries

This topic area broadly supports piloting the recovery of valuable critical material byproducts and other value-added products from industrial feedstocks, processes, and process wastes including mine waste. Feedstocks for Topic Area 2 can come from all industry sources other than coal-based industry and feedstock materials related to post-consumer and manufacturing scrap recycling.

Previously developed bench-scale efforts identified for Subtopic 2a are expected to advance the TRL of their process/system from 4 or 5 to 7. Previously developed pilot-scale efforts identified for Subtopic 2b are expected to advance the TRL of their process/system from 6 or 7 to 7 or 8.

Applications to Topic Area 2 can recover any critical material.

E. Teaming Partner List

DOE is compiling a Teaming Partner List to facilitate the formation of project teams for this NOFO. The Teaming Partner List allows organizations that may wish to participate on a project to express their interest to other applicants and explore potential partnerships.

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

SUBMISSION INSTRUCTIONS: View the Teaming Partner List by visiting the eXCHANGE homepage and clicking on "Teaming Partners" within the left-hand navigation pane. This page allows users to view published Teaming Partner Lists. To join the Teaming Partner List, submit a request within eXCHANGE. Select the appropriate Teaming Partner List from the drop-down menu, and fill in the following information: Investigator Name, Organization Name, Organization Type, Topic Area, Background and Capabilities, Website, Contact Address, Contact Email, and Contact Phone.

DISCLAIMER: By submitting a request to be included on the Teaming Partner List, the requesting organization consents to the publication of the above-referenced information. By facilitating the Teaming Partner List, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are identifying themselves for placement on this Teaming Partner List. DOE will not pay for the provision of any information, nor will it compensate any applicants or requesting organizations for the development of such information.

F. Coordination With Other DOE Activities

1. Critical Materials Collaborative

To help ensure a secure domestic supply of critical materials, the DOE is investing in accelerating production from a diverse set of sources (e.g., secondary, unconventional, conventional) and working with other government and private agencies as part of a government-wide Critical Materials strategy.

As part of this strategy, the DOE has established a [Critical Materials Collaborative \(CMC\)](https://www.energy.gov/cmm/critical-materials-collaborative)¹⁸ to be a centralized entity for multidisciplinary, collaborative, critical materials applied research, development, and demonstration (RD&D). The CMC will coordinate critical material innovation across the DOE,¹⁹ other government agencies, industry, and academia, as well as providing enabling technologies to reduce commercialization time and risk.

All selected projects from this NOFO are required to participate as a member of the CMC, which is a coalition of DOE offices, federal agencies, and federally funded R&D programs to:

- Align the DOE research portfolio to achieve administration and Science and Technology objectives;
- Advance applied RD&D related to critical materials;
- Accelerate the adoption and deployment of innovation;
- Nurture and expand the innovation ecosystem; and
- Facilitate scientific and technical exchange and discussion.

¹⁸ <https://www.energy.gov/cmm/critical-materials-collaborative>

¹⁹ <https://www.energy.gov/cmm/critical-minerals-materials-program>

The Recipient's principal investigators or a member of their research team are expected to participate in coordination efforts including, but not limited to, an in-person annual symposium, virtual coordination meetings, and periodic presentations on research progress. There are no membership fees associated with participation in the CMC.

The proposed Recipients to this NOFO should take into consideration possible collaboration with the programs supported by other DOE program offices.²⁰ Projects funded as a result of this NOFO will be encouraged to explore opportunities to coordinate with projects funded by other DOE offices and federal agencies through the CMC in order to maximize the scientific and technological impact.

Recipients are expected to participate in the CMC through the end of the period of performance and may be invited to participate in the CMC up to one year after the project has concluded. Participation after the project has concluded is optional.

2. Notice of Intent from DOE Manufacturing and Energy Supply Chains (MESC)

MESC has released an IJA Notice of Funding Opportunity (NOFO) DE-FOA-0003587, "Rare Earth Elements Demonstration Facility." The NOFO aims to provide for the design, construction, and operation of a Rare Earth Element Demonstration Facility. This facility will demonstrate the extraction, separation, and refinement of REEs from unconventional feedstock sources to produce high-purity rare earth metals. The facility must source feedstock derived from acid mine drainage, mine waste, e-waste, or other deleterious or harmful materials resulting from mining or industrial operations. The Notice of Intent and future NOFO, if released, can be found on eXCHANGE at <https://infrastructure-exchange.energy.gov/>.

3. Notice of Intent from DOE Office of Energy Efficiency and Renewable Energy, Advanced Materials and Manufacturing Technologies Office (AMMTO)

AMMTO has released a Notice of Intent to Issue NOFO DE-FOA-0003589, "Critical Minerals and Materials Accelerator." The anticipated AMMTO NOFO will focus investments on American, industry-led partnerships to prototype and pilot innovative critical materials production technologies that are currently only proven at the bench scale to address challenges in high-impact areas. The Notice of Intent can be found here: <https://www.energy.gov/eere/ammto/critical-minerals-and-materials-accelerator-0>.

²⁰ <https://www.energy.gov/cmm/critical-materials-around-department-energy>

G. Topic Areas

There are two Topic Areas in this NOFO:

- Topic Area 1: Mines & Metals Pilots—Coal-Based Industry
- Topic Area 2: Mines & Metals Pilots—All Industries
 - Subtopic 2a: Mines & Metals Pilots—All Industries—Prior Bench-Scale Facilities
 - Subtopic 2b: Mines & Metals Pilots—All Industries—Prior Pilot-Scale Facilities

The Topic Area requirements and guidance are described below.

Topic Area	Minimum Beginning TRL	Preferred Beginning TRL	Minimum Ending TRL	Preferred Ending TRL
1	5	5	7	7
2a	4	5	7	7
2b	6	7	7	8

1. Information and Requirements for both Topic Areas

The following information applies to all Topic Areas and Subtopics.

The overall objective is to design, construct, and operate large pilot critical material production facilities (1:50 scale or larger) in the U.S. that will produce critical material byproducts from industrial processes. These pilots will deliver critical data needed for near-term commercial scale-up by using real-world industrial feedstocks and materials for verification and validation of the commercial potential of their processes/system, including, but not limited to:

- data on the performance of individual processing circuits/systems and their overall integration,
- process models,
- capital and operating costs,
- scaling factors, and
- feedstock and end-product characterization.

Applicants are advised to review the Feedstock and Critical Materials Production Data Sheet and Technology Commercialization Plan structures ahead of drafting the Technical Volume to ensure appropriate information is reported in each place and is aligned across full application materials.

Critical Material Byproduct Targets at Domestic Industrial Sites

Applications must focus on the development of fully operational processing systems, located at and integrated with a domestic industrial site, that will be operated in a continuous/semi-continuous²¹

²¹ Semi-continuous operation combines aspects of both batch and continuous methods, allowing for the flexibility of batching with the efficiency of continuous operation.

manner to produce market-ready critical materials.^{12,13,22,23} [DOE Critical Materials](#) include all minerals on the U.S. Geological Survey (USGS) List of Critical Minerals plus additional materials for energy. It is within scope to produce any market-ready critical material including critical material concentrates, high purity materials, or material commodities such as mixed oxides, salts, alloys, etc.

Applicants are encouraged to consider production of materials that support both energy security and national defense needs. Applicants are also encouraged to reference the DOE Critical Materials List¹² and USGS 2025 Mineral Commodity Summaries Report.¹³ Of particular interest are the production of critical materials with low or zero current domestic production. Critical materials with limited domestic production include arsenic, antimony, bismuth, chromium, fluorine, gallium, germanium, graphite, indium, manganese, magnesium, niobium, scandium, tantalum, tin, tungsten, rare earth elements, and yttrium.

Large Pilot-Scale Facility Size and Operational Information

The large (1:50 scale or larger) pilot-scale systems of interest in this NOFO should be ‘right-sized’ to demonstrate production of critical materials in quantity and purity specifications to support and establish the basis for near-term commercial production of saleable critical materials. **The ‘right-sized’, large pilot must have a critical material production capacity target of at least 2% (1:50 scale) of a commercial-scale system.** For example, if the targeted critical material production of a large pilot-scale facility is 25 metric tons per year (tpy), and it is identified that commercial-scale systems for that targeted material generally produce 300 tpy, then the large pilot-scale facility would produce $25/300 = 8.3\%$ of a commercial-scale system.

Feedstock and Byproduct Critical Material Target

The intent is to pilot potential byproduct material valorization at industrial sites including ongoing industrial production streams and waste impounded at active sites or sites of former industrial activity. The use of domestic feedstocks is preferred. Any feedstock located within the U.S. is considered domestic regardless of its original source. For example, mine waste at a U.S. facility that was originally mined from foreign territory is considered a domestic feedstock. No federal funding can be used to procure foreign feedstock.

Applications proposing feedstock materials related to post-consumer and manufacturing scrap recycling are specifically not of interest.

Applicants must identify the feedstock and quantify the feedstock throughput and critical material production, in terms of metric tons per year, that:

- has been successfully demonstrated in their existing bench-scale or pilot-scale system on actual (non-simulated) feedstocks,
- is targeted for their proposed large pilot-scale facility,

²² U.S. Department of the Interior, U.S. Geological Survey. Methodology and Technical Input for the 2025 U.S. List of Critical Minerals—Assessing the Potential Effects of Mineral Commodity Supply Chain Disruptions on the U.S. Economy: <https://pubs.usgs.gov/of/2025/1047/ofr20251047.pdf>

²³ Notice of Final Determination on 2023 DOE Critical Materials List, 88 Fed. Reg. 51792 (Aug. 4, 2023), <https://www.federalregister.gov/documents/2023/08/04/2023-16611/notice-of-final-determination-on-2023-doe-critical-materials-list>.

- is generally targeted in ideal commercial-scale systems,²⁴ and
- is targeted for future commercial-scale operation at the site.

Applicants must state the purity specification of the commercial market-ready critical materials to be produced. The large pilot projects must aim to meet specific quantity and purity standards for the critical material(s) produced or explain why that is not technically, operationally, or economically feasible or appropriate for this project.

In addition, applicants must describe the overall impact of the large pilot-scale system, as well as a potential future commercial-scale system, on the foreign import reliance for each critical material produced. For example, the large pilot-scale system may reduce import reliance of a specific critical material from 90% to possibly 85% and a future commercial-scale system may further reduce the import reliance to possibly 50%.

Projects must utilize feedstock materials that are sufficiently abundant to support the awarded project and maintain future pilot operational capacity for a minimum of five years. **Applicants must provide evidence of material availability in the quantity needed to fulfill this 5-year requirement. A letter of support should be included in the application from all companies, agencies, or other parties that have ownership/rights to any proposed feedstock materials to allow large pilot-scale facility operation for the performance of the award** (e.g., if utilizing coal ash, please provide a letter of support from the power or coal company who is producing the ash). **If no letters of support can be obtained, applicants must provide an explanation in the Technical Volume as to why they are not necessary, or how the necessary feedstock is intended to be obtained.**

Large pilot-scale facilities are encouraged to exhibit feedstock flexibility, enabling them to process multiple feedstock types (e.g., bauxite red mud, kaolinite clay, and/or phosphate wastes) within the same facility, though not necessarily concurrently. Strategies that bolster pilot facility resilience by processing diverse feedstocks or offering modularity or mobility are particularly encouraged. Pilot production of multiple critical materials is also encouraged.

Facility Technical Feasibility and Prior Work

Applicants are required to:

- Provide information that demonstrates the technical feasibility of their existing technology for processing the proposed feedstock to produce the critical material(s) of interest at their application's starting TRL. Actual (non-simulated) feedstock materials must have been used with processes operated in a continuous/semi-continuous manner.
- Submit photographs of existing systems to demonstrate existing process scale and capabilities.
- Provide an estimate of the time to acquire any required site permits and time for construction. These estimates will be revised with actual timelines during project execution.

²⁴ Existing commercial-scale systems should be used; however, if no such commercial operation exists for comparison, then the Applicant should compare to an ideal commercial-scale system.

Applicants should include information relevant to costing, such as Feasibility Studies (pre-Front End Engineering and Design (FEED) based on an AACE Class 4 Cost Estimate²⁵) in the Application Package. Each large-scale pilot is required to be designed, constructed, and operated in a manner to generate relevant new information to aid future development of a commercial system (TRL 8, FEED Study based on an AACE Class 3 Cost Estimate). Development of a FEED Study for the future commercial system is not within scope of this NOFO.

Where separation, extraction, and recovery processes have been developed by industry, process flowsheets (to the extent that non-proprietary information can be made available) and critical material recovery performance should be described.

Produced Critical Material Specifications and Requirements

Applicants must at application:

- Provide information related to the total addressable market including identification of all industries and/or supply chains that are targeted to receive the market-ready critical materials and other value-added materials produced in the large pilot-scale facilities.
- Identify the projected quantity, grade, and phase of material to be produced, as well as potential off-take agreements or stakeholders.

Applicants are advised to review the Feedstock and Critical Materials Production Data Sheet and Technology Commercialization Plan structures ahead of drafting the technical volume to ensure appropriate information is reported in each place and is aligned across full application materials.

Applicants must during the performance of the award:

- Characterize materials produced at the large pilot-scale facilities during the award period (using accepted analysis tools such as inductively coupled plasma mass spectrometry or inductively coupled plasma optical emission spectroscopy) to ensure:
 - they meet market-ready vendor specifications (e.g., grade/purity levels; absence of contaminants; phase/form; etc.) and
 - are suitable for incorporation into manufactured components (e.g., magnets, semiconductors, battery cathodes/anodes, etc.).
- Provide a Third-party Vendor Material Test and Market-ready Verification Report at the end of budget period 2, 3 and 4.

Any materials produced during the period of performance must stay in the U.S. unless written authorization is provided by DOE.

Budget Period Structure and Requirements

During the first budget period, awarded projects will be required to develop and submit a Large Pilot-scale Facility Design. At a minimum, the design should include:

- Process flow diagrams with mass and energy balances,
- Chemical balances (including chemical demand, internal recycle, chemical consumption, and chemical makeup requirements),
- Equipment/instrumentation lists,

²⁵ Or a FEED Study based on an AACE Class 3 Cost Estimate, if available.

- Description of the feedstock and commodities to be produced, including their grade, and
- Identification of any required permits.

During the second budget period, awarded projects will develop and submit a Large Pilot-scale Facility Test Plan. The Test Plan will define use of the facility to generate information required for further process scale-up and potential future commercialization.

Starting from the second budget period and continuing until the project's completion, pilot facilities are required to initiate the production of critical material byproducts. By the end of each subsequent budget period, projects must demonstrate quantifiable enhancements in both operations and critical material output. These improvements can pertain to either the quantity or quality of critical materials generated, or to operational efficiency, such as prolonged or more consistent run times, and increased frequency of operating within specifications.

Applicants are to propose go/no-go milestones at the close of budget periods 1, 2, 3, and 4. These milestones should confirm that the pilot facility is progressing towards the feedstock throughput and critical material production targets detailed in Section C (Feedstock and Byproduct Critical Material Target) and in the Feedstock and Critical Material Production Data Sheet. This essential information must be documented in both the Technical Volume, the Feedstock and Critical Material Data Sheet, and go/no-go milestones.

The following budget periods are examples only. The timelines may be tailored as needed.

- Budget Period 1 (9 months): A Large Pilot-scale Facility Design shall be developed and submitted to NETL, as specified in the Statement of Project Objectives, for review as a go/no-go decision point prior to initiating construction. Should site permitting be required, an estimate of the time to acquire the site permit and time for construction shall be provided to NETL.
- Budget Period 2 (15 months): Once approved for construction, the facility shall be constructed and undergo system shake-down to determine the readiness for facility operation. A Large Pilot-scale Facility Test Plan shall be developed and submitted to NETL which will be reviewed in conjunction with a report out on shake-down testing as go/no-go decision points prior to continuation into the next budget period. The pilot-scale facility will report on its feedstock throughput and the quantity and quality of critical materials produced with context to the interim target defined in the application/updated in negotiation. This data will also serve as a key progress indicator for go/no-go decisions regarding the project's ultimate goals.
- Budget Period 3 (12 months): Subsequently, the large pilot-scale facility shall be operated in a continuous/semi-continuous manner. A presentation on the progress and status will be provided to NETL, which will be reviewed as a go/no-go decision point prior to continuation into the final budget period. The pilot-scale facility will also report updates on its feedstock throughput and the quantity and quality of critical materials produced in context to targets defined in the application/award negotiation. This data will also serve as a key progress indicator for go/no-go decisions regarding the project's ultimate goals.
- Budget Period 4 (12 months): The large pilot-scale facility shall continue operating until the end of the period of performance. The pilot-scale facility will report its end of

project feedstock throughput and the quantity and quality of the critical materials produced in context to targets defined in the application/award negotiation. This data will also serve as a key progress indicator for go/no-go decisions regarding the project's accomplishment against its original goals.

Federal funding for Research and Development

Federal funds can only be used to support R&D directly related to successful critical material production, pilot development, and operation. R&D should be focused on critical material production or market qualifications and only minimally devoted to production of other value-added products. If R&D scope needs to expand beyond expected scope during the project, the applicant must coordinate with DOE to request update the budget, timeframe, and scope with evidence of the value toward material production goals.

Potential additional support through DOE Technical Assistance

DOE may offer additional technical assistance for successful applications selected to negotiate for award from this NOFO. If offered, details of the technical assistance will be discussed with selected applicants during award negotiations. Technical assistance would facilitate additional R&D and U.S. Government Facility participation that is not a part of the proposed project. There is no requirement to accept this additional technical assistance, if offered.

Value-added Products

To improve process economics, applicants are encouraged to consider the production of value-added products. Value-added products, if produced, may come from anywhere in the processing stream but must positively impact economics of the overall process; this benefit and market must be described. Development of value-added products should, however, only be a minor aspect of the project.

Integration of Artificial Intelligence (AI), Machine Learning (ML), and Internet of Things for Intelligent Systems

Applicants are encouraged to incorporate cybersecure AI and/or ML platforms into the pilot facility sensing and process control architectures. This includes applying AI/ML to individual steps, multiple circuits, or across all circuits within large pilot-scale facilities. For example, efforts may include development of real-time process optimization, analysis of product yield, chemical usage, or energy efficiency. The Applicant should clearly describe relevant AI capabilities.

Other Application and Deliverable Considerations

- It is highly encouraged for applicants to demonstrate commitment to the project via cost share contributions greater than the 20% minimum requirement. The Selection Official may consider a [program policy factor](#) that considers the financial commitment beyond the minimum cost share.
- **Applicants are required to submit a Feedstock and Critical Material Data Sheet** with their application. Additional details are provided in the [Application Content Requirements](#) section. A revised Feedstock and Critical Material Data Sheet will be due at the end of each budget period for review with go/no-go decisions.
- **Applicants are required to submit a Technology Commercialization Plan (TCP) and Project Summary Data Sheet** with their application. Additional details are provided in the [Application Content Requirements](#) section. A revised TCP and Project Summary Data Sheet will be due at the end of each budget period for review with go/no-go decisions.

- Purchase and use of U.S.-sourced equipment is encouraged.
- **It is required for industry stakeholders and preferred for supply chain stakeholders to participate in the execution of an awarded project.**
- **Applicants must identify anticipated site permitting requirements and projected timelines.**
- Awarded projects will be required to develop Technoeconomic and Energy Consumption Analyses, which will be submitted at the end of each budget period for review with go/no-go decisions.
- Recipients will be required to provide NETL with samples of materials produced in the performance of projects funded by this NOFO.
- Analytical characterization data and information generated pertaining to samples, such as their components and concentration, will be collected by Recipients and delivered to NETL. NETL may make this information publicly available in NETL's Energy Data eXchange (EDX) database platform which can be found by accessing the following URL link:
<https://edx.netl.doe.gov/ree-cmm>.

Specific Topic Area and Subtopic information and requirements are described below.

2. Information and Requirements for Topic Area 1: Mines & Metals Pilots—Coal-Based Industry

Small pilot-scale facilities (TRL 5) that have demonstrated the capabilities of producing REE and other critical materials from coal-based resources shall be scaled for design, construction, and operation as large, 'right-sized' pilot-scale facilities (TRL 7) for the production of market-ready REE and other critical materials, and for generation of critically essential design information and operational data necessary for near-term, future operation of a commercial processing facility (TRL 8) by no later than 2030.

Topic Area 1 requires the use of coal and coal byproducts as feedstocks with minor or limited emphasis on the use of other (non-coal) industrial-based mining materials. Domestic coal-based feedstock materials (e.g., lignite, refuse tailings, etc.) and/or industrial coal-based wastes (e.g., prep plant wastes, power generation fly/bottom ash, coal-based AMD, etc.) shall be utilized. **REE recovery is the required focus of Topic Area 1**, preferably with co-recovery of other critical materials and other value-added materials; Critical materials recovery without REE recovery and other value-added material production without REE recovery are not of interest.

3. Information and Requirements for Topic Area 2: Mines & Metals Pilots—All Industries

This topic area broadly supports piloting the recovery of valuable critical material byproducts and other value-added products from industrial feedstocks, processes, and process wastes including mine waste. Example projects in Topic Area 2 could include critical material recovery from bauxite residue processing, valorization of zinc processing byproducts (e.g., indium from zinc smelting), and valorization of numerous critical materials from ongoing processing of titanium, phosphorous, lead, oil & gas or other industry wastes or production processes. Impounded or stockpiled waste materials are in scope. Modular, mobile, or fixed sites are in scope.

In Topic Area 2, the applicant will establish large, pilot-scale facilities for production of valuable critical material byproducts from industry operations and/or wastes at the specific TRL ranges described in the

subtopics below. These facilities will generate data and information needed for validation of future, near-term domestic commercial production of market-ready critical materials.

Topic Area 2 requires the use of feedstocks from industrial feedstocks, processes, or process wastes including mine waste. For example, this may include (1) residual material from processing; (2) process streams, process byproducts, secondary materials, and/or waste materials that are produced by industry's production; or (3) conventional ore (including monazite, bastnaesite, and/or other domestically mined materials) processing waste or waste materials such as residues, slimes, or below-cutoff grade ore or other mined material.

Feedstocks for Topic Area 2 can come from all industry sources other than coal-based industry and feedstock materials related to post-consumer and manufacturing scrap recycling.

Subtopic 2a: Mines & Metals Pilots—All Industries—Prior Bench-Scale Facilities

Subtopic 2a is focused on industrial processes for critical materials recovery that have been developed at a bench-scale TRL of 4 or 5. The objective of Subtopic 2a is to accelerate technology development that leverages industry's existing bench-scale (TRL 4) or small pilot-scale (TRL 5) process design concepts and scales those processes or systems for design, construction, and operation of a large, 'right-sized' pilot-scale facility (TRL 7).

Subtopic 2b: Mines & Metals Pilots—All Industries—Prior Pilot-Scale Facilities

Subtopic 2b is focused on industrial processes for critical materials recovery that have been developed at a pilot-scale TRL of 6 or 7 (7 preferred). The objective of Subtopic 2b is to accelerate technology development that leverages industry's existing pilot-scale facility (TRL 6 or 7, 7 preferred) process design concepts and scales those processes or systems for design, construction, and operation of a large, 'right-sized' pilot-scale mineral production facility (TRL 7 or 8, 8 preferred).

H. Applications Specifically Not of Interest

The following types of applications will be deemed nonresponsive and will not be reviewed or considered (Please also refer to the [Responsiveness Review](#) section below):

- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- Applications that fall outside the technical parameters specified in [Background and Context](#) above and the [Topic Areas](#) section above.
- Applications that include foreign-based mine development.
- Applications for large pilot-scale facilities that are
 - a. outside of the U.S.
 - b. not operated at a domestic industrial site.
- Applications for large pilot-scale facilities that cannot be operated continuously/semi-continuously.
- Applications that propose manufacturing of components and/or equipment (e.g., magnet, batteries, semiconductors, etc.).
- Applications that propose feedstock materials related to post-consumer or manufacturing scrap recycling.

- Applications that focus on recovering lithium or other critical materials from brines associated with geothermal activities or volcanic-hosted systems with the potential for geothermal power.
- Applications that do not include REE recovery (Topic Area 1 only).

I. Statement of Substantial Involvement

DOE anticipates awarding cooperative agreements under this NOFO, which include a statement of DOE's "substantial involvement" in the work performed under the resulting awards. For cooperative agreements, DOE does not limit its involvement to the administrative requirements of the award. Instead, DOE has substantial involvement in the direction and redirection of the technical aspects of the project. DOE's substantial involvement in resulting awards may include the following:

- DOE shares responsibility with the recipient for the management, control, direction, and performance of the project.
- DOE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
- DOE may redirect or discontinue funding the project based on the outcome of DOE's evaluation of the project at the Go/No-Go decision point(s).
- DOE participates in major project decision-making processes.

J. Statutory Authority

The programmatic authorizing statutes are:

- Section 7001(a) of the Energy Act of 2020 (42 U.S.C. 13344(a))
- Section 7002(a)(2) of the Energy Act of 2020 (30 U.S.C. § 1606(a)(2))
- Section 7002(g) of the Energy Act of 2020 (30 U.S.C. 1606(g))
- DOE Organization Act (42 U.S.C. 7101, *et seq.*)

Awards made under this announcement will fall under the purview of 2 CFR Part 200 as adopted and supplemented by 2 CFR Part 910.

IV. Application Content and Form

This section includes application information specific to this NOFO Part 1. Refer to the [NOFO Part 2, Application Content and Form](#) for standard information that applies to all DOE NOFOs such as formatting and content requirements, and funding restrictions.

A. Information Sharing

IMPLEMENTATION OF PRESIDENTIAL MEMORANDUM SIMPLIFYING THE FUNDING OF ENERGY INFRASTRUCTURE AND CRITICAL MINERAL AND MATERIAL PROJECTS

Pursuant to this Presidential Memorandum, 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 Projects.

B. Summary

The application process includes one submission phase: application.

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

C. 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. Please refer to the [NOFO Part 2, Application Content and Form](#) for a complete list of application requirements. Detailed guidance on the content and form of NOFO-specific requirements is provided following the [Summary of Application Requirements](#) table below.

It is highly encouraged for applicants to demonstrate commitment to the project via cost-share contributions greater than the minimum requirement. A technical review criterion will evaluate the applicant's financial commitment to the project.

1. Covered Individual Definition, Designation, and Responsibility

Several of the Application Content Requirements listed below and in the NOFO Part 2 are required of covered individuals.

For the purposes of this NOFO, a covered individual means an individual who (a) contributes in a substantive, meaningful way to the development or execution of the scope of work of a project

proposed for funding by DOE, and (b) is designated as a covered individual by DOE. Often, these individuals have doctoral or other professional degrees, although individuals at the master's or PhD-candidate level may be considered covered individuals if their involvement meets this definition. Consultants, graduate students, and those with a postdoctoral role may be considered covered individuals if they meet this definition.

DOE designates as covered individuals any principal investigator (PI); project director (PD); co-principal investigator (Co-PI); co-project director (Co-PD); project manager; and any individual regardless of title that is functionally performing as a PI, PD, Co-PI, Co-PD, or project manager.

The applicant is responsible for assessing the applicability of (a) above, against each person listed on the application. Further, the applicant is responsible for identifying any such individual to DOE for designation as a covered individual, if not already designated by DOE as described above.

The applicant's submission of a current and pending support disclosure and/or biosketch/resume for a particular person serves as an acknowledgement that DOE designates that person as a covered individual.

DOE may further designate covered individuals during award negotiations or the award period of performance.

If selected, throughout the life of the award, the recipient has an ongoing responsibility to submit: 1) current and pending support disclosure statements and resumes/biosketches for any new covered individuals, and 2) updated disclosures if there are changes to the current and pending support or resume/biosketch previously submitted to DOE.

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	20	ControlNumber_LeadOrganization_TechnicalVolume
Impacted Indian Tribes Documentation (if applicable)	PDF	N/A	ControlNumber_LeadOrganization_ImpactedTribes
Statement of Project Objectives	MS Word	12	ControlNumber_LeadOrganization_SOPO
Project Management Plan	PDF	5	ControlNumber_LeadOrganization_PMP
Budget Information Non-Construction Programs (SF-424A)	PDF	N/A	ControlNumber_LeadOrganization_SF-424A
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
Transparency of Foreign Connections	PDF	N/A	BusinessSensitive_ControlNumber_LeadOrganization_TFC
Potentially Duplicative Funding Notice	PDF	N/A	ControlNumber_LeadOrganization_PDFN
Performance of Work in the United States (Foreign Work Waiver)	PDF	N/A	ControlNumber_LeadOrganization_FWW
Biographical Sketches (biosketch)	PDF	3 pages each	ControlNumber_LeadOrganization_biosketch
Current and Pending Support (for each covered individual)	PDF	N/A	ControlNumber_LeadOrganization_CPS
Digital Persistent Identifier (for each covered individual)	N/A	N/A	Include in Current & Pending Support
Research Security Training Requirement (for each covered individual)	N/A	N/A	Include in Current & Pending Support
Location(s) of Work	MS 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
Photographs of Existing Systems/Circuits	PDF	N/A	ControlNumber_LeadOrganization_Photos
Technology Commercialization Plan	PDF	10	ControlNumber_LeadOrganization_TCF
Feedstock and Critical Material Production Data Sheet	MS Excel	N/A	ControlNumber_LeadOrganization_ProductionData
Project Summary Data Sheet	MS Excel	N/A	ControlNumber_LeadOrganization_Summary_Table
Letter(s) of Support, if applicable	PDF	N/A	ControlNumber_LeadOrganization_LOS
Feasibility Study, if applicable	PDF	N/A	ControlNumber_LeadOrganization_Feasibility_Study

3. Technical Volume

The Technical Volume must conform to the following content and form requirements. This volume must address the technical review criteria as discussed in [Technical Review Criteria](#).

Applicants must provide sufficient citations and references 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 20 pages, including the cover page, table of contents, and all citations, charts, graphs, maps, photos, or other graphics, and must include all information below. The applicant should consider the weighting of each of the technical review criteria (see [Technical Review Criteria](#)) when preparing the Technical Volume.

Technical Volume Content Requirements Overview	
Section	Approximate Percent Content of the Technical Volume
Cover Page	N/A
Project Overview	10%
Technical Description, Innovation, and Impact	30%
Workplan	40%
Technical Qualifications and Resources	20%

Cover Page

The cover page must include all of the following:

- The project title
- Specific NOFO topic area or subtopic
- Technical and business points of contact
- The project team, including recipient name, entity type and names of all team member organizations
- The project location(s)
- The proposed federal funding level, cost share, and period of performance
- Senior/key personnel and other covered individuals
- Statements regarding confidentiality

Project Overview (Approximately 10% of the Technical Volume)

The Project Overview should contain the following information:

- **Background:** The applicant should discuss the background of its organization, including the history, successes, and current research and development status (i.e., the technical baseline) relevant to the technical topic being addressed in the application.
- **Project Goal:** The applicant should explicitly identify the targeted improvements to the baseline technology and the critical success factors in achieving that goal.
- **DOE Impact:** The applicant should discuss the impact that DOE funding would have on the proposed project. Applicants should specifically explain how DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.
- **Budget:** The applicant must provide a budget table, similar to the table below, that includes a yearly breakdown of the following costs: labor, travel, equipment, supplies, contractual, construction, other direct costs, and indirect charges. An additional table must be provided for each subrecipient with total costs over \$500,000.

Category	Year 1	Year 2	Year 3	Year 4	Total
Labor					
Travel					
Equipment					
Supplies					
Contractual					
Construction					
Other Direct Costs					
Indirect Charges					
Federal Total					
Cost Share					
Total					

Technical Description, Innovation, and Impact (Approximately 30% of the Technical Volume)

The Technical Description should contain the following information:

- **Relevance and Outcomes:** The applicant should provide a detailed description of the technology or focus area, including the scientific and other principles and objectives that will be pursued during the project. This section should describe the relevance of the proposed project to the goals and objectives of the NOFO, including the potential to meet specific DOE technical targets or other relevant performance targets. The applicant should clearly specify the expected outcomes of the project.
- **Viability:** The applicant should demonstrate the technical viability of the proposed technology and capability of achieving the anticipated performance targets, including a description of previous work done and prior results. This section should also address the project's access to necessary infrastructure (e.g., transportation, water, electricity transmission), including any use of existing infrastructure, as well as to a skilled workforce.
- **Innovation and Impacts:** The applicant should describe the current state-of-the-art in the applicable field, the specific innovation of the proposed technology or focus area, the advantages of proposed technology over current and emerging technologies, and the overall impact on advancing the state-of-the-art/technical baseline if the project is successful.

Workplan (Approximately 40% of the Technical Volume)

The Workplan should include a summary of the Project Objectives, Technical Scope, Work Breakdown Structure (WBS), Project Tasks, Milestones, Go/No-Go decision points, and project schedule. A detailed statement of project objectives (SOP) is separately requested as part of the application. The Workplan should contain the following information:

- **Project Objectives:** The applicant should provide a clear and concise (high-level) statement of the goals and objectives of the project as well as the expected outcomes.
- **Technical Scope Summary:** The applicant should provide a summary description of the overall work scope and approach to achieve the objective(s). The overall work scope is to be divided by performance periods that are separated by discrete, approximately annual decision points (see below for more information on Go/No-Go decision points). The applicant should describe the specific expected end result of each performance period. Envisioned performance or budget periods are described in the [Topic Areas](#) section.

- **WBS and Task Description Summary:** The Workplan should describe the work to be accomplished and how the applicant will achieve the milestones, will accomplish the final project goal(s), and will produce all deliverables. The Workplan is to be structured with a hierarchy of performance period (approximately annual), task and subtasks, which is typical of a standard WBS for any project. The Workplan shall contain a concise description of the specific activities to be conducted over the life of the project. The description shall be a full explanation and disclosure of the project being proposed (i.e., a statement such as “we will then complete a proprietary process” is unacceptable). It is the applicant’s responsibility to prepare an adequately detailed task plan to describe the proposed project and the plan for addressing the objectives of this NOFO. The summary provided should be consistent with the SOPO. The SOPO will contain a more detailed description of the WBS and tasks.
- **Milestone Summary:** The SOPO should provide a summary of appropriate milestones throughout the project to demonstrate progress and success. A milestone may be either a progress measure (which can be activity based) or a SMART technical milestone. SMART milestones should be Specific, Measurable, Achievable, Relevant, and Timely, and must demonstrate a technical achievement rather than simply completing a task. Unless otherwise specified in the NOFO, the minimum requirement is that each project must have at least one milestone per quarter for the duration of the project with at least one SMART technical milestone per year (depending on the project, more milestones may be necessary to comprehensively demonstrate progress). The applicant should also provide the means by which the milestone will be verified. The summary provided should be consistent with the Milestone Summary Table in the SOPO.
- **Go/No-Go Decision Points:** The applicant should provide a summary of project-wide Go/No-Go decision points at appropriate points in the Workplan. At a minimum, each project must have at least one project-wide Go/No-Go decision point for each budget period of the project, except for the final budget period. See the [Topic Areas](#) section for specific, required go/no-go decision points for each budget period. The applicant should also provide the specific technical criteria to be used to evaluate the project at the Go/No-Go decision point. The summary provided should be consistent with the SOPO. Go/No-Go decision points are considered “SMART” and can fulfill the requirement for an annual SMART milestone.
- **End of Project Goal:** The Workplan should include a summary of the end of project goal(s). At a minimum, each project must have one SMART end of project goal. The summary provided should be consistent with the SOPO.
- **Project Schedule (Gantt Chart or similar):** The applicant should provide a schedule for the entire project, including task and subtask durations, any milestones, and any Go/No-Go decision points.
- **Build America Buy America (BABA) Requirements for Infrastructure Projects:** Within the first two pages of the Workplan, include a short statement on whether the project will involve the construction, alteration, maintenance and/or repair of public infrastructure in the United States. See [Build America, Buy America | Department of Energy](#) and 2 CFR 184 for applicable definitions and other information regarding Infrastructure Projects and the Buy America Preference.
- **Project Management:** The applicant should discuss the team’s proposed management plan, including the following:
 - The overall approach to and organization for managing the work;
 - The roles of each project team member;
 - Any critical handoffs/interdependencies among project team members;

- The technical and management aspects of the management plan, including systems and practices, such as financial and project management practices;
- The approach to project risk management, including a plan for securing a qualified workforce and mitigating risks to project performance including but not limited to conflicts related to siting;
- Approach to addressing permits and other approvals, including compliance with any current permits, and any permits and natural or cultural resource issues that could require discretionary permits or approvals;
- A description of how project changes will be handled;
- If applicable, the approach to Quality Assurance/Control;
- How communications will be maintained among project team members.

Technical Qualifications and Resources (Approximately 20% of the Technical Volume)

The Technical Qualifications and Resources should contain the following information:

- A description of the project team's unique qualifications and expertise, including those of key subrecipients;
- A description of the project team's existing equipment and facilities, or equipment or facilities already in place on the proposed project site, that will facilitate the successful completion of the proposed project; include a justification of any new equipment or facilities requested as part of the project;
- Relevant, previous work efforts, demonstrated innovations, and how these enable the applicant to achieve the project objectives;
- The time commitment of the key team members to support the project;
- A description of the technical services to be provided by DOE FFRDCs, if applicable;
- The skills, certifications, or other credentials of the construction and ongoing operations workforce;
- For multi-organizational projects, describe succinctly:
 - The roles and the work to be performed by the project manager and Senior/Key Personnel at the recipient and sub levels;
 - Business agreements between the applicant and sub;
 - How the various efforts will be integrated and managed;
 - Process for making decisions on technical direction;
 - Publication arrangements;
- Strategy to address known resource, including intellectual property and real property, constraints or challenges; and
- Communication plans.

4. Biographical Sketch

As part of the application, each covered individual at the applicant and subrecipient level must submit a biographical sketch ("*Biosketch*"). Use [SciENCv \(Science Experts Network Curriculum Vitae\)](#) to produce a DOE compliant PDF version of the *Biosketch*. Note that there is no page limitation for the *Biosketch*, though some fields in SciENCv have character limitations for consistency.

Consistent with the instructions in [NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending \(Other\) Support](#)²⁶ and the **DOE NOFO-Specific Biosketch Instructions** below, the *Biosketch* and *CPS Common Forms* must together include a list of all sponsored activities, awards, and appointments, whether paid or unpaid; provided as a gift with terms or conditions or provided as a gift without 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 the individual’s research or indirectly supporting the individual by supporting students, research staff, space, equipment, or other research expenses. All connections with malign foreign talent recruitment programs must be identified.

Please note the following:

- With the exception of “covered individual”, which is defined in the **NOFO Part 1, Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility**, all other definitions of terms used in the *Biosketch* are available at: [NSPM-33 Definitions](#).
- If there is any conflict between [NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending \(Other\) Support](#) and the **DOE NOFO-Specific Biosketch Instructions** below, follow the DOE NOFO-Specific Biosketch Instructions.

DOE/NNSA NOFO-Specific Biosketch Instructions	
Persistent Identifier (PID) of the Covered Individual	<p>The PID field is required for all NOFOs and Awards that encompass R&D activities, or technical assistance to support R&D activities.</p> <p>For NOFOs and Awards that do not meet the criteria above, the PID field is optional.</p>
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 period is shorter.
Products: Limitation on number provided	List up to 10 products most closely related to the proposed project.

5. Current and Pending (Other) Support

Current and pending (other) support (“*CPS Common Form*”) is used to identify potential duplication, overcommitment, potential conflicts of interest or commitment, and all other sources of support.

As part of the application, each covered individual at the prime applicant and subrecipient level 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*. Note that there is no page limitation for the *CPS Common Form*, though some fields in SciENCv have character limitations for consistency.

²⁶ This table supersedes in its entirety, Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

Consistent with the instructions in [NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending \(Other\) Support](#)²⁷ and the DOE NOFO-Specific CPS Instructions below, 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 or provided as a gift without 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 the individual’s research or indirectly supporting the individual by supporting students, research staff, space, equipment, or other research expenses. All connections with malign foreign talent recruitment programs must be identified in current and pending support.

Please note the following:

- With the exception of “covered individual”, which is defined in the [NOFO Part 1, Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility](#), all other definitions of terms used in the *CPS Common Form* are available at: [NSPM-33 Definitions](#).
- If there is any conflict between [NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending \(Other\) Support](#) and the DOE/NNSA NOFO-Specific CPS Instructions below, **follow the DOE NOFO-Specific CPS Instructions**.

DOE/NNSA NOFO-Specific CPS Instructions	
Persistent Identifier (PID) of the Covered Individual	<p>The PID field is required for all NOFOs and Awards that encompass R&D activities, or technical assistance to support R&D activities.</p> <p>For NOFOs and Awards that do not meet the criteria above, the PID field is optional.</p>
Reporting Timeframe for Proposals, Projects, and In-Kind Contributions	<p>Disclose only current and pending support, as defined in the “Status of Support” field of the SciENCv CPS Common Form.</p>
Types of Proposals and Active Projects to Disclose	<p>In addition to the guidance listed above, consulting activities must be disclosed under the proposals and active projects section of the form when any of the following scenarios apply:</p> <ul style="list-style-type: none"> • The consulting activity will require the covered individual to perform research as part of the consulting activity; • The consulting activity does not involve performing research, but is related to the covered individual’s research portfolio and may have the ability to impact funding, alter time or effort commitments, or otherwise impact scientific integrity; or • The consulting entity has provided a contract that requires the covered individual to conceal or withhold confidential financial or other ties between the covered individual and the entity, irrespective

²⁷ This table supersedes in its entirety, Table 2a and Paragraph 7 of the Disclosure Requirements and Standardization Section of the NSPM-33 Implementation Guidance.

	of the duration of the engagement.
Disclosure Instructions for In-Kind Travel	Follow the disclosure instructions for travel in NSPM-33 Implementation Guidance Pre- and Post-award Disclosures Relating to the Biographical Sketch and Current and Pending (Other) Support .
Current and Pending (Other) Support Addendum	The Current and Pending (Other) Support Addendum is not required for this NOFO.

6. Statement of Project Objectives

Applicants are required to use the template provided in eXCHANGE for their SOPO and follow all instructions in the template. The SOPO must not exceed 12 pages. Specific elements of the document are:

- Objectives,
- Scope of Work,
- Tasks to be Performed, and
- Deliverables.

All deliverables listed in the template must be included, such as:

- An updated Technology Commercialization Plan,
- An updated Project Summary Data Sheet,
- An updated Feedstock and Critical Material Production Data Sheet
- Large Pilot-scale Facility Design,
- Large Pilot-scale Facility Test Plan,
- Third-party Vendor Material Test and Market-ready Verification Report,
- Technoeconomic Analysis,
- Energy Consumption Analysis,
- Samples of materials produced, and
- EDX Characterization data spreadsheet for all materials analyzed.

The SOPO template also includes other requirements, such as a Kickoff meeting, annual project briefings, and monthly status updates.

7. Project Management Plan

Applicants are required to use the template provided in eXCHANGE for their Project Management Plan (PMP) and follow all instructions in the template. The PMP must not exceed 5 pages. Specific elements of the document are:

- Executive Summary,
- Project Organization and Structure,
- Risk Management Plan,
- Milestone Log,

- Costing Profile,
- Project Timeline, and
- Success Criteria.

8. Photographs of Existing Systems/Circuits

Applicants are required to submit photograph(s) of their existing systems/circuits that demonstrate existing process scale and capabilities. Photo(s) should include some reference gauge of dimension (e.g., a quarter, a person, etc.) and should also include descriptive captions.

9. Technology Commercialization Plan

Applicants are required to submit a Technology Commercialization Plan. The TCP must not exceed 10 pages. If selected for award, the Recipient will update their TCP at each budget period and will provide their final TCP at the conclusion of the executed project. The initial plan must include:

- Proposed annual production and product specifications, target market(s), competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including a mitigation plan;
- Proposed product development plan, commercialization timeline and pathway for future, near-term technology deployment, financing, product marketing, legal/regulatory considerations including intellectual property, infrastructure requirements, data dissemination, and product distribution;
- Identification of current industry interest for critical materials to be produced, potential or executed offtake agreements, and impact of those offtake agreements across the industry;
- Supporting processing data/information; and
- If the beginning TRL is 4, additionally provide detailed justification on why and how the technology would be able to be directly advanced to at least TRL 7 in this project, so that data and parameters relevant for commercial scale-up can be generated.

10. Feedstock and Critical Material Production Data Sheet

Applicants are required to use the template provided in eXCHANGE to complete a Feedstock and Critical Material Production Data Sheet. This document reports the project goal for critical material production from the feedstock and defines the project start baseline and interim milestones to assess progress. Applicants may make minor modifications to the template to improve communicating project objectives. Additional data may be added and refined during award negotiation. Updates will be required at each budget period and at conclusion of the award.

11. Project Summary Data Sheet

Applicants are required to use the template provided in eXCHANGE to complete a Project Summary Data Sheet. This document must describe the (1) proposed project, (2) technology area, (3) proposed feedstock, the critical material(s) produced, and other value-added materials, if any, produced, (4) beginning and ending TRLs, (5) projected timeline to commercialization, (6) commercialization quantities, (7) proposed Federal costs and cost share, (8) proposed (industrial) pilot facility location, (9) site permitting requirements and projected timelines, and (10) and Applicant contact information. Additional data may be added and refined during award negotiation. Updates will be required at each budget period and will be required at conclusion of the award.

12. Letter(s) of Support, if applicable

Applicants should include letters of support as described in the Topic Areas section.

13. Feasibility Study, if applicable

Applicants are encouraged to provide a Feasibility Study ideally based on an AACE Class 4 pre-FEED Cost Estimate or FEED Study based on an AACE Class 3 Cost Estimate, if available.

14. Summary of Post Selection Requirements (Not Due with Application)

- **Letters of Commitment** from all subrecipients and from all third-party cost share providers.
- **Budget Justification** that will include all work to be performed by the recipient and its subrecipients and contractors.
- **Subrecipient Budget Justification** for each subrecipient that is expected to perform work estimated to be more than \$500,000 of the total proposed budget.
- **Data Management and Sharing Plan (DMSP)** In general, a DMSP should address the requirements on the DOE Requirements and Guidance for Digital Research Data Management website: <https://www.energy.gov/datamanagement/doe-requirements-and-guidance-digital-research-data-management>.
- **Environmental Impact Volume** should describe the proposed action, its alternatives, and the existing environment.
- DOE may be interested in obtaining equity interests in recipient entities now or in the future. Entities may indicate in their application whether they would consider offering equity interests. Such equity considerations may be offered and addressed during negotiations. Applicants' decision to indicate the availability of equity interests will not be a factor in the merit review or selection process.

D. Funding Restrictions

Program-specific funding restrictions applicable to awards funded under this NOFO are identified below. Standard funding restrictions are described in the [NOFO Part 2, Funding Restrictions](#) section.

Applicable Funding Restrictions		
Title	Location	Additional Information
Allowable Costs	NOFO Part 2	Applicable to awards made under this NOFO
Pre-Award Costs	NOFO Part 2	Applicable to awards made under this NOFO
Performance of Work in the United States (Foreign Work Waiver Requirement)	NOFO Part 2	Applicable to awards made under this NOFO
Foreign Travel	NOFO Part 2	Foreign Travel is allowed for awards made under this NOFO, with approval
Lobbying	NOFO Part 2	Applicable to awards made under this NOFO
Equipment and Supplies	NOFO Part 2	Purchasing American-made equipment and supplies is applicable to this award.
Davis-Bacon Act Requirements	NOFO Part 2	Applicable to awards made under this NOFO
Buy America Preference for Infrastructure Projects	NOFO Part 1	Applicable to awards made under this NOFO

1. Buy America Requirement Preference for Infrastructure Projects

Awards funded through this NOFO that are for, or contain, construction, alteration, maintenance, or repair of public infrastructure in the United States undertaken by applicable recipient types, require that:

- All iron, steel, and manufactured products used in the infrastructure project are produced in the United States; and
- All construction materials used in the infrastructure project are manufactured in the United States.

Please refer to the [Standard Terms and Conditions](#) and 2 CFR Part 184 to determine whether the Buy America Preference applies and if they should consider the application of the Buy America Preference in the proposed project's budget and/or schedule. (Note that the Buy America Preference does not apply to prime recipients that are for-profit entities.)

V. Submission Requirements and Deadlines

There are several one-time actions applicants must take before applying to this NOFO. Some of these may take several weeks, so it is vital applicants build in enough time to complete them. Failure to complete these actions could interfere with application or negotiation deadlines or the ability to receive an award if selected. These requirements are outlined in detail in the [NOFO Part 2, Get Registered](#).

A. Required Registrations

1. Unique Entity Identifier (UEI) and System for Award Management (SAM)

You must have an active account with SAM.gov. This includes having a Unique Entity Identifier (UEI). SAM.gov registration can take several weeks. To register, go to SAM.gov Entity Registration and click Get Started. From the same page, you can also click on the Entity Registration Checklist for the information you will need to register.

Each applicant must:

- Be registered in SAM.gov before submitting an application;
- Provide a valid Unique Entity Identifier in the application; and
- Continue to maintain an active registration in SAM.gov with current information at all times during which you have an active federal award or an application or plan under consideration by a federal agency.

DOE may not make a federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, the DOE will determine that the applicant is not qualified to receive a federal award and use that determination as a basis for making a federal award to another applicant.

2. eXCHANGE

Register and create an account in the eXCHANGE site identified in the [Key Facts](#) section of the NOFO Part 1. This account can be used to apply to open NOFOs in eXCHANGE. To view and submit applications to open opportunities under a specific DOE office(s), you must access the applicable instance of the system. You may need to be registered in more than one instance to submit applications for opportunities managed by different DOE offices.

Each organization or business unit, whether acting as a team or a single entity, should use only one account as the contact point for each submission. Applicants must also designate backup points of contact. **This step is required to apply to this NOFO.**

3. Grants.gov Registration

You must have an active [Grants.gov](#) registration to receive automatic updates when modifications to this NOFO are posted. Doing so requires a Login.gov registration as well. Step-by step instructions for applicants at [How to Apply for Grants](#) website <https://www.grants.gov/applicants/grant-applications/how-to-apply-for-grants>

B. Application Package

1. eXCHANGE

The application package requirements are outlined in the [Application Content and Form](#) section above. Several templates for application requirements are included in eXCHANGE. To access these materials, select the appropriate NOFO on the Funding Opportunity page of eXCHANGE.

Note: The maximum file size that can be uploaded to the eXCHANGE website is 50MB. Files larger than 50MB cannot be uploaded and hence cannot be submitted for review. If a file is larger than 50MB but is still within the maximum page limit specified in the NOFO, it must be broken into parts and denoted to that effect. For example:

- TechnicalVolume_Part_1
- TechnicalVolume_Part_2

DOE will not accept late submissions that resulted from technical difficulties due to uploading files that exceed 50MB.

Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under this NOFO through electronic systems used by the DOE, including eXCHANGE, constitutes the authorized representative's approval and electronic signature.

C. Submission Date and Times

All required submissions must be submitted to the eXCHANGE site identified in the [Key Facts](#) section of NOFO Part 1 no later than 5 p.m. ET on the dates provided on [Key Facts](#) section.

Applicants are strongly encouraged to submit all required application documents at least 48 hours in advance of the submission deadline. Under normal conditions (i.e., at least 48 hours before the submission deadline), applicants should allow at least one hour to submit application documents. Once the application documents are submitted in the eXCHANGE site identified in the NOFO Part 1, applicants may revise or update that submission until the expiration of the applicable deadline. If changes are made to any of these documents, the applicant must resubmit them before the applicable deadline. DOE will not extend the submission deadline for applicants that fail to submit required information by the applicable deadline due to server/connection congestion.

D. 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

Applications that are determined to be eligible will be evaluated in accordance with this NOFO and the guidance provided in the “DOE Merit Review Guide for Financial Assistance,” effective October 1, 2020, which is available at: <https://energy.gov/management/downloads/merit-review-guide-financial-assistance-and-unsolicited-proposals-current>.

B. Responsiveness Review

The following applications will be deemed nonresponsive and will not be reviewed or considered:

- Project concepts or approaches not based on established scientific principles.
- Project concepts or approaches identified specifically as NOT of interest (see the [Applications Specifically Not of Interest](#) section above).
- Applicant/Applications that do NOT meet the Eligibility Criteria in NOFO Parts 1 and 2.

C. Review Criteria

1. Compliance Criteria

All applicant submissions must:

- Comply with the applicable content and form requirements listed in Application Content Requirements and Submission Requirements and Deadlines of the NOFO Part 1 and 2;
- Include all required documents;
- Be uploaded successfully in eXCHANGE site indicated in the [Key Facts](#) section above including clicking the “Submit” button; and
- Comply with the submission deadline stated in [Key Facts](#).

DOE will not review or consider submissions submitted through means other than the eXCHANGE site indicated in [Key Facts](#), submissions submitted after the applicable deadline, or incomplete submissions.

Applicants are strongly encouraged to submit all required application documents at least 48 hours in advance of the submission deadline. Under normal conditions (i.e., at least 48 hours before the submission deadline), applicants should allow at least one hour to submit application documents. Once the application documents are submitted in the eXCHANGE site identified in the [Key Facts](#) section, applicants may revise or update that submission until the expiration of the applicable deadline. If changes are made to any of these documents, the applicant must resubmit them before the applicable deadline. DOE will not extend the submission deadline for applicants that fail to submit required information by the applicable deadline due to server/connection congestion.

2. Technical Review Criteria

Applications will be evaluated against the technical review criteria shown below. All sub-criteria are of equal weight.

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

Review Criterion Overview	
Criterion	Weight
Scientific and Technical Merit	50%
Technical Approach and Understanding	30%
Financial, Technical, and Management Capabilities	20%

Criterion 1: Scientific and Technical Merit (50%)

This criterion involves consideration of the following factors:

1. Description of the proposed technology and degree to which the proposed technology or methodology meets the stated objectives of the topic area.
2. Thoroughness of the information provided by the Applicant to demonstrate technical viability of the pilot which may include photographs, schematics, flow diagrams, and plan views with sufficient details regarding the type, size, and availability of equipment used.
3. Degree to which the Applicant advances arguments and provides details that clearly distinguishes the proposed R&D and why it is needed relative to prior work.
4. Viability of the proposed concept; the degree to which the proposed work is based on sound scientific and engineering principles.
5. Likelihood of the proposed project meeting the success metrics of the topic area and the degree to which the proposed project meets the goals specified in the topic area.
6. Degree to which the Technology Commercialization Plan demonstrates a pathway for near-term technology deployment.
7. Degree to which the Applicant demonstrates that their proposed pilot is ‘right-sized’ to support near-term commercialization.
8. Degree to which multiple feedstock materials can be viably used or multiple material products can be viably produced.

Criterion 2: Technical Approach and Understanding (30%)

This criterion involves consideration of the following factors:

1. Degree to which the application demonstrates the ability to expediently start operations and the onset of mineral production initiation in steady operation.
2. Impact of material tonnage produced by the large pilot-scale facility on the national market.
3. Potential market impact of a future, commercial-scale facility.
4. Adequacy and viability of the Applicant’s technical approach to achieving the objectives of the NOFO and topic area.
5. Degree the application, including the Feedstock and Critical Material Production Data Sheet and the Technology Commercialization Plan demonstrate a reasonable, yet rapid, pathway to initiating operations at the pilot facility and producing critical materials.

6. Viability, appropriateness, rationale, and completeness of the proposed SOPO, such that there is a logical progression of work.
7. The adequacy and completeness of the PMP in establishing baselines (technical scope, budget, schedule) and in managing project performance, risk management and mitigation relative to baselines.

Criterion 3: Financial, Technical, and Management Capabilities (20%)

This criterion involves consideration of the following factors:

1. Financial viability of the technical approach.
2. Degree to which industry stakeholders including off-take relationships are involved.
3. Demonstrated experience of the Applicant and partnering organizations in the technology areas addressed in the application and in managing projects of similar size and funding level, scope, and complexity.
4. Appropriateness and extent of capabilities and experience with respect to the work outlined in this NOFO and the Technical Approach to be performed by the key personnel and partnering organizations.
5. The level of clarity, logic, and likely effectiveness of the project organization, including sub-recipients or partners; the roles and responsibilities of each team member for each task.
6. Adequacy and availability of proposed personnel, facilities, and equipment to perform project tasks.

D. Other Selection Factors

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

1. The degree to which the applicants demonstrate financial commitment to projects beyond the minimum cost share;
2. The degree to which the proposed project exhibits technological diversity when compared to the existing DOE project portfolio and other projects selected from the subject NOFO;
3. The degree to which the proposed project enables diversification of the DOE critical material portfolio when compared to the existing DOE project portfolio and other projects selected from the subject NOFO;
4. The degree to which the proposed project, including proposed cost share, optimizes the use of available DOE funding to achieve programmatic objectives;
5. The level of industry involvement and demonstrated ability to accelerate demonstration and commercialization and overcome key market barriers;
6. The degree to which the proposed project is likely to lead to increased high-quality employment and manufacturing in the United States;
7. The degree to which the proposed project will accelerate transformational technological advances and/or potential commercialization in areas that industry by itself is not likely to undertake because of technical and financial uncertainty;
8. The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
9. The degree to which the proposed project will employ procurement of U.S. iron, steel, manufactured products, and construction materials; and

10. The degree to which the proposed project leverages pertinent information and produces critically needed materials for DOE FECM's Strategic Goals and other Interagency Mission and Vision requirements.

VII. Selection and Award Notices

Please see the [NOFO Part 2, *Selection and Award Notices*](#) for information on notifications for 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 government-wide and DOE or program specific. These post-award requirements include all National and Administrative Policy Requirements; 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; and Environmental Review in Accordance with National Environmental Policy Act requirements.

Post-Award requirements and administration applicable to awards funded under this NOFO are identified below. Detailed descriptions of standard funding restrictions are provided in the [NOFO Part 2, Post-Award Requirements and Administration](#) section. Detailed descriptions of program specific funding restrictions are provided below the table.

Applicable Post-Award Requirements and Administration	
Title	Location
Award Administrative Requirements	NOFO Part 2
Subaward and Executive Reporting	NOFO Part 2
National Policy Requirements	NOFO Part 2
Applicant Representations and Certifications	NOFO Part 2
Statement of Federal Stewardship	NOFO Part 2
Uniform Commercial Code (UCC) Financing Statements	NOFO Part 2
Interim Conflict of Interest Policy for Financial Assistance	NOFO Part 2
Whistleblower Protections	NOFO Part 2
Fraud, Waste, and Abuse	NOFO Part 2
Participants and Collaborating Organizations	NOFO Part 2
Current and Pending Support	NOFO Part 2
Prohibition Related to Malign Foreign Talent Recruitment Programs	NOFO Part 2
Foreign Collaboration Considerations	NOFO Part 2
U.S. Manufacturing Commitments	NOFO Part 2
Subject Invention Utilization Reporting	NOFO Part 2
Intellectual Property Provisions	NOFO Part 2
Go/No-Go Review	NOFO Part 2
Conference Spending	NOFO Part 2
Invoice Review and Approval	NOFO Part 2
Cost-Share Payment	NOFO Part 2

Notice of Infrastructure Investment and Jobs Act Law OR Inflation Reduction Act Specific Requirements	NOFO Part 2
Implementation of Executive Order 13798, Promoting Free Speech and Religious Liberty	NOFO Part 2
Human Subjects Research	NOFO Part 2
Real Property and Equipment	NOFO Part 1
Cybersecurity Plan	NOFO Part 1
Rights in Technical Data	NOFO Part 1
Energy Data eXCHANGE	NOFO Part 1

1. Real Property and Equipment

Real property and equipment purchased with project funds (federal share and recipient cost share) are subject to the requirements at 2 CFR 200.310, 200.311, 200.313, and 200.316 (non-federal entities, except for-profit entities) and 2 CFR 910.360 (for-profit entities).

For resulting awards under this NOFO, the recipients may (1) take disposition action on the real property and equipment; or (2) continue to use the real property and equipment after the conclusion of the award period of performance with Grants Officer approval. The recipient's written request for Continued Use must identify the property and include: a summary of how the property will be used (must align with the authorized project purposes); a proposed use period, (e.g., perpetuity, until fully depreciated, or a calendar date when the recipient expects to submit disposition instructions); acknowledgement that the recipient shall not sell or encumber the property or permit any encumbrance without prior written DOE approval; current fair market value of the property; and an estimated useful life or depreciation schedule for equipment.

When the property is no longer needed for authorized project purposes, the recipient must request disposition instructions from DOE. For-profit entity disposition requirements are set forth in 2 CFR 910.360. Property disposition requirements for other non-federal entities are set forth in 2 CFR 200.310 – 200.316. In addition, pursuant to the FY23 Consolidated Appropriations Act (Pub. L. No. 117-328), Division D, Title III, Section 309, at the end of the award period the Secretary or a designee of the Secretary, at their discretion, may vest unconditional title or other property interests acquired under this project regardless of the fair market value of the property.

2. Cybersecurity Plan

In accordance with IIJA section 40126, applicants selected for award negotiations must submit a cybersecurity plan to DOE prior to receiving funding.²⁸ These plans are intended to foster a cybersecurity-by-design approach for IIJA efforts. The Department will use these plans to ensure effective integration and coordination across its research, development, and demonstration programs. A cybersecurity plan is **not** required as part of the application submission for this NOFO, but all projects selected under this NOFO will be required to submit a cybersecurity plan during the award negotiation phase.

²⁸ 42 U.S.C. § 18725

DOE recommends using open guidance and standards, such as the National Institute of Standards and Technology's (NIST) Cybersecurity Framework (CSF) and the DOE Cybersecurity Capability Maturity Model (C2M2).²⁹ The cybersecurity plan created pursuant to IIJA section 40126 should document any deviation from open standards, as well as the utilization of proprietary standards where the awardee determines that such deviation is necessary.

Please note:

- Cybersecurity plans should be commensurate to the threats and vulnerabilities associated with the proposed efforts and demonstrate the cybersecurity maturity of the project.
- Cybersecurity plans may cover a range of topics relevant to the proposed project—e.g., software development lifecycle, third-party risks, and incident reporting.
- At a minimum, cybersecurity plans should address questions noted in IIJA section 40126 (b), Contents of Cybersecurity Plan.²⁸

Supplementary guidance on the cybersecurity plan requirement is available at <https://www.energy.gov/ceser/bipartisan-infrastructure-law-implementation>.

3. Rights in Technical Data

Data rights differ based on whether data are first produced under an award or instead were developed at private expense outside the award.

“Limited Rights Data”

The U.S. government will not normally require delivery of confidential or trade-secret-type technical data developed solely at private expense prior to issuance of an award, except as necessary to monitor technical progress and evaluate the potential of proposed technologies to reach specific technical and cost metrics.

Government Rights in Technical Data Produced Under Awards

The U.S. government retains unlimited rights in technical data produced under government financial assistance awards, including the right to distribute to the public. One exception to the foregoing is that invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

DOE may publish information generated under government financial assistance awards, including in support of 30 U.S.C. 1606(i), and data contained in the required characterization spreadsheet, such as samples obtained, sample analyses, including chemical analysis such as components and concentrations, sample descriptions, and related metadata.

²⁹ NERC critical infrastructure protection (CIP) standards for entities responsible for the availability and reliability of the bulk electric system. NIST IR 7628: 2 Smart grid cyber security strategy and requirements. NIST SP800-53, Recommended Security Controls for Federal Information Systems and Organizations: Catalog of security controls in 18 categories, along with profiles for low-, moderate-, and high-impact systems. NIST SP800-82, Guide to Industrial Control Systems (ICS) Security. NIST SP800-39, Integrated Enterprise-Wide Risk Management: Organization, mission, and information system view. AMI System Security Requirements: Security requirements for advanced metering infrastructure. ISO (International Organization for Standardization) 27001, Information Security Management Systems: Guidance on establishing governance and control over security activities (this document must be purchased). IEEE (Institute of Electrical and Electronics Engineers) 1686-2007, Standard for Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities (this document must be purchased). DOE Cybersecurity Capability Maturity Model (C2M2).

Intellectual Property and Data Security for Critical and Emerging Technology Areas

DOE has determined that awards under this NOFO are in critical and emerging technology areas with implications for United States national and economic security. DOE's risk assessment for projects under this NOFO will include criteria such as the risk of misappropriation of subject inventions and copyright (collectively, "Intellectual Property") and non-public data ("Data") generated under the award. Accordingly, consistent with section 4(g) of National Security Presidential Memorandum 33 and 2 CFR § 200.206(b), DOE reserves the right to require recipients to implement restrictions on providing access to Data and licensing, assigning or otherwise transferring Intellectual Property generated under an award to entities with foreign ownership, control, or influence by a government or entity located in a Country of Risk (as defined in section 18912 of title 42 and currently Iran, North Korea, Russia, China, and Belarus), without preapproval in writing from the DOE. Any access or transfer of rights in violation of this requirement will be immediately null and void, represents non-compliance under the award, and will require that steps be taken to secure and prevent further dissemination of award Intellectual Property and Data.

4. Cost Share Payment

DOE requires recipients to contribute the cost share amount incrementally over the life of the award. Specifically, the recipient's cost share for each **billing period** must always reflect the overall cost share ratio negotiated by the parties (i.e., the total amount of cost sharing on each invoice when considered cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated).

5. Energy Data eXchange (EDX) Requirements

The DOE is required to improve access to federally funded research results, proper archiving of digital data, and expanded discovery and reuse of research datasets per DOE and Executive Orders. EDX is a data laboratory developed and maintained by NETL to find, connect, curate, use, and re-use data to advance fossil energy and environmental R&D.

Data products generated under the resulting award will be required to be submitted in EDX at <https://edx.netl.doe.gov/>. Data products include but are not limited to software code, tools, applications, webpages, portfolios, images, videos, and datasets.

EDX uses federation and web services to elevate visibility for publicly approved assets in the system, including connections with DOE's Office of Scientific and Technical Information (OSTI) systems, Data.gov, and Re3Data.org. This ensures compliance with federal requirements, while raising visibility for researcher's published data products to promote discoverability and reuse.

EDX supports a wide variety of file types and formats including: 1) data, 2) metadata, 3) software/tools, and 4) articles (provided that there is an accompanying Government use license). A partial list of file formats accepted by EDX is provided below, however, EDX is designed for flexibility and accepts all types of file formats.

- Common Data Product Submission Formats: ASC, AmiraMesh, AVI, CAD, CSV, DAT, DBF, DOC, DSV, DWG, GIF, HDF, HTML, JPEG2000, JPG, MOV, MPEG4, MSH/CAS/DAT, NetCDF, PDF, PNG, PostScript, PPT, RTF, Surface, TAB, TIFF, TIFF Stacks, TXT, XLS, SML, Xradio, ZIP, and others.
- Geographic Formats: APR, DBF, DEM, DLG, DRG, DXF, E00, ECW, GDB, GeoPDF, GeoTIFF, GML, GPX, GRID, IMG, KML, KMZ, MOB, MrSID, SHP, and others.

Information provided to EDX will be made publicly available, unless authorization is provided under the resulting award that states otherwise. Additional information on EDX is available at <https://edx.netl.doe.gov/about>.

When data products are submitted to EDX, the data product will need to be registered with a digital object identifier (DOI) through OSTI to ensure more visibility in other search repositories (i.e., [osti.gov](https://www.osti.gov), [data.gov](https://www.data.gov), Google Scholar, etc.). The OSTI DOI can be established through an application programming interface (API) by completing just a few additional fields.

The recipient or subrecipient should coordinate with the Federal Project Manager on an annual basis to assess if there are data that should be submitted to EDX and identify the proper file formats prior to submission. All final data products shall be submitted to EDX by the recipient prior to the completion of the project.

B. Helpful Websites

[Critical Minerals and Materials | netl.doe.gov](#)

C. Questions and Support

1. Questions

Upon the issuance of a NOFO, DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the NOFO except through the established question and answer process described below. Questions regarding this NOFO must be submitted to DE-FOA-0003583@netl.doe.gov <mailto:DE-FOA-0003583@netl.doe.gov> no later than three (3) business days prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this NOFO will be posted on the eXCHANGE site listed in the [Key Facts](#) section above. **You must first select the NOFO Number to view the questions and answers specific to this NOFO.** DOE will attempt to respond to a question within three (3) business days unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the eXCHANGE site listed in the [Key Facts](#) should be submitted to NETL-ExchangeSupport@hq.doe.gov.

2. Support

[Grants.gov](#)

Grants.gov provides 24/7 support. You can call 1-800-518-4726 or email support@grants.gov. Hold on to your ticket number.

[SAM.gov](#)

If you need help, you can call 866-606-8220 or live chat with the [Federal Service Desk](#).

IX. Other Information

Please see the [NOFO Part 2, Other Information](#) for additional information and requirements that apply to all DOE NOFOs.

X. List of Acronyms

AACE	Association for the Advancement of Cost Engineering
AI	Artificial Intelligence
AMD	Acid Mine Drainage
AMMTO	Advanced Materials and Manufacturing Technologies Office
API	Application Programming Interface
BABA	Build America Buy America
C2M2	Cybersecurity Capability Maturity Model
CFR	Code of Federal Regulations
CMC	Critical Materials Collaborative
CMM	Critical Minerals and Materials
Co-PD	Co-Project Director
Co-PI	Co-Principal Investigator
CSF	Cybersecurity Framework
DOE	Department of Energy
DOI	Digital Object Identifier
EDX	Energy Data eXchange
EO	Executive Order
FECM	Office of Fossil Energy and Carbon Management
FEED	Front End Engineering and Design
FFRDC	Federally Funded Research and Development Center
FY	Fiscal Year
IIJA	Infrastructure Investment and Jobs Act
MESC	Office of Manufacturing and Energy Supply Chains
ML	Machine Learning
MREO	Mixed Rare Earth Oxides
MRES	Mixed Rare Earth Salts
NETL	National Energy Technology Laboratory
NIST	National Institute of Standards and Technology
NOFO	Notice of Funding Opportunity
OFAC	Office of Foreign Access Control
OSTI	Office of Scientific and Technical Information
PD	Project Director
PI	Principal Investigator
PMP	Project Management Plan
Pub. L	Public Law
R&D	Research and Development
RD&D	Research, Development, and Demonstration
REE	Rare Earth Elements
SAM	System for Award Management
SMART	Specific, Measurable, Achievable, Relevant, and Timely
SOPO	Statement of Project Objectives
t	Tonnes, Metric Tons
TA	Topic Area

TCP	Technology Commercialization Plan
tpy	Metric Tons per Year
TRL	Technology Readiness Level
U.S.	United States
UCC	Uniform Commercial Code
UEI	Unique Entity Identifier
U.S.C.	United States Code
USGS	United States Geological Survey
WBS	Work Breakdown Structure

Financial Assistance Notice of Funding Opportunity Part 2



U.S. DEPARTMENT *of* ENERGY

This is Part 2 of the Notice of Funding Opportunity (NOFO). The NOFO Part 2 is intended as a companion document to the NOFO Part 1. The NOFO Part 1 describes the specific DOE programmatic goals and evaluation criteria, eligibility, and other components that are specific to each funding opportunity.

Part 2 includes fixed DOE requirements that generally do not change from NOFO to NOFO. This document includes standard information for the application phase and describes expectations for award negotiations and post-award requirements for selected applications. Applicants should review both the NOFO Part 1 and the NOFO Part 2 prior to applying.

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I. Get Registered

There are several required one-time actions applicants must take before applying to this NOFO. Some of these actions may take several weeks, so it is vital applicants build in enough time to complete them. Failure to complete these actions could interfere with application or negotiation deadlines or the ability to receive an award if selected. If you are already registered, project make sure your registration is active and up to date. All registrations are free.

A. SAM.gov Registration

You must have an active account with [SAM.gov](https://sam.gov), the System for Award Management (SAM). This includes having a Unique Entity Identifier (UEI).

- **What is it?** SAM is a federal procurement database. All entities that want to do business with the federal government MUST be registered in SAM.
- Existing SAM registrations must be updated annually.
- **Duration** to complete: can take several weeks.
- **Registration Link:** <https://sam.gov/content/home>
 - **NOTE:** Subrecipients are not required to obtain an active SAM registration but must obtain a Unique Entity Identifier.
- **HELP:** <https://sam.gov/content/help> Applicants must allow several weeks for the SAM process to complete. All registrations rely on completion of the SAM registration. (START Early)

B. Unique Entity Identifier (UEI)

- **What is it?** UEI is a non-proprietary identifier that has replaced the Federal Government use of Data Universal Numbering System (DUNS) number effective April 4, 2022.
- Applicants must obtain an UEI from the SAM to uniquely identify the entity. The UEI is available in the SAM entity registration record.
 - **Note:** Subawardees/subrecipients at all tiers must also obtain an UEI from the SAM and provide the UEI to the recipient before the subaward can be issued.
- **Duration** to complete: can take several weeks.
- **Registration Link:** <https://sam.gov/content/entity-registration>
- **HELP:** https://www.fsd.gov/gsafsd_sp

C. Grants.gov Registration

You must have an active [Grants.gov](https://grants.gov) registration to receive automatic updates when modifications to this NOFO are posted. Doing so requires a Login.gov registration as well.

- **What is it?** Website used to enable federal grant-making agencies to notify potential applicants of funding opportunities. Please note that letters of intent, concept papers, and applications will not be accepted through Grants.gov (see eXCHANGE information below).
- Step-by step instructions for applicants at [How to Apply for Grants](https://www.grants.gov/applicants/grant-applications/how-to-apply-for-grants) website <https://www.grants.gov/applicants/grant-applications/how-to-apply-for-grants>
- **Duration** to complete: can take several days.
- **Registration Link:** <https://grants.gov>
- **HELP:** <https://apply07.grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm>



D. eXCHANGE

Register with eXCHANGE, with Login.gov or ID.me.

- **What is it?** The Department of Energy (DOE) has several eXCHANGE databases that are useful in searching for funding opportunities.
- As part of the eXCHANGE registration process, new users will be directed to create an account in Login.gov. Please note that the email address associated with Login.gov must match the email address associated with the eXCHANGE account.
- Submission of application documents in any DOE eXCHANGE system constitutes the authorized representative's approval and electronic signature.
- **Duration** to complete: can take two to three days.
- **Registration Links:** National Energy Technology Laboratory (NETL) eXCHANGE: <https://netl-exchange.energy.gov/Registration.aspx?rid=new>



II. Eligibility

Please refer to the [NOFO Part 1, Eligibility](#) for the eligibility criteria specific to your application. This section includes additional information to help applicants understand the standard eligibility requirements across all DOE NOFOs.

A. Cost Sharing

This section contains additional information to help applicants understand federal cost sharing requirements. Please refer to the [NOFO Part 1, Eligibility—Cost Sharing](#) for the cost sharing criteria specific to your application.

1. Legal Responsibility

Although the cost share requirement applies to the entire project, including work performed by members of the project team other than the recipient, the recipient is legally responsible for paying the entire cost share. The recipient's cost share obligation is expressed in the Assistance Agreement as a static amount in U.S. dollars (cost share amount) and as a percentage of the Total Project Cost (cost share percentage). If the funding agreement is terminated prior to the end of the project period, the recipient is required to contribute at least the cost share percentage of total expenditures incurred through the date of termination.

The recipient is solely responsible for managing cost share contributions by the project team and enforcing cost share obligation assumed by project team members in subawards or related agreements.

2. Cost Share Allocation

Each project team is free to determine how best to allocate the cost share requirement among the team members. The amount contributed by individual project team members may vary, as long as the cost share requirement for the entire project is met.

3. Cost Share Types and Allowability

Cost share must meet requirements set forth in [2 C.F.R. §§ 200.306](#) and [910.130](#), and cost principles set forth in [2 C.F.R. §§ 200.400-476](#) and [2 C.F.R. §§ 910.352](#). In addition, cost share must be verifiable upon submission of the application. Cost share may be provided in the form of cash or cash equivalents, or in-kind contributions. Cost share must come from non-federal sources (unless otherwise allowed by law), such as project participants, state or local governments, or other third-party financing. DOE Loan Guarantees cannot be leveraged by applicants to provide the required cost share or otherwise support the same scope that is proposed under a project.

Cost share may be provided by the recipient, subrecipients, or third parties (entities that do not have a role in performing the scope of work). Vendors/contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Cash contributions include but are not limited to personnel costs, fringe costs, supply and equipment costs, indirect costs, and other direct costs.

In-kind contributions are those where a value of the contribution can be readily determined, verified, and justified but where no actual cash is transacted in securing the good or service comprising the contribution. Allowable in-kind contributions include but are not limited to the donation of volunteer time or the donation of space or use of equipment.



Project teams may use funding or property received from state or local governments to meet the cost share requirement, so long as the federal government did not provide the funding to the state or local government.

Funding or property received from state or local governments may be used to meet the cost share requirement, so long as the federal government did not provide the funding to the state or local government.

Cost share contributions must be specified in the project budget, verifiable from the recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are considered part of total project cost, DOE will review the cost share dollars according to the same federal regulations as federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Grants Officer and incorporated into the project budget before the expenditures are incurred.

4. Unallowable Cost Share Sources

The recipient and subrecipient(s) may not use the following sources to meet cost share obligations:

- 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, refer to 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;
- 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);
- In general, deferred or avoided costs such as unrealized tax credits; or
- If applicable, other items as identified by DOE Programs and as specified in the applicable **NOFO Part 1, Eligibility—Cost Sharing**.

Cost share contributions must be specified in the project budget, verifiable from the recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are considered part of total project cost, the cost share dollars will be scrutinized under the same federal regulations as federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Grants Officer and incorporated into the project budget before the expenditures are incurred.

5. Cost Share Contributions by FFRDCs

Because Federally Funded Research and Development Centers (FFRDCs) are funded by the federal government, costs incurred by FFRDCs generally may not be used to meet the cost share requirement. FFRDCs may contribute cost share only if the contributions are paid directly from the contractor's Management Fee or another non-federal source.



6. Cost Share Verification

Applicants are required to provide written assurance of their proposed cost share contributions in their applications. If selected for award negotiations, applicants are required to provide additional information and documentation regarding their cost share contributions. Please refer to the **NOFO Part 1, Eligibility—Cost Sharing** for specific requirements.

7. Cost Share Calculation Examples

Cost sharing is calculated as a percentage of the Total Project Cost. If applicable, FFRDC costs must be included in Total Project Costs.

Example 1, Standard Cost Share Calculation

The following is an example of how to calculate cost sharing amounts for a project with \$1 million in federal funds with a minimum 20% non-federal cost sharing requirement:

- Formula: Federal share (\$) divided by federal share (%) = Total Project Cost
Example: \$1,000,000 divided by 80% = \$1,250,000
- Formula: Total Project Cost (\$) minus federal share (\$) = Non-federal share (\$)
Example: \$1,250,000 minus \$1,000,000 = \$250,000
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
Example: \$250,000 divided by \$1,250,000 = 20%

Example 2, Blended Cost Share Calculation

The following example shows the math for calculating required cost share for a project with \$2 million in federal funds, with four tasks requiring different non-federal cost share percentages:

Task	Proposed Federal Share	Federal Share %	Recipient Share %
Task 1 (R&D)	\$1,000,000	80%	20%
Task 2 (R&D)	\$500,000	80%	20%
Task 3 (Demonstration)	\$400,000	50%	50%
Task 4 (Outreach)	\$100,000	100%	0%

Federal share (\$) divided by federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1

- \$1,000,000 divided by 80% = \$1,250,000 (Task 1 Cost)
- Task 1 Cost minus federal share = non-federal share
- \$1,250,000 - \$1,000,000 = \$250,000 (non-federal share)

Task 2

- \$500,000 divided 80% = \$625,000 (Task 2 Cost)
- Task 2 Cost minus federal share = non-federal share
- \$625,000 - \$500,000 = \$125,000 (non-federal share)



Task 3

- $\$400,000 / 50\% = \$800,000$ (Task 3 Cost)
- Task 3 Cost minus federal share = non-federal share
- $\$800,000 - \$400,000 = \$400,000$ (non-federal share)

Task 4

- Federal share = \$100,000
- Non-federal cost share is not mandated for outreach = \$0 (non-federal share)

The calculation may then be completed as follows:

Tasks	\$ Federal Share	% Federal Share	\$ Non-Federal Share	% Non-Federal Share	Total Project Cost
Task 1	\$1,000,000	80%	\$250,000	20%	\$1,250,000
Task 2	\$500,000	80%	\$125,000	20%	\$625,000
Task 3	\$400,000	50%	\$400,000	50%	\$800,000
Task 4	\$100,000	100%	\$0	0%	\$100,000
Totals	\$2,000,000		\$775,000		\$2,775,000

Blended Cost Share %

- Non-federal share (\$775,000) divided by Total Project Cost (\$2,775,000) = 27.9% (non-federal)
- Federal share (\$2,000,000) divided by Total Project Cost (\$2,775,000) = 72.1% (federal)

B. Other Eligibility Information

Refer to **NOFO Part 1, *Eligibility—Eligible Applicants*** for NOFO-specific eligibility information. The information below is standard for DOE NOFOs.

1. Questions Regarding Eligibility

DOE will not make eligibility determinations for potential applicants prior to the date on which applications to the NOFO Part 1 must be submitted. The decision to apply in response to the NOFO Part 1 lies solely with the applicant.

2. Entity of Concern Prohibition

Prohibition

DOE is prohibited by law from funding any grant, contract, cooperative agreement, or loan of \$10 million or more in DOE funds to Entities of Concern. In addition, such entities (including an individual that owns or controls, is owned or controlled by, or is under common ownership or control with an Entity of Concern) are prohibited from receiving any funds or performing work under any award involving Department activities authorized under Division A or B of Public Law 117-167, subject to certain penalties. See section 10114 of Public Law 117-167 (42 USC 18912) and section 310 of Public Law 118-42 and other applicable law for additional information.

By submitting an application to this NOFO, the applicant is certifying that neither the applicant nor any of the project participants qualify as Entities of Concern.

Definitions

Entity of Concern is defined as in section 10114 of Public Law 117-167 (42 USC 18912), also known as the CHIPS and Science Act, as any entity, including a national, that is—



(A) identified under section 1237(b) of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (50 U.S.C. 1701 note; Public Law 105–261);

(B) identified under section 1260H of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (10 U.S.C. 113 note; Public Law 116– 283);

(C) on the Entity List maintained by the Bureau of Industry and Security of the Department of Commerce and set forth in Supplement No. 4 to part 744 of title 15, Code of Federal Regulations;

(D) included in the list required by section 9(b)(3) of the Uyghur Human Rights Policy Act of 2020 (Public Law 116–145; 134 Stat. 656); or

(E) identified by the Secretary, in coordination with the Director of the Office of Intelligence and Counterintelligence and the applicable office that would provide, or is providing, covered support, as posing an unmanageable threat—

- (i) to the national security of the United States; or
- (ii) (ii) of theft or loss of United States intellectual property.

3. Artificial Intelligence (AI) Application Use

Applicants must indicate in the project summary the extent to which, if any, generative Artificial Intelligence (AI) technology was used and how it was used to develop their application or proposal. Note that all submissions to the Department are subject to information and disclosure statutes and regulations, including the Freedom of Information Act, Privacy Act, and 10 CFR § 1004.11. Applicants are responsible for the accuracy, authenticity, and authorship representations of their proposal submission under consideration for merit review, including content developed with the assistance of generative AI tools. The applicant is responsible for ensuring that they are fully capable of performing the work described in the application and that the submission of the application does not and will not infringe or violate any rights of any third party or entity.

Applicants should be aware that the use of generative AI may introduce significant risks, including, but not limited to, research misconduct resulting from fabrication, falsification, or plagiarism when proposing, performing, or reviewing research, or in reporting research results. Federal regulations governing procedures for handling of research misconduct allegations concerning research supported by DOE grants, cooperative agreements, and management and operations (M&O) contracts, are specified in 10 § CFR 733. Specific provisions governing research misconduct procedures for financial assistance recipients (under grants and cooperative agreements) are specified in 2 CFR § 910.132.



III. Program Description

Refer to **NOFO Part 1, Program Description** for all information related to the specific NOFO goals, objectives, and topic areas, if any.

A. Informational Webinar

Refer to the **NOFO Part 1, Basic Information—Key Dates** to determine if DOE plans to conduct an informational webinar while the NOFO is open.

If applicable, DOE will conduct an informational webinar during the NOFO process. It will be held after the initial NOFO release but before the due date for concept papers or the application if concept papers are not required.

Attendance is not mandatory and will not positively or negatively impact the overall review of any applicant submissions. The webinar will be open to all potential applicants who wish to participate. Applicants should refrain from asking questions or communicating information that would reveal confidential and/or proprietary information specific to their project.

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IV. Application Content and Form

This section contains supplemental information to help applicants understand the application content and form requirements outlined in the NOFO including detailed information on the content and naming conventions of the application content. Please refer to the [NOFO Part 1, Application Content and Form](#) section for the application contents and forms specific to your application.

Note that some of the required application elements below have separate requirements for Research and Development (R&D) versus non-R&D NOFOs. Refer to the [NOFO Part 1, Application Content Requirements](#) section for specific instructions.

A. Application Format Summary

All submissions must conform to the form and content requirements described below. Refer to the [NOFO Part 1, Application Content and Form](#) for the page limits.

Format Requirements	
Parameter	Requirement
File Format	Portable Document Format (PDF) unless stated otherwise
Language	English
Paper Size	8.5" x 11"
Margins	Not less than 1" (≥ 1 ") on every side
Font	Calibri typeface, a black font color, and a font size of 12-point or larger (except in figures or tables, which may be 10-point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies.
References	References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement.
Control Number	A control number (i.e., a unique application identifier) will be issued when an applicant begins the eXCHANGE application process. The control number must be included with all application documents. Specifically, the control number must be prominently displayed on the upper right corner of the header of every page and included in the file name (i.e., <i>Control Number_Applicant Name_Application</i>).
Page Numbers	Page numbers must be included in the footer of every page. Each submission must not exceed the specified maximum page limit, including cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced.
Page Count Limitations	If applicants exceed the maximum page limitations, DOE will review only the authorized number of pages and disregard any additional pages.



The following information is intended to address eXCHANGE issues typically encountered during the application process. Refer to [NOFO Part 1, Submission Requirements and Deadlines—Application Package](#) for the eXCHANGE site location and support for technical assistance information.

Additional eXCHANGE Information	
Deadlines for Submission	eXCHANGE is designed to enforce the deadlines specified in this NOFO. The “Apply” and “Submit” buttons will automatically disable at the defined submission deadlines.
Submission Difficulties	Applicants who experience technical difficulties with submission PRIOR to the NOFO deadline should contact the eXCHANGE helpdesk for assistance using the information provided above.
Application Forms	To access application forms and instructions available on eXCHANGE, select the appropriate funding opportunity number on the Funding Opportunity page.
Size Limitations	<p>The maximum file size that can be uploaded to the eXCHANGE website is 50MB. Files larger than 50MB cannot be uploaded and hence cannot be submitted for review. If a file is larger than 50MB but is still within the maximum page limit specified in the NOFO, it must be broken into parts and denoted to that effect. For example: "TechnicalVolume_Part_1", "TechnicalVolume_Part_2".</p> <p>DOE will not accept late submissions that resulted from technical difficulties due to uploading files that exceed 50MB.</p>

B. Application Content Requirements

The [NOFO Part 1, Application Content Requirements](#) identifies which of the following application documents are required including the program-specific requirements such as the technical volume and specified page limits. Each application must be limited to a single concept and must not exceed the stated page limits.

Please see NOFO Part 1 for specific required documents. The following is for reference only.

1. Application for Federal Assistance (SF-424)

Applicants must complete the SF-424: Application for Federal Assistance, which is available in eXCHANGE on [Financial Assistance Forms and Information For Applicants and Recipients | Department of Energy](#). The list of certifications and assurances can also be found on the site noted above. Complete all required fields in accordance with the instructions on the form. Complete all required fields in accordance with the instructions on the form.

Please ensure that the dates (Block 17) and dollar amounts (Block 18) on the SF-424 are for the complete project period and not just the first project year, first phase, or another subset of the project period.

2. Letters of Commitment

Submit letters of commitment from all subrecipients. In addition, submit letters of commitment from all third-party cost share providers. If applicable, the letter must state that the third party is committed to providing a specific minimum dollar amount or value of in-kind contributions allocated to cost sharing.



Letters of support or endorsement for the project from entities that do not have a substantive role in the project will not be accepted. The following information for each third party contributing to cost sharing should be identified:

Letters of Commitment Content	
Organization Name	Phone, email, and address
Proposed Dollar Amount to be Provided	Value of the contribution
Cost Sharing Type	Cash or In-Kind contribution (or both)

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

3. Impacted Indian Tribes Documentation

For any application that potentially impacts Indian Tribes or is on Tribal land¹ including when the potentially impacted Indian Tribe is the applicant, applicants are required to submit additional documentation at the time of application, and possibly during negotiation and prior to award. For any project that potentially impacts Indian Tribes, applicants are required to submit documentation demonstrating that an authorized representative of each potentially impacted Indian Tribe is, at a minimum, aware of the nature of the application and its potential impacts to the relevant Indian Tribes. The notified authorized representative² must be holding their position while the award is open for applications, and documentation must demonstrate affirmative awareness of the application (e.g. a delivery record from certified mail, a reply by the authorized representative).

For any project intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, applicants are required to submit documentation demonstrating support from the relevant Indian Tribes at the time of application. Documentation of support submitted at the time of application will also be considered.

¹ Tribal land is as defined in 25 U.S.C. §§ 3501(2), (3), (4)(A) and (13).

² 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.



Helpful Resources	
Item	Criteria
Letter of Support from Tribal Leadership	The letter must be signed by an authorized representative of the Indian Tribe. The signer(s) must be holding their position while the NOFO is open for applications or when subsequently submitted.
Tribal Council Resolution, Board resolution (including the Board of Directors of an Alaska Native Corporation (ANC)), or similar act passed by the legislative body of the Tribal government or Board of Directors of an ANC	Must express support for the project.

For projects not intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, but that may have other potential impacts on Tribal resources or reserved rights, letters of support or resolutions of support are strongly encouraged and, depending on the nature of the impact, may be required if selected for negotiation of an agreement. Applicants are encouraged to reach out to Indian Tribes as early as possible in the application process to give Indian Tribes ample time to evaluate and respond.

The following resources may be useful to help determine if a project may impact Indian Tribe(s) resources or reserved rights and the appropriate contacts. These resources are not exhaustive, and many Indian Tribes have resources or reserved rights which extend beyond their Tribal lands, or are covered within treaties, statutes, or case-law. Applicants are encouraged to do additional research:

Helpful Resources	
Item	Location
Map of Indian Lands	BIA Tract Viewer
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

To help determine if an Indian Tribe's resources or reserved rights may be impacted by the project, applicants must address the elements listed in the table below, as applicable to the application. If the applicant is an Indian Tribe, these elements should be addressed to ascertain impacts to Indian Tribes other than the applicant. Applicants do not need to reveal specific details about sacred sites such as specific location or specific ceremonies:



Indian Tribe Resource or Reserved Rights Impact Assessment		
Type of Action	Assessment	Mitigation
If Research and Development (R&D)	Identify any [specific resources] which will be [quantified/modeled] on or near Tribal land, traditional homelands, Tribal historic sites, sacred sites, or in areas where an Indian Tribe maintains rights to [specific resources]. Identify which Indian Tribe(s) may be impacted? Explain any instances of uncertainty or confidentiality.”	Explain any actions taken by the applicant to mitigate or address any potential impacts identified,
If Demonstration and Deployment (D&D)	Identify any elements of the project that will occur on or near Indian land, Tribal historic sites, or sacred sites and describe its potential impacts to Indian Tribes. Identify the potentially impacted Indian Tribe(s).	including engaging with the potentially impacted Indian Tribe(s), in the application.
Subsurface Resource Activities (carbon sequestration, oil & gas, geothermal, critical minerals, groundwater, etc.)	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 Tribe(s) might be impacted. Explain any instances of uncertainty and any potential for subsurface resource migration which has been considered.	
If Hydropower, Offshore Wind, or other Water Related Projects	Identify any Tribal resources or reserved rights (e.g., water, fishing, or other treaty rights) which could be impacted by the proposed project. Identify any Tribal historic sites, sacred sites, or relevant vistas, which could be impacted by the project. Identify the potentially impacted Indian Tribe(s) and explain any sources of uncertainty or confidentiality.	
If Infrastructure (e.g., Transmission and Pipeline) Projects	Identify any Indian Land (as defined in 25 U.S.C. § 3501), traditional homelands, or Tribal historic and sacred sites which will be crossed, or adjacent to the proposed infrastructure. Identify which Indian Tribe(s) might be impacted and explain any instances of uncertainty or confidentiality.	
Other Actions Not Categorized Above	Identify any [other] proposed actions which 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) [or intersecting Tribal sub-surface rights], historic homelands from which they were removed, cultural sites, sacred sites, water rights, mineral and other subsurface rights, fishing rights, and hunting rights. Identify the Tribe(s) potentially impacted and any sources of uncertainty or confidentiality.	

Applicants are required to document any efforts taken to identify any potential impacts to Indian Tribes, Indian lands, Alaska Native regional and village land, traditional homelands, Tribal rights, or Tribal historic sites, or sacred sites. This includes any correspondence with Indian Tribes. These documents



should be available on request to DOE. An applicant's failure to submit documentation of an Indian Tribe's awareness, or a letter of support, when required as described above, may constitute grounds for determining an application ineligible, non-responsive to the NOFO, not subject to further review, and/or not otherwise subject to selection or award.

Any application that may potentially impact Indian Tribe(s) may be shared with the potentially impacted Indian Tribe(s). Applicants should include a Notice of Restriction on Disclosure and Use of Data identifying any business sensitive, trade secrets, proprietary, or otherwise confidential information.

Such information shall be used or disclosed only for evaluation of the application or to determine whether the proposed project affects an Indian Tribe(s). If an applicant determines an Indian Tribe(s) will be impacted, the applicant must provide information on the project location, potential impacts and how the applicant will engage with Indian Tribe(s), during the period of performance of the agreement, and, if necessary, after the end of the agreement. If the applicant proposes any activities that could impact Tribal resources or reserved rights, including but not limited to lands, cultural sites, sacred sites, water rights, mineral rights, fishing rights, and hunting rights, they must notify DOE as outlined below in the application submission requirements. DOE will determine if formal government-to-government consultation is needed, and DOE will conduct that consultation accordingly, in addition to any engagement by applicant.

4. Statement of Project Objectives (SOP)

Refer to the **NOFO Part 1, Technical Volume** for specific requirements. If required, applicants must submit a SOP. The SOP template is available in eXCHANGE, which is provided for the administrative convenience of the applicant. Applicants are strongly encouraged to use the template to complete their SOP. If the template is not used, the SOP must address all of the elements described in NOFO Part 1, *Technical Volume*, and as outlined in the template.

5. Project Management Plan

Refer to the **NOFO Part 1, Technical Volume** for specific requirements. If required, applicants must submit a PMP. The PMP template is available in eXCHANGE, which is provided for the administrative convenience of the applicant. Applicants are strongly encouraged to use the template to complete their PMP. If the template is not used, the PMP must address all of the elements described in NOFO Part 1, *Technical Volume*, and as outlined in the template.

6. Budget Information-Non-Construction Programs (SF-424A)

If applicants elect to use the budget justification workbook in eXCHANGE, they do not need to submit a separate SF-424A. Applicants must provide a separate budget for each year of support requested and a cumulative budget for the total project period of performance. Use the SF-424A Excel, "Budget Information - Non-Construction Programs" form on the DOE Financial Assistance Forms Page at [Financial Assistance Forms and Information For Applicants and Recipients | Department of Energy](#).

You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable federal cost principles, and are not prohibited by the [standard Funding Restrictions](#) described below or any program-specific restrictions in the **NOFO Part 1, Application Content and Form—Funding Restrictions**.



7. Limitation on Indirect Costs

DOE has established a maximum dollar amount that it will reimburse for indirect costs and fringe benefits under its financial assistance awards. The maximum amount of funds to be paid or reimbursed under an award for indirect costs and fringe benefit costs will be calculated as a percentage of the Total Award Amount and the maximum dollar amount will be included in the award terms and conditions.

For for-profit organizations, this maximum dollar amount is calculated as fifteen percent (15%) of the Total Award Amount. For nonprofit organizations, this maximum dollar amount is calculated as 15 percent (15%) of the Total Award Amount. For state and local governments, this maximum dollar amount is calculated as 10 percent (10%) of the Total Award Amount.

The Total Award Amount is the sum of total direct costs and indirect cost amounts and comprised of the Federal and, as applicable, the required non-Federal cost share. The maximum indirect and fringe benefits cost reimbursement amount (limitation) applies to all budget periods negotiated at the time of the award and will be adjusted should a modification change the Total Award Amount. The limitation applies to the total award across all budget periods. For multiyear awards, applicants must ensure the indirect costs for each year collectively do not exceed the limitation of the Total Award Amount.

Applicants and recipients must ensure that the sum of indirect costs and fringe benefits in the proposed budget do not exceed the maximum percentage allowed against the total award. For example, a 15% reimbursement limit against a Total Award Amount of \$100,000 means the total indirect costs and fringe benefits may not exceed \$15,000, leaving \$85,000 for direct costs. This limit applies regardless of an applicant's negotiated indirect cost rate agreement (NICRA), rate proposal, or the election of the de minimis rate (15% of modified total direct costs per 2 CFR 200.414(f)). If an applicant's NICRA or de minimis rate yields higher indirect cost amounts than the 15% limitation allows, the limited amount must be used.

Applicants should apply a consistent accounting methodology when allocating their indirect rates (e.g., NICRA, Rate Proposal, or de minimis rate per 2 CFR 200.414(f)), that the organization utilizes to develop the indirect rates, to the maximum extent possible without exceeding the reimbursement limit. Subrecipients: The indirect cost reimbursement limit applies to the prime recipient and subrecipients, as applicable. Budgets for subawards must also comply with the limitation based on entity type (i.e., for-profit, nonprofit, or state and local government). The maximum amount of funds to be paid or reimbursed from the recipient to a subrecipient for its indirect costs and fringe benefits under a subaward will be calculated as a percentage (%) of the total subaward amount, inclusive of the Federal and applicable non-Federal cost share amount.

Key Definitions per 2 CFR 200.1:

Direct Costs are project costs which can be solely attributed to a specific project, award, or activity with a high degree of accuracy.

Indirect Costs are those costs incurred for a common or joint purpose benefiting two or more cost objectives (e.g., project, award, or activity) and not readily assignable to the cost objectives specifically benefited, without effort disproportionate to the results achieved.

Calculating the amount of reimbursable indirect and fringe benefit costs:

Developing and applying the indirect cost and fringe benefit reimbursement limit as a percentage of the Total Award Amount requires a flexible and iterative approach during budget planning.



To remain compliant, the budget must be structured so that indirect cost and fringe benefit reimbursement does not exceed the applicable percentage of the Total Award Amount (e.g., "indirect costs cannot exceed 10% or 15% of the total award, as applicable"). This may require multiple rounds of budget adjustments to align the proposed costs with the allowable limitations.

Additional guidance on calculating the allowable indirect cost reimbursement, including a list of frequently asked questions (FAQs) is available.

Compliance:

DOE will monitor indirect cost and fringe benefits expenditures throughout the award period to ensure compliance with the established limitation. Any costs that exceed this limitation will be considered unallowable and may result in repayment by the recipient or other corrective actions, as appropriate. Applicants are responsible for maintaining accurate financial records and reporting indirect costs and fringe benefits in accordance with 2 CFR 200.

8. Budget Justification Workbook

Please refer to the Budget Justification Workbook template in [eXCHANGE](#). Applicants are strongly encouraged to use the suggested template. If applicants choose not to use the suggested template, you must also submit an SF-424A Budget Information form (available on [grants.gov](#)) and include a breakdown of all costs by Budget Category as outlined in the SF-424A and the Budget Justification suggested template, including all work to be performed by the recipient and its subrecipients and contractors. The SF-424A budget justification form must be saved as PDF file using the following convention for the title, "Control Number_LeadOrganization_424A_Budget.

In addition to project-specific costs, applicants should include costs associated with the following activities, as applicable:

- Oversight;
- Required annual audits and incurred cost proposals (such costs may be reimbursed as a direct or indirect cost).
- Implementing award-specific requirements such as Buy America requirements and Davis-Bacon Act requirements; and;
- Reporting.

The "Instructions and Summary" and "SF-424A" tabs included with the Budget Justification Workbook will auto-populate as the applicant enters information into the Workbook. **Applicants must carefully read the "Instructions and Summary" tab provided within the Budget Justification Workbook.**

9. Subrecipient Budget Justification

Applicants must provide a separate budget justification for each subrecipient that is expected to perform work estimated to be more than \$500,000 of the total work effort. The budget justification must include the same justification information described in the [Budget Justification Workbook](#) section above.

10. Work Proposal for DOE FFRDC

If a DOE FFRDC is to perform a portion of the work, the applicant must provide a DOE work proposal (WP) in accordance with the requirements in DOE Order 412.1A, Work Authorization System, available at: <https://www.directives.doe.gov/directives-documents/400-series/0412-1-BOrder-a-chg1-AdmChg>



11. Authorization for Non-DOE or DOE FFRDCs (if applicable)

If an FFRDC is to perform a portion of the work, the federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project. This authorization must be submitted with the application. The use of a FFRDC must be consistent with the contractor's authority under its award.

12. Waiver for Foreign Entity Participation

All recipients receiving funding under the applicable NOFO Part 1 must be incorporated (or otherwise formed) under the laws of a state or territory of the United States and have a physical location for business operations in the United States. To request a waiver of this requirement, an applicant must submit an explicit waiver request in the application.

Waiver Criteria

Foreign entities seeking to participate in a project funded under this NOFO must demonstrate to the satisfaction of DOE that:

1. Its participation is in the best interest of the United States industry and United States economic development;
2. The project team has appropriate measures in place to control sensitive information and protect against unauthorized transfer of scientific and technical information;
3. Adequate protocols exist between the United States subsidiary and its foreign parent organization to comply with export control laws and any obligations to protect proprietary information from the foreign parent organization;
4. The work is conducted within the United States, and the entity acknowledges and demonstrates that it has the intent and ability to comply with the U.S. Competitiveness Provision (see [Post-Award Requirements--U.S. Manufacturing Commitments](#) below); and
5. The foreign entity will satisfy other conditions that DOE may deem necessary to protect U.S. government interests.

Content for Waiver Request

A Foreign Entity waiver request must include all of the following:

1. Information about the entity(ies) involved in the proposed work to be conducted outside the United States (i.e., the entity seeking a waiver and the entity(ies) that will conduct the work): name, point of contact, and proposed type of involvement in the project;
2. Country of incorporation, the extent of the ownership/level control by foreign entities, whether the entity is state owned or controlled, a summary of the ownership breakdown of the foreign entity, and the percentage of ownership/control by foreign entities, foreign shareholders, foreign state, or foreign individuals;
3. The rationale for proposing a foreign entity participant (must address criteria above);
4. A description of the project's anticipated contributions to the United States economy;
 - a. How the project will benefit United States R&D and manufacturing, including contributions to employment in the United States and growth in new markets and jobs in the United States;
 - b. How the project will promote domestic American manufacturing of products and/or services;
5. A description of how the foreign entity's participation is essential to the project;
6. A description of the likelihood of IP being created from the work and the treatment of any such IP; and
7. Countries where the work will be performed. (Note: If any work is proposed to be conducted outside the United States, the applicant must also complete a separate request foreign work waiver.)



DOE may also require:

1. A risk assessment with respect to IP and data protection protocols that includes the export control risk based on the data protection protocols, the technology being developed, and the foreign entity and country. These submissions could be prepared by the project lead (if not the recipient), but the recipient must make a representation to DOE as to whether it believes the data protection protocols are adequate and make a representation of the risk assessment – high, medium, or low risk of data leakage to a foreign entity.
2. Additional language may be added to any agreement or subagreement to protect IP, mitigate risk, or other related purposes.

DOE may require additional information before considering the waiver request. DOE's decision concerning a waiver request is not appealable.

13. Performance of Work in the United States (Foreign Work Waiver)

Requirement:

All work for the projects selected under this NOFO must be performed in the United States, absent a written waiver approved by DOE and prior approval by the Grants Officer. To request a waiver of this requirement, the applicant must submit an explicit waiver request in the application. A separate waiver request must be submitted for each entity proposing performance of work outside of the United States (see Due Diligence Review for Research Technology and Economic Security below).

Overall, a waiver request must demonstrate to the satisfaction of DOE that it would further the purposes of this NOFO, and is otherwise in the best interest of the DOE programmatic objectives, is in the economic and energy security interests of the United States, does not pose an undue RTES risk (see Due Diligence Review for Research Technology and Economic Security below) and is otherwise in the best interest of DOE program goals and agency priorities. A request for a foreign work waiver must include the following:

1. The rationale for performing the work outside the United States ("foreign work");
2. A description of the work proposed to be performed outside the United States;
3. An explanation as to how the foreign work is essential to the project;
4. A description of the anticipated benefits to be realized by the proposed foreign work and the anticipated contributions to the U.S. economy;
5. The associated benefits to be realized and the contribution to the project from the foreign work;
6. How the foreign work will benefit the United States, including manufacturing, contributions to employment in the United States and growth in new markets and jobs in the United States;
7. How the foreign work will promote manufacturing of products and/or services in the United States;
8. A description of the likelihood of IP being created from the foreign work and the treatment of any such IP;
9. The total estimated cost (DOE and recipient cost share) of the proposed foreign work;
10. The countries in which the foreign work is proposed to be performed; and
11. The name of the entity that would perform the foreign work.

DOE may require additional information before considering the waiver request. DOE's decision concerning a waiver request is not appealable.



14. Resumes for Research and Development (R&D) NOFOs

A resume provides information reviewers can use to evaluate an individual's skills, experience, and potential for leadership within the scientific community. Applicants must submit a resume or biographical sketch (see description below the table) for each Principal Investigator or Lead Project Manager, Senior/Key Personnel, and all covered individuals as defined in the [NOFO Part 1, Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility](#).

DOE reserves the right to not proceed with merit reviews for incomplete applications. Applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails.

Resumes must include the following information, at a minimum:

Resume Requirements (Research & Development Activities)	
Contact Information	Phone, email, and address
Education & Training	Provide name of institution, major/area, degree, and year for undergraduate, graduate, and postdoctoral training
Research & Professional Experience	Beginning with the current position, list professional/academic positions in chronological order with a brief description. List all current academic, professional, or institutional appointments, foreign or domestic, at the applicant institution or elsewhere, whether remuneration is received, and, whether full-time, part-time, or voluntary
Awards & Honors	List any notable awards and honors received
Publications	List of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically. Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications. An abbreviated style such as the Physical Review Letters (PRL) convention for citations (list only the first author) may be used for publications with more than 10 authors
Synergistic Activities	List up to five professional and scholarly activities related to the proposed effort;
Additional Criteria	There should be no lapses in time over the past 10 years or since age 18, whichever period is shorter.

As an alternative to a resume, it is acceptable to use the biographical sketch format approved by the National Science Foundation (NSF). The biographical sketch format may be generated by the Science Experts Network Curriculum Vita (SciENCv), a cooperative venture maintained at [SciENCv: Science Experts Network Curriculum Vitae \(nih.gov\)](#) also available at [Common Form for Biographical Sketch \(nsf.gov\)](#). The use of a format required by another agency is intended to reduce the administrative burden to researchers by promoting the use of common formats.



15. Resumes for Non-Research & Development (R&D) NOFOs

A resume provides information reviewers can use to evaluate an individual's relevant skills and the experience of the key project personnel. Applicants must submit a resume for each project manager, Senior/Key Personnel, and all covered individuals as defined in the [NOFO Part 1, Application Content and Form—Application Content Requirements, Covered Individual Definition, Designation and Responsibility](#). DOE reserves the right to not proceed with merit reviews for incomplete applications. Applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails.

Resumes must include the following at a minimum:

Resume Requirements	
Contact Information	Phone, email, and address
Education	All academic institutions attended, major/area, degree
Training	Examples include certification or credential from a Registered Apprenticeship or Labor Management Partnership
Professional Experience	Beginning with the current position, list professional/academic positions in chronological order with a brief description
Current Appointments	All current academic, professional, or institutional appointments, foreign or domestic, at the applicant institution or elsewhere, whether or not remuneration is received, and whether full-time, part-time, or voluntary.
Products and Activities	A list of products and activities that demonstrate the individual's qualifications to carry out the project as proposed. It is up to the individual to determine how to best organize this listing to demonstrate their ability to carry out the project.
Additional Criteria	There should be no lapses in time over the past 10 years or since age 18, whichever period is shorter.

16. Current and Pending Support

If selected for award negotiations, the selected applicant must submit, if applicable, 1) current and pending support disclosure statements and resumes for any new covered individuals, and 2) updated disclosures if there are changes to the Current and Pending Support previously submitted to DOE. Also see the Current and Pending Support information in the [NOFO Part 1, Application Content and Form—Application Content Requirements](#).

17. Digital Persistent Identifier (PID)

For all Research and Development (R&D) NOFOs, individuals that are required to submit Biographical Sketch and/or Current and Pending (Other) Support disclosures must provide a digital persistent identifier (PID) in such disclosures as part of the application. Included PIDs must meet the common/core standards specified in the NSPM-33 implementation Guidance or successor guidance (e.g., an [ORCID iD](#)). The PID is a digital identifier that is globally unique, persistent, machine resolvable and processable, and has an associated metadata schema. Consistent with NSPM-33, digital persistent identifiers for individuals are used to disambiguate and identify an individual person.



Include this information for each covered individual with the [Current and Pending Support](#) submission as described above and in the **NOFO Part 1, Application Content Requirements--Covered Individual Definition, Designation, and Responsibility** section.

18. Research Security Training Requirement

The research security training requirement described here is required for R&D applications. Covered individuals listed on applications under this NOFO are required to certify that they have taken research security training consistent with Section 10634 of the CHIPS and Science Act of 2022. In addition, an applicant who receives an award must maintain sufficient records (records must be retained for the time period noted in 2 CFR 200.334 and made available to DOE upon request) of its compliance with this requirement for covered individuals at the applicant/recipient organization and it must extend this requirement to any and all subrecipients.

Include this information for each covered individual with the [Current and Pending Support](#) submission as described above and in the **NOFO Part 1, Application Content Requirements--Covered Individual Definition, Designation, and Responsibility**.

19. Transparency of Foreign Connections

Applicants must provide a Transparency of Foreign Connections disclosure and certification as it relates to the proposed recipient and subrecipient(s). Include a separate disclosure for the applicant and each proposed subrecipient.

Disclosure Format: For the convenience of the entity providing the disclosure and certification, a template is available at Transparency of Foreign Connections, however, the entity is not required to use this specific format. If another format is used, the signatory must include the same substantive information, a signature, date, and the certification statement provided at Transparency of Foreign Connections.

Disclosure exceptions by entity type:

- U.S. National Laboratories and domestic government entities are not required to respond to the Transparency of Foreign Connections disclosure.
- Institutions of higher education are only required to respond to items with an asterisk symbol (*).
- The applicability of disclosure requirements is determined by the entity type. Regardless of whether the applicant is exempt, the subrecipient(s) must provide these disclosures unless the subrecipient is also exempt.

Applicants, regardless of entity type, must provide complete responses for project team members that are not U.S. National Laboratories, domestic government entities, or institutions of higher education.

Questions: Contact rtesinfo@hq.doe.gov

DOE reserves the right to request additional or clarifying information based on the information submitted.

20. Potentially Duplicative Funding Notice

If the applicant or project team member has other active awards of federal funds, the applicant must determine whether the activities of those awards potentially overlap with the activities set forth in its application to this NOFO. If there is potential overlap, the applicant must notify DOE in writing of the potential overlap and state how it will ensure any project funds (i.e., recipient cost share and federal funds) will not be used for identical cost items under multiple awards.



21. Locations of Work

The applicant must provide a list of locations where project work will be performed by the recipient or subrecipient(s), including the information identified in the Locations of Work (LOW) template for each location. For your convenience, a Locations of Work template is available on eXCHANGE (please refer to the [NOFO Part 1, Application Content and Form—Application Content Requirements](#) table for the file format and name instructions). Applicants are strongly encouraged to use the template. If the template is not used, the submission must include all the elements described below, and as outlined in the template.

- Location Type (project work site or operations site)
 - Is this a Principal Place of Performance?
- Prime or Subrecipient Location?
 - If Subrecipient, Subrecipient Name
- Facility Name (if applicable)
- Is location in a foreign country?
- Street Address, City, State, 5-Digit Zip Code - +4
- Briefly describe the primary activity at this location or with this population. For example, management headquarters; construction, operations, production; raw materials extraction, etc.
- Latitude/Longitude
- % of work performed at this location

22. Environmental Considerations Summary

Refer to the [NOFO Part 1, Application Content Requirements--Application Content Requirements](#) section to determine if the Environmental Considerations Summary is required. If required, the template will be included in eXCHANGE.

23. Environmental Impact Volume

Refer to the [NOFO Part 1, Application Content Requirements--Application Content Requirements](#) section to determine if the Environmental Impact Volume (EIV) is required. If required, the template will be included in eXCHANGE.

If required, the Environmental Impact Volume should describe the proposed action, its alternatives, and the existing environment.

24. Environmental Questionnaire

Refer to the [NOFO Part 1, Application Content and Form--Application Content Requirements](#) section to determine if the Environmental Questionnaire is required. If required, the template will be included in eXCHANGE.

If required, the Environmental Questionnaire must include the scope of work for the entire project. The Applicant is also responsible for submitting a separate Environmental Questionnaire for each proposed subrecipient performing work at a different location. If selected for award and if a subrecipient's location is not known at the time of application, a subsequent Environmental Questionnaire will be needed prior to any work being performed at an alternate location.



When the Environmental Questionnaire is required with the application, DOE's decision whether and how to distribute federal funds under this NOFO is subject to the National Environmental Policy Act (42 USC 4321, et seq.).

25. Lobbying Activities

Recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters. See also [Lobbying](#) in the Funding Restrictions section below.

A) All applicants and proposed subrecipients that have lobbying activities to disclose:

Complete and submit the Disclosure of Lobbying Activities (SF-LLL) available at:

https://apply07.grants.gov/apply/forms/sample/SFLLL_2_0-V2.0.pdf to ensure that non-federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with the application:

- An officer or employee of any federal agency;
- A Member of Congress;
- An officer or employee of Congress; or
- An employee of a Member of Congress.

B) Recipients and subrecipients that have no lobbying activities to disclose:

Complete and submit, Certification Regarding Lobbying form (OMB 4040-0013) available at:

https://apply07.grants.gov/apply/forms/sample/GG_LobbyingForm-V1.1.pdf

26. Summary for Public Release

Applicants must submit a one-page summary of their project that is suitable for dissemination to the public.

Summary of Public Release Content	
Applicant Name	Provide the legal name of the applicant.
Major Participant Names	List all significant project participants and their roles.
Lead Project Manager / Principal Investigator(s)	Provide names and titles.
Project Title	Provide the title for the planned project.
Project Location(s)	Provide the location(s) of work for the proposed project.
Project Objectives	Identify the overarching project objectives aligned with requirements set forth in the NOFO.
Project Description	The description must include methods to be employed, the potential impact of the project (e.g., benefits, outcomes), and the project's goals.



Publicly Releasable (Unlimited Rights)	This document must not include any proprietary or business-sensitive information, as DOE may make it available to the public after selections are made.
Page Limit Clarification	The summary must not exceed the stated page limit when printed, using standard 8.5" x 11" paper with 1" margins (top, bottom, left, and right) with font not smaller than 12-point.

27. Summary Slide

Applicants must provide a single slide summarizing the proposed project. The Summary Slide requirements and instructions are reflected in the **NOFO Part 1, Application Content and Form—Application Content Requirements** and the suggested Summary Slide template is available on eXCHANGE. Typically, the Summary Slide includes information such as:

Summary Slide Content	
Project Title	Provide the title for the planned project.
Applicant	Provide the legal name of the applicant.
Project Location(s)	Provide the location(s) of work for the proposed project.
PI/LPM and Key Personnel Information	Provide names and titles.
Requested DOE Funds	Identify federal funds requested for the project.
Proposed Cost Share	Provide the amount of cost share contribution.
Technology Summary	Describe the technology to be developed.
Technology Impact	Describe the impact of the proposed technology if the project is successful.
Project Goals	Identify the overarching project goals.
Key Graphics	Illustrations, charts and/or tables
Key Idea / Takeaway	Describe the key takeaway that you would like to provide to the DOE.

C. Additional Requirements

1. Content and Form of Replies to Reviewer Comments

Refer to **NOFO Part 1, Application Content and Form—Summary** to determine if the reply to reviewer comments submission phase applies. If so, the following information applies:

DOE will provide applicants with reviewer comments following the evaluation of all eligible applications. Applicants have a brief opportunity to prepare a short Reply to Reviewer Comments (Reply). The Reply must not exceed three pages. If a Reply is more than three pages in length, DOE will review only the first three pages and disregard additional pages. Applicants may use the Reply to respond to one or more comments or to supplement their application. The Reply may include text, graphs, charts, or data.



DOE will post the reviewer comments in eXCHANGE. The expected submission deadline is on the cover page of the NOFO Part 1; however, it is the applicant's responsibility to monitor eXCHANGE if the expected date changes. The deadline will not be extended for applicants who are unable to timely submit their Reply due to failure to check eXCHANGE or relying on the expected date alone. Applicants should anticipate having approximately three (3) business days to prepare and submit a Reply.

Applicants are not required to submit a Reply to Reviewer Comments. DOE will review and consider each eligible application, even if no Reply is submitted or if the Reply is found to be ineligible.

D. Funding Restrictions

1. Allowable Costs

All expenditures must be allowable, allocable, and reasonable in accordance with the applicable federal cost principles. Pursuant to 2 CFR 910.352, the cost principles in the Federal Acquisition Regulations (48 CFR 31.2) apply to for-profit entities. The cost principles contained in 2 CFR Part 200, Subpart E apply to all entities other than for-profits.

2. Pre-Award Costs

Applicants selected for award negotiations (selectees) must request prior written approval to charge pre-award costs. Pre-award costs are those incurred prior to the effective date of the federal award directly pursuant to the negotiation and in anticipation of the federal award where such costs are necessary for efficient and timely performance of the scope of work.

Such costs are allowable only to the extent that they would have been allowable if incurred after the date of the federal award and only with the written approval of the federal awarding agency, through the DOE Grants Officer.

Pre-award costs cannot be incurred prior to the Selection Official signing the Selection Statement and Analysis.

Pre-award expenditures are made at the selectee's risk. DOE is not obligated to reimburse costs: (1) in the absence of appropriations; (2) if an award is not made; or (3) if an award is made for a lesser amount than the selectee anticipated.

National Environmental Policy Act (NEPA) Requirements Related to Pre-Award Costs

DOE's decision whether and how to distribute federal funds under this NOFO is subject to NEPA. Applicants should carefully consider and should seek legal counsel or other expert advice before taking any action related to the proposed project that would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE completing the NEPA review process.

DOE does not guarantee or assume any obligation to reimburse pre-award costs incurred prior to receiving written authorization from the Grants Officer. If the applicant elects to undertake activities that DOE determines may have an adverse effect on the environment or limit the choice of reasonable alternatives prior to receiving such written authorization from the Grants Officer, the applicant is doing so at risk of not receiving federal funding for its project and such costs may not be recognized as allowable cost share. Nothing contained in the pre-award cost reimbursement regulations or any pre-award costs approval letter from the Grants Officer overrides the requirement to obtain the written authorization from the Grants Officer prior to taking any action that may have an adverse effect on the environment or limit the choice of reasonable alternatives. Likewise, if an application is selected for negotiation of award, and the recipient elects to undertake activities that are not authorized for federal



funding by the Grants Officer in advance of DOE completing a NEPA review, the recipient is doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

3. Performance of Work in the United States (Foreign Work Waiver) Requirement

Requirement

All work performed under awards issued under this NOFO must be performed in the United States, absent a written waiver approved by DOE and prior approval by the Grants Officer. The recipient must flow down this requirement to its subrecipients.

Failure to Comply

If the recipient fails to comply with the Performance of Work in the United States requirement, DOE may deny reimbursement for the work conducted outside the United States and such costs may not be recognized as allowable recipient cost share. The recipient is responsible should any work under this award be performed outside the United States, absent a waiver, regardless of whether the work is performed by the recipient, subrecipients, contractors or other project partners.

Foreign Work Waiver

To seek a foreign work waiver, the applicant must submit a written waiver request to DOE. Refer to [Performance of Work in the United States \(Foreign Work Waiver\)](#) which lists the information that must be included in a request for a foreign work waiver.

4. Foreign Travel

Please refer to *NOFO Part 1, Application Content and Form—Funding Restrictions* to see if foreign travel is allowable under this NOFO.

If allowable per NOFO Part 1 and if international travel is proposed for your project, **foreign travel costs are allowable only with the prior written approval of the Grants Officer.** If your proposal is selected for negotiations, please inform the DOE project team of any planned international travel that may occur during the course of the project.

In addition to the GO approval above, a foreign work waiver is also required in the following circumstances:

- For travel to any country, submit a foreign work waiver for foreign travel conducted in connection with the scope of the project where the purpose of the travel is a not a conference, scholarly workshop, or symposium.
- If the purpose of the travel is a conference, scholarly workshop, or symposium, the applicant is only required to submit a foreign work waiver if the travel is to a [foreign country of concern](#) (People's Republic of China, the Democratic People's Republic of Korea, the Russian Federation, the Islamic Republic of Iran, or any other country determined to be a country of concern by the Secretary of State per sec. 10638(2) of P.L. 117-167, and including countries of risk designated by the Department of Energy).
- See *Performance of Work in the United States (Foreign Work Waiver)* above for details.

All planned international travel must be essential to the successful completion of a task outlined in your proposal.

All international travel must comply with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. § 40118), commonly referred to as the "Fly America Act," and implementing



regulations at 41 CFR 301-10.131 through 301-10.143. The law and regulations require air transport of people or property to, from, between, or within a country other than the United States, the cost of which is supported under this award, to be performed by or under a cost-sharing arrangement with a United States flag carrier, if service is available.

5. Lobbying

Recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Recipients and subrecipients are required to complete and submit SF-LLL, “Disclosure of Lobbying Activities” (grants.gov/forms/forms-repository/sf-424-individual-family) to ensure that non-federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with the application:

- An officer or employee of any federal agency;
- A Member of Congress;
- An officer or employee of Congress; or
- An employee of a Member of Congress.

6. Equipment and Supplies

All equipment and products purchased with funds made available under this NOFO should be American-made, to the greatest extent practicable. This requirement does not apply to used or leased equipment. This requirement does not supersede any other statutory requirement in the NOFO (e.g., [Buy America Requirements for Infrastructure Projects](#)).

7. Davis-Bacon Act Requirements

Refer to *NOFO Part 1, Application Content and Form—Funding Restrictions* to determine if the Davis-Bacon Act requirements are applicable (if “Davis-Bacon Act Requirements” is not listed in the *Applicable Funding Restrictions* table, it is not required).

For projects awarded under NOFOs that will be funded under Division D of the Infrastructure Investment and Jobs Act (IIJA), per Section 41101 of that law, all laborers and mechanics employed by the recipient, subrecipients, contractors, or subcontractors in the performance of construction, alteration, or repair work funded in whole or in part under the applicable NOFO Part 1 shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with Subchapter IV of Chapter 31 of Title 40, United States Code commonly referred to as the Davis-Bacon Act (DBA).

Applicants shall provide written assurance acknowledging the DBA requirements above, confirming that the laborers and mechanics performing construction, alteration, or repair work on projects funded in whole or in part by awards made as a result of this NOFO are paid or will be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by Subchapter IV of Chapter 31 of Title 40, United States Code (Davis-Bacon Act).

Applicants acknowledge that they will comply with all the Davis-Bacon Act requirements, including but not limited to:

- Ensuring that the wage determination(s) and appropriate Davis-Bacon clauses and requirements are flowed down to and incorporated into any applicable subrecipient or contract awards;
- Ensuring that if wage determination(s) and appropriate Davis-Bacon clauses and requirements are improperly omitted from subrecipient or contract awards, the applicable wage



- determination(s) and clauses are retroactively incorporated to the start of performance;
- Being responsible for compliance by any subrecipient or contractor with the Davis-Bacon labor standards;
- Receiving and reviewing certified weekly payrolls submitted by all subrecipients or contractors for accuracy and to identify potential compliance issues;
- Maintaining original certified weekly payrolls for three years after the completion of the project and making those payrolls available to DOE or the U.S. Department of Labor (DOL) upon request, as required by 29 CFR 5.6(a)(2);
- Conducting payroll and job-site reviews for construction work, including interviews with employees, with such frequency as may be necessary to assure compliance by its subrecipients or contractors and as requested or directed by DOE;
- Cooperating with any authorized representative of DOL in its inspection of records, interviews with employees, and other actions undertaken as part of a DOL investigation;
- Posting in a prominent and accessible place the wage determination(s) and DOL Publication: WH-1321, Notice to Employees Working on Federal or Federally Assisted Construction Projects;
- Notifying the Grants Officer of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from recipient, subrecipient, contractor, or subcontractor employees; significant labor standards violations, as defined in 29 CFR 5.7; disputes concerning labor standards pursuant to 29 CFR Parts 4, 6, and 8 and as defined in FAR 52.222-14; disputed labor standards determinations; DOL investigations; or legal or judicial proceedings related to the labor standards under this award, subrecipient award, contract or subcontract; and
- Preparing and submitting to the Grants Officer, the Office of Management and Budget Control Number 1910-5165, Davis Bacon Semi-Annual Labor Compliance Report, by April 21 and October 21 of each year.

Recipients will also be required to undergo Davis-Bacon Act compliance training and maintain competency in Davis-Bacon Act compliance. The Grants Officer will notify the recipient of any DOE-sponsored Davis-Bacon Act compliance trainings. DOL offers free Prevailing Wage Seminars several times a year that meet this requirement, at <https://www.dol.gov/agencies/whd/government-contracts/construction/seminars/events>.

For additional guidance on how to comply with the Davis-Bacon provisions and clauses, see <https://www.dol.gov/agencies/whd/government-contracts/construction> and <https://www.dol.gov/agencies/whd/government-contracts/protections-for-workers-in-construction>.

Recipients must ensure the timely submission of weekly certified payrolls as part of its compliance with the Davis-Bacon Act.

DOE has contracted with [LCPtracker](#), a third-party DBA electronic payroll compliance software application, and recipients use of LCPtracker is mandatory absent a grant of a waiver. A waiver for the use of LCPtracker may be granted to a particular recipient if they are unable or limited in their ability to use or access the system. LCPtracker allows for certified payroll reports and workforce data to be uploaded electronically, 24 hours a day, 7 days per week and currently partners with several commercially available payroll systems. If a recipient uses a different payroll system, LCPtracker provides a free, spreadsheet template they can use to map out their payroll file, which would allow them to upload their employee and payroll data into the system. LCPtracker validation system checks payrolls for federal Davis-Bacon prevailing wage requirements by flagging mathematical errors or omission discrepancies for the recipient to review on a report. Examples include base hourly rate, total hourly rate, overtime, double-time, apprentice approval, and fringe benefit contributions.



Additionally, LCPtracker utilizes industry standard eSignature technology, thus allowing recipients to electronically sign payroll reports versus using a wet signature. Individual program offices will coordinate with recipients on access and training.

For more information, visit [Davis-Bacon Act Requirements for Recipients of Infrastructure Investment and Jobs Act Funding.](#)



V. Submission Requirements and Deadlines

Please refer to the [NOFO Part 1, Application Content and Form—Application Content Requirements](#) for all submission requirements and instructions including the content and form for each submission and deadlines.

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VI. Application Review Information

Please refer to the [NOFO Part 1, Application Review Information—Review Criteria](#) for specific compliance and technical criteria. The following describes the DOE evaluation and selection process that is applicable to all NOFOs.

A. Standard Evaluation and Selection Processes

1. Overview

The evaluation process consists of multiple phases; each includes an initial eligibility review and a thorough technical review. Rigorous technical reviews of eligible submissions are conducted by reviewers that are experts in the subject matter of the NOFO. Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors and risk reviews, in determining which applications to select.

2. Pre-Selection Interviews

As part of the evaluation and selection process, DOE may invite one or more applicants to participate in pre-selection interviews. Pre-selection interviews are distinct from and more formal than pre-selection clarifications described below. The invited applicant(s) will meet with DOE representatives to provide clarification on the contents of the applications and to provide DOE an opportunity to ask questions regarding the proposed project. The information provided by applicants to DOE through pre-selection interviews contributes to DOE's selection decisions.

DOE will arrange to meet with the invited applicants in person at DOE's offices or a mutually agreed upon location. DOE may also arrange site visits at certain applicants' facilities. In the alternative, DOE may invite certain applicants to participate in a one-on-one conference with DOE via webinar, videoconference, or conference call.

DOE will not reimburse applicants for travel and other expenses relating to the pre-selection interviews, nor will these costs be eligible for reimbursement as pre-award costs.

Participation in pre-selection interviews with DOE does not signify that applicants have been selected for award negotiations.

3. Pre-Selection Clarification

DOE may determine that pre-selection clarifications are necessary from one or more applicants. Pre-selection clarifications are distinct from and less formal than pre-selection interviews described above. These pre-selection clarifications will solely be for the purposes of clarifying the application. The pre-selection clarifications may occur before, during or after the merit review evaluation process. Information provided by an applicant that is not necessary to address the pre-selection clarification question will not be reviewed or considered. Typically, a pre-selection clarification will be carried out through either written responses to DOE's written clarification questions or video or conference calls with DOE representatives.

The information provided by applicants to DOE through pre-selection clarifications is incorporated in their applications and contributes to the merit review evaluation and DOE's selection decisions. If DOE



contacts an applicant for pre-selection clarification purposes, it does not signify that the applicant has been selected for negotiation of award or that the applicant is among the top ranked applications.

DOE will not reimburse applicants for expenses relating to the pre-selection clarifications, nor will these costs be eligible for reimbursement as pre-award costs.

4. Recipient Responsibility and Qualifications

Prior to making a federal award with a total amount of federal share greater than the simplified acquisition threshold, DOE is required to review and consider any responsibility and qualification information about the applicant that is in the entity information domain in [SAM.gov](https://sam.gov) (see 41 U.S.C. § 2313).

The applicant, at its option, may review information in the entity information domain in [SAM.gov](https://sam.gov) and comment on any information about itself that a federal awarding agency previously entered and is currently in the entity information domain in [SAM.gov](https://sam.gov).

DOE will consider any written comments by the applicant, in addition to the other information in the entity information domain in [SAM.gov](https://sam.gov), in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when completing the review of risk posed by applicants as described in 2 CFR 200.206.

5. Due Diligence Review for Research, Technology and Economic Security

All applications submitted to DOE are subject to a due diligence review.

As DOE invests in critical infrastructure and funds critical and emerging technology areas,³ DOE considers possible threats to United States research, technology, and economic security from undue foreign government influence when evaluating risk. If high risks are identified and cannot be sufficiently mitigated, DOE may elect to not fund the applicant. As part of the research, technology, and economic security risk review, DOE may contact the applicant and/or proposed project team members for additional information to inform the review. This risk review is conducted separately from the technical merit review.

All project participants, including covered individuals participating in the project, are subject to Research Technology and Economic Security (RTES) due diligence reviews. The due diligence review of covered individuals includes, but is not limited to, the review of resumes/biosketches, disclosures, and certifications, as required in the NOFO. DOE reserves the right to require resumes/biosketches, disclosures, and certifications for project participants not defined as covered individuals. The applicant need not submit any additional information on non-covered individuals, unless requested by DOE. The volume and type of information collected may depend on various factors associated with the award. Note this review is separate and distinct from DOE Order 142.3B "Unclassified Foreign National Access Program".

In the event an RTES risk is identified, DOE may require risk mitigation measures, including but not limited to, requiring that an individual or entity not participate in the award. If significant risks are identified and cannot be sufficiently mitigated, DOE may elect to not fund the applicant.

³ See [Critical and Emerging Technologies List Update \(whitehouse.gov\)](https://www.whitehouse.gov/presidential-action/critical-and-emerging-technologies-list-update/).



Consistent with section 4(e) of the Presidential Memorandum on United States Government-Supported Research and Development National Security Policy-33 (NSPM-33), DOE may share information regarding the risks identified as part of the RTES due diligence review process or monitoring with other Federal agencies.

DOE's decision regarding a due diligence review is not appealable.

6. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Go/No-Go Reviews, and Peer Reviews, the government may seek the advice of qualified non-federal personnel as reviewers. The government may also use non-federal personnel to conduct routine, nondiscretionary administrative activities, including DOE contractors. The applicant, by submitting its application, consents to the use of non-federal reviewers/administrators. Non-federal reviewers must sign conflict of interest (COI) and non-disclosure acknowledgements (NDA) prior to reviewing an application. Non-federal personnel conducting administrative activities must sign an NDA.

7. Selection

The Selection Official may consider the technical merit, the Federal Consensus Board's recommendations, program policy factors, risk reviews, and the amount of funds available in arriving at selections for this NOFO.



VII. Selection and Award Notices

DOE anticipates notifying applicants selected for negotiation of award and negotiating awards by the dates provided on the [NOFO Part 1, Basic Information—Key Dates](#).

A. Selection Notices

1. Ineligible Submissions

Ineligible concept papers, if required, and applications will not be further reviewed or considered for award. The Grants Officer will send a notification letter by email to the technical and administrative points of contact designated by the applicant in eXCHANGE. The notification letter will state the basis upon which the concept paper or the application is ineligible and not considered for further review.

2. Concept Paper Notifications

Please refer to the [NOFO Part 1, Application Content and Form](#) section to determine if Concept Papers are required.

If Concept Papers are required, DOE will notify applicants of its determination to encourage or discourage the submission of an application. DOE will post these notifications to eXCHANGE. DOE may include general comments provided from reviewers on an applicant's concept paper in the encourage/discourage notifications.

Applicants may submit an application even if they receive a notification discouraging them from doing so. By discouraging the submission of an application, DOE intends to convey its lack of programmatic interest in the proposed project. Such assessments do not necessarily reflect judgments on the merits of the proposed project. The purpose of the concept paper phase is to save applicants the considerable time and expense of preparing an application that is unlikely to be selected for award negotiations.

A notification encouraging the submission of an application does not authorize the applicant to commence performance of the project.

3. Application Notifications

DOE will notify applicants of its determination via a notification letter by email to the technical and administrative points of contact designated by the applicant in eXCHANGE. The notification letter will inform the applicant whether its application was selected for award negotiations. Alternatively, DOE may notify one or more applicants that a final selection determination on particular applications will be made at a later date, subject to the availability of funds or other factors.

4. Applicants Selected for Award Negotiations

DOE may stagger its selection determinations. As a result, some applicants may receive their notification letter in advance of other applicants. Successful applicants will receive written notification that they have been selected for award negotiations including estimated award negotiation dates. Receipt of a notification letter selecting an application for award negotiations does not authorize the applicant to commence performance of the project. If an application is selected for award negotiations, it is not a commitment by DOE to issue an award nor is it a guarantee of federal government funding. Applicants



do not receive an award until award negotiations are complete and the Grants Officer executes the funding agreement, accessible by the recipient in FedConnect.

The award negotiation process can take a minimum of 60 days up to 180 days depending on the complexity of the project and responsiveness of the selectee among other factors. Applicants must designate a primary and a backup point-of-contact in eXCHANGE with whom DOE will communicate to conduct award negotiations.

The applicant must be responsive during award negotiations by providing requested documentation, including post-selection documentation, and meet the negotiation deadlines. If the applicant fails to do so or if award negotiations are otherwise unsuccessful, DOE will cancel the award negotiations and rescind the Selection. DOE reserves the right to terminate award negotiations at any time for any reason.

Please refer to the [Pre-Award Costs](#) section above for guidance on pre-award costs.

5. Alternate Selections

In some instances, an applicant may receive a notification that its application was not selected for award and DOE designated the application to be an alternate. As an alternate, DOE may consider the application for federal funding in the future. A notification letter stating the application is designated as an alternate does not authorize the applicant to commence performance of the project. DOE may ultimately determine to select or not select the application for award negotiations.

6. Applicants Not Selected for Award Negotiations

DOE shall promptly notify in writing each applicant whose application has not been selected for award negotiation or whose application cannot be funded because of the unavailability of appropriated funds.

B. Post-Selection Information Requests

To reduce burden in the application process, DOE has instituted Post-Selection Information Requests and Submissions procedures. These procedures allow certain elements of an application to be submitted later in the application process, either prior to merit review or after merit review when the application is under consideration for funding.

Applicants will be notified (primarily by e-mail) when Post-Selection Information is needed. This notification is not a Notice of Award, nor should it be construed to be an indicator of possible funding. Applicants should only submit this information when requested. The applicant will be notified on what documents and materials to submit, the format required and where and when to submit.

1. Example Information Requests

The following is a list of examples of information that may be required to complete award negotiations:

- Participants and Collaborating Organizations;
- Current and Pending Support;
- Other budget information;
- Indirect cost information;
- Letters of Commitment from third parties contributing to cost share, if applicable;



- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5);
- Information for the DOE Office of Civil Rights to process assurance reviews under 10 CFR 1040;
- Environmental Questionnaire;
- Representation of Limited Rights Data and Restricted Software, if applicable;
- Cybersecurity Plan (specific to certain IIJA-funded projects)
- For construction projects: information related to Davis-Bacon Act requirements; Construction Workforce Continuity Plan; Operations Workforce Continuity Plan.

2. Entity Risk Assessment

Pursuant to 2 CFR 200.206, DOE may conduct an additional review of the risk posed by applications submitted under the applicable NOFO. This risk assessment may consider:

- Financial stability;
- Quality of management systems and ability to meet the management standards prescribed in 2 CFR Part 200 as adopted and supplemented by 2 CFR Part 910;
- History of performance;
- Audit reports and findings; and
- The applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on recipients or subrecipients.

DOE may make use of other publicly available information and the history of an applicant's performance under DOE or other federal agency awards.

Depending on the severity of the findings and whether the findings were resolved, DOE may elect not to fund the applicant.

In addition to this review, DOE must comply with the guidelines on government-wide suspension and debarment in 2 CFR Part 180 and must require recipients or subrecipients to comply with these provisions. These provisions restrict federal awards, subawards and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in federal programs or activities.

3. Environmental Review in Accordance with National Environmental Policy Act (NEPA)

DOE's decision whether and how to distribute federal funds under this NOFO is subject to NEPA (42 U.S.C. § 4321, *et seq.*). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website at <https://www.energy.gov/nepa>.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all applicants selected for award negotiations and recipients of an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project. If DOE determines certain documents must be prepared to complete the NEPA review process, the recipient may be required to prepare the documents and the costs to prepare the



necessary documents may be included as part of the project costs. DOE will independently evaluate the environmental document and will take responsibility for the contents, including ensuring the professional integrity of the discussion and analysis, as required by NEPA.

National Historic Preservation Act (NHPA)

DOE must comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) prior to deciding whether or how to distribute federal funds. Section 106 requires DOE to identify and consider adverse effects to historic properties that are listed in or eligible for listing in the National Register of Historic Places. DOE may perform a NHPA review under the umbrella of its NEPA review and will require applicants to assist in this review and consider impacts to historic, Tribal, and cultural resources.

4. Trafficking in Persons

Awards under this NOFO will be subject to the requirements at [2 CFR Part 175, Award Term for Trafficking in Persons](#), including the compliance plan and certification requirements applicable if the estimated value of services required to be performed under the grant or cooperative agreement outside the United States exceeds \$500,000.

5. Construction Workforce Continuity Plan

Required for awards inclusive of any construction project with total construction costs greater than \$35M and where DOE is contributing 10 percent or more of the project amount, or as otherwise selected by DOE.

If selected for award negotiations, within 30 days of the notification of selection for award negotiations, the selectee must submit a Construction Workforce Continuity Plan. A [Workforce Continuity Plan template](#) is provided with the intent to reduce the administrative burden by promoting the use of common formats.

6. Operations Workforce Continuity Plan

Required for awards inclusive of any project that will have more than 100 employees in operation, including contract workers who are not W2 employees, and where DOE is contributing 10 percent or more of the project amount, or as otherwise selected by DOE.

If selected for award negotiations, within 30 days of the notification of selection for award negotiations, the selectee must submit an Operations Workforce Continuity Plan. A [Workforce Continuity Plan template](#) is provided with the intent to reduce the administrative burden by promoting the use of common formats.

7. Data Management and Sharing Plan

A Data Management and Sharing Plan (DMSP) is required for all research and development (R&D) projects following DOE and DOE sponsoring office guidelines. Please refer to the [NOFO Part 1, Application Content and Form—Application Content Requirements](#) and the [NOFO Part 1, Applicable Post-Award Requirements and Administration](#) tables to determine if, and when, a DMSP is required.

<https://www.energy.gov/datamanagement/doe-requirements-and-guidance-digital-research-data-management> Data Management and Sharing Plans (DMSPs) must be provided for R&D efforts following DOE and DOE sponsoring office guidelines. If needed, updates to the DMSP, through the course of the



award, must be provided to DOE for review and approval. In general, a DMSP should address the requirements on the DOE Requirements and Guidance for Digital Research Data Management website: <https://www.energy.gov/datamanagement/doe-requirements-and-guidance-digital-research-data-management>.

Note that the purpose of the DMSP is different from the IP provisions included in the award. The IP Provisions will govern rights provided to the Government regarding IP such as the Government-purpose license, march-in rights, and certain U.S. manufacturing requirements that may be implemented.

C. Award Notices

Upon successful completion of award negotiations, the DOE Grants Officer will approve the award, and the recipient will then receive notification of award and can access it in the FedConnect system. Selectees must be registered in FedConnect to receive the final award package after successful completion of award negotiations.

Registering with [FedConnect](#)[®] is fast, easy, and free. Only individuals who are designated as Points of Contact in SAM.gov can create a new company account.

- **What is it?** It's how recipient receive their legally executed award package.
- The SAM Unique Entity Identifier Number (UEI) must be obtained before this registration can be initiated.
- Review the FedConnect Ready, Set, Go! Guide at: https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf
- **Duration** to complete: can take two to three days.
- **Registration Link:** FedConnect website: [FedConnect - Gateway to Government Opportunities](#)
- **HELP:** <https://www.fedconnect.net/FedConnect/TechSupport.aspx>

Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under the NOFO Part 1 through electronic systems used by the DOE, including eXCHANGE and FedConnect, constitutes the authorized representative's approval and electronic signature.



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 government-wide and DOE or program specific. These post-award requirements include: all National and Administrative Policy Requirements; financial assistance general Certifications and Representations; Build America, Buy America requirements; Davis-Bacon Act requirements; Risk-Based Review of Project Participants; Performance of Work in the United States (Foreign Work Waiver); Infrastructure Investment and Jobs Act-Specific Requirements; Fraud, Waste and Abuse requirements; Safety, Security, and Regulatory requirements; and Environmental Review in Accordance with National Environmental Policy Act requirements.

Recipients of an award made under DOE NOFOs must comply with requirements of all applicable federal, state, and local laws, regulations, DOE policy and guidance, instructions in this NOFO, and the award terms and conditions. Recipients must require subrecipients' compliance with all applicable requirements. Reporting requirements are identified on the Federal Assistance Reporting Checklist, attached to the award agreement.

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

All DOE award recipients must adhere to the following:

1. Award Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR Part 200 as adopted and supplemented by 2 CFR Part 910.

2. Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR Part 170. Recipients must register with the [FFATA Subaward Reporting System](#) database and report the required data on their first tier subrecipients. Recipients must report the executive compensation for their own executives as part of their registration profile in SAM.

3. National Policy Requirements

The National Policy Assurances that are incorporated as a term and condition of award are located at: <http://www.nsf.gov/awards/managing/rtc.jsp>.

4. Applicant Representations and Certifications

Lobbying Restrictions

By accepting funds under this award, the recipient agrees that none of the funds obligated on the award shall be expended, directly or indirectly, to influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as



described in 18 U.S.C. § 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

Corporate Felony Conviction and Federal Tax Liability Representations

In submitting an application to a NOFO, the applicant represents that:

- a. It is **not** a corporation that has been convicted of a felony criminal violation under any federal law within the preceding 24 months; and
- b. It is **not** a corporation that has any unpaid federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations, a corporation is any for-profit or nonprofit entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations].

Nondisclosure and Confidentiality Agreements Representations

In submitting an application to a NOFO the applicant represents that:

- a. It **does not and will not** require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contractors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a federal department or agency authorized to receive such information.
- b. It **does not and will not** use any federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:

“These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by existing statute or Executive Order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive Orders and statutory provisions are incorporated into this agreement and are controlling.”

- (1) The limitation above shall not contravene requirements applicable to Standard Form 312 Classified Information Nondisclosure Agreement (<https://fas.org/sgp/othergov/sf312.pdf>), Form 4414 Sensitive Compartmented Information Disclosure Agreement (<https://fas.org/sgp/othergov/intel/sf4414.pdf>), or any other form issued by a federal department or agency governing the nondisclosure of classified information.



- (2) Notwithstanding the provision listed in paragraph (a), a nondisclosure or confidentiality policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the U.S. government, may contain provisions appropriate to the activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received during such activity unless specifically authorized to do so by the U.S. government. Such nondisclosure or confidentiality forms shall also make it clear that they do not bar disclosures to Congress, or to an authorized official of an executive agency or the U.S. Department of Justice, that are essential to reporting a substantial violation of law.

5. Statement of Federal Stewardship

DOE will exercise normal federal stewardship in overseeing the project activities performed under DOE awards. Stewardship activities include but are not limited to conducting site visits; reviewing performance and financial reports; providing assistance and/or temporary intervention in unusual circumstances to correct deficiencies that develop during the project; assuring compliance with terms and conditions; and reviewing technical performance after project completion to ensure that the project objectives have been accomplished.

6. Uniform Commercial Code (UCC) Financing Statements

Per 2 CFR 910.360 (Real Property and Equipment) when a piece of equipment is purchased by a for-profit recipient or subrecipient with federal funds, and when the federal share of the financial assistance agreement is more than \$1 million the recipient or subrecipient must:

Properly record, and consent to the Department's ability to properly record if the recipient fails to do so, UCC financing statement(s) for all equipment in excess of \$10,000 purchased with project funds. These financing statement(s) must be approved in writing by the Grants Officer prior to the recording, and they shall provide notice that the recipient's title to all equipment (not real property) purchased with federal funds under the financial assistance agreement is conditional pursuant to the terms of this section, and that the government retains an undivided reversionary interest in the equipment. The UCC financing statement(s) must be filed before the Grants Officer may reimburse the recipient for the federal share of the equipment unless otherwise provided for in the relevant financial assistance agreement. The recipient shall further make any amendments to the financing statements or additional recordings, including appropriate continuation statements, as necessary or as the Grants Officer may direct.

7. Interim Conflict of Interest Policy for Financial Assistance

The DOE interim Conflict of Interest Policy for Financial Assistance (COI Policy)⁴ is applicable to all recipients or subrecipients applying for, or that receive, DOE funding by means of a financial assistance award (e.g., a grant or cooperative agreement) and, through the implementation of this policy by the entity, to each Investigator who is planning to participate in, or is participating in, the project funded wholly or in part under the DOE financial assistance award. The term "Investigator" means the PI and any other person, regardless of title or position, who is responsible for the purpose, design, conduct, or reporting of a project funded by DOE or proposed for funding by DOE. Recipients must flow down the

⁴ DOE's interim COI Policy can be found at <https://www.energy.gov/management/departments-energy-interim-conflict-interest-policy-requirements-financial-assistance>.



requirements of the interim COI Policy to any subrecipient. Further, for DOE funded projects, the recipient must include all financial conflicts of interest (FCOI) (i.e., managed and unmanaged/unmanageable) in its initial and ongoing FCOI reports.

It is understood that recipients or subrecipients receiving DOE financial assistance awards will need sufficient time to come into full compliance with DOE's interim COI Policy. To provide some flexibility, DOE allows for a staggered implementation. Specifically, prior to award, applicants selected for award negotiations must: ensure all Investigators complete their significant financial disclosures; review the disclosures; determine whether a FCOI exists; develop and implement a management plan for FCOIs; and provide DOE with an initial FCOI report that includes all FCOIs (i.e., managed and unmanaged/unmanageable). Recipients will have 180 days from the date of the award to come into full compliance with the other requirements set forth in DOE's interim COI Policy. Prior to award, the applicant must certify that it is, or will be within 180 days of the award, compliant with all requirements in the COI Policy.

8. Whistleblower Protections

As provided in 2 CFR 200.217, an employee of a recipient or subrecipient must not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant. The recipient and subrecipient must inform their employees in writing of employee whistleblower rights and protections.

9. Fraud, Waste, and Abuse

The mission of the DOE Office of Inspector General (OIG) is to strengthen the integrity, economy, and efficiency of the Department's programs and operations, including deterring and detecting fraud, waste, abuse, and mismanagement. The OIG accomplishes this mission primarily through investigations, audits, and inspections of DOE activities to include grants, cooperative agreements, loans, and contracts.

The OIG maintains a hotline for reporting allegations of fraud, waste, abuse, or mismanagement. To report such allegations, please visit <https://www.energy.gov/ig/ig-hotline>.

Additionally, recipients of DOE awards must be cognizant of the requirements of [2 CFR 200.113 Mandatory disclosures](#), which states:

An Applicant, Recipient, or Subrecipient of a federal award must promptly disclose whenever, in connection with the federal award (including any activities or subawards thereunder), it has credible evidence of the commission of a violation of federal criminal law involving fraud, conflict of interest, bribery, or gratuity violations found in Title 18 of the United States Code or a violation of the civil False Claims Act (31 U.S.C. 3729–3733). The disclosure must be made in writing to the federal agency, the agency's Office of Inspector General, and pass-through entity (if applicable). Recipients and subrecipients are also required to report matters related to recipient integrity and performance in accordance with Appendix XII of this part. Failure to make required disclosures can result in any of the remedies described in [2 CFR 200.339](#). (See also [2 CFR part 180](#), [31 U.S.C. § 3321](#), and [41 U.S.C. § 2313](#).)



Applicants/recipients and subrecipients (if applicable) are encouraged to allocate sufficient costs in the project budget to cover the costs associated for personnel and data infrastructure needs to support performance management and program evaluation needs, including but not limited to independent program and project audits to mitigate risks for fraud, waste, and abuse.

10. Participants and Collaborating Organizations

If selected for award negotiations, the selected applicant must submit a list of personnel who are proposed to work on the project, both at the recipient and subrecipient level and a list of proposed collaborating organizations prior to award. Recipients will have an ongoing responsibility to notify DOE of changes to the personnel and collaborating organizations and submit updated information during the life of the award.

11. Current and Pending Support

Throughout the life of the award, the recipient has an ongoing responsibility to submit: 1) current and pending support disclosure statements and resumes for any new covered individuals, and 2) updated disclosures if there are changes to the current and pending support previously submitted to DOE. Also see the [Current and Pending Support](#) information in the Application Contents Requirements section above.

12. Prohibition Related to Malign Foreign Talent Recruitment Programs

Prohibition

Individuals participating in a Malign Foreign Talent Recruitment Program are prohibited from participating in this award.

Should an award result from this NOFO, the recipient must exercise ongoing due diligence to reasonably ensure that no such individuals participating on the DOE-funded project are participating in a *Malign Foreign Talent Recruitment Program*. Consequences for violations of this prohibition will be determined according to applicable law, regulations, and policy.

Further, the recipient must notify DOE within five (5) business days upon learning that an individual on the project team is or is believed to be participating in a malign foreign talent recruitment program. DOE may modify and add requirements related to this prohibition to the extent required by law.

Required Certifications

- a. Each covered individual must certify that they are not party to a Malign Foreign Talent Recruitment Program.

The applicant and the subrecipients must certify that the covered individuals in their respective employment have been made aware of the Malign Foreign Talent Recruitment Program prohibition and have complied with their certification responsibilities identified in a.

Non-Discrimination

DOE will ensure that the Malign Foreign Talent Recruitment Program Prohibition is carried out in a manner that does not target, stigmatize, or discriminate against individuals on the basis of race, ethnicity, or national origin, consistent with title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.).

Definitions



Malign Foreign Talent Recruitment Program. as defined in P.L. 117-167, Section 10638(4):

- A) any program, position, or activity that includes compensation in the form of cash, in-kind compensation, including research funding, promised future compensation, complimentary foreign travel, things of non de minimis value, honorific titles, career advancement opportunities, or other types of remuneration or consideration directly provided by a foreign country at any level (national, provincial, or local) or their designee, or an entity based in, funded by, or affiliated with a foreign country, whether or not directly sponsored by the foreign country, to the targeted individual, whether directly or indirectly stated in the arrangement, contract, or other documentation at issue, in exchange for the individual—
- i. engaging in the unauthorized transfer of intellectual property, materials, data products, or other nonpublic information owned by a United States entity or developed with a federal research and development award to the government of a foreign country or an entity based in, funded by, or affiliated with a foreign country regardless of whether that government or entity provided support for the development of the intellectual property, materials, or data products;
 - ii. being required to recruit trainees or researchers to enroll in such program, position, or activity;
 - iii. establishing a laboratory or company, accepting a faculty position, or undertaking any other employment or appointment in a foreign country or with an entity based in, funded by, or affiliated with a foreign country if such activities are in violation of the standard terms and conditions of a federal research and development award;
 - iv. being unable to terminate the foreign talent recruitment program contract or agreement except in extraordinary circumstances;
 - v. through funding or effort related to the foreign talent recruitment program, being limited in the capacity to carry out a research and development award or required to engage in work that would result in substantial overlap or duplication with a federal research and development award;
 - vi. being required to apply for and successfully receive funding from the sponsoring foreign government's funding agencies with the sponsoring foreign organization as the recipient;
 - vii. being required to omit acknowledgment of the recipient institution with which the individual is affiliated, or the federal research agency sponsoring the research and development award, contrary to the institutional policies or standard terms and conditions of the federal research and development award;
 - viii. being required to not disclose to the federal research agency or employing institution the participation of such individual in such program, position, or activity; or
 - ix. having a conflict of interest or conflict of commitment contrary to the standard terms and conditions of the federal research and development award; and
- B) a program that is sponsored by—
- i. a foreign country of concern or an entity based in a foreign country of concern, whether or not directly sponsored by the foreign country of concern;
 - ii. an academic institution on the list developed under section 1286(c)(8) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (10 U.S.C. 2358 note; ¹ Public Law 115-232); or
 - iii. a foreign talent recruitment program on the list developed under section 1286(c)(9) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (10 U.S.C. 2358 note; ¹ Public Law 115-232).



Consistent with applicable law (42 U.S.C. 19232), this provision does not prohibit, unless such activities are funded, organized, or managed by an academic institution or a foreign talent recruitment program on the lists developed under paragraphs (8) and (9) of section 1286(c) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (10 U.S.C. 4001 note; Public Law 115–232)—

- A) making scholarly presentations and publishing written materials regarding scientific information not otherwise controlled under current law;
- B) participation in international conferences or other international exchanges, research projects or programs that involve open and reciprocal exchange of scientific information, and which are aimed at advancing international scientific understanding and not otherwise controlled under current law;
- C) advising a foreign student enrolled at an institution of higher education or writing a recommendation for such a student, at such student's request; and
- D) other international activities determined appropriate by the federal research agency head or designee.

13. Foreign Collaboration Considerations

For **new** collaborations with foreign entities, organizations, and governments, the recipient will be required to provide DOE with advanced written notification of any potential collaboration with foreign entities, organizations, or governments in connection with its DOE-funded award scope. The recipient will then be required to await further guidance from DOE prior to contacting the proposed foreign entity, organization, or government regarding the potential collaboration or negotiating the terms of any potential agreement.

For **existing** collaborations with foreign entities, organizations, and governments, the recipient will be required to provide DOE with a written list of all existing foreign collaborations in which it has entered in connection with its DOE-funded award scope.

Description of collaborations that should be reported:

- In general, a collaboration will involve some provision of a thing of value to, or from, the recipient.
- A thing of value includes but may not be limited to all resources made available to, or from, the recipient in support of and/or related to the DOE award, regardless of whether they have monetary value.
- Things of value also may include in-kind contributions (such as office/laboratory space, data, equipment, supplies, employees, students).
- In-kind contributions not intended for direct use on the DOE award but resulting in provision of a thing of value from or to the DOE award must also be reported.

Collaborations do not include routine workshops, conferences, use of the recipient's services and facilities by foreign investigators resulting from its standard published process for evaluating requests for access, or the routine use of foreign facilities by awardee staff in accordance with the recipient's standard policies and procedures.



14. U.S. Manufacturing Commitments

Refer to *NOFO Part 1, Award Administration Information—Post-Award Requirements* to determine if U.S. Manufacturing Commitments are applicable (if “U.S. Manufacturing Commitments” is not listed in the *Applicable Post-Award Requirements and Administration* table, it is not required). If applicable, the following applies:

A primary objective of DOE’s multi-billion-dollar research, development, and demonstration investments is to cultivate new research and development ecosystems, manufacturing capabilities, and supply chains for and by United States industry and labor. Therefore, in exchange for receiving taxpayer dollars to support an applicant’s project, the applicant/recipient and any subrecipient and contractor must agree to a U.S. Competitiveness provision requiring that any products embodying any subject invention or produced through the use of any subject invention will be manufactured substantially in the United States unless the applicant/recipient can show to the satisfaction of DOE that it is not commercially feasible. Award terms, including the specific U.S. Competitiveness Provision applicable to the various types of recipients and projects, are available at <https://www.energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>.

Please note that a subject invention is any invention conceived or first actually reduced to practice in performance of work under an award. An invention is any invention or discovery which is or may be patentable. The recipient includes any awardee, recipient, subawardee, or subrecipient.

As noted in the U.S. Competitiveness Provision, if an entity cannot meet the requirements of the U.S. Competitiveness Provision, the entity may request a modification or waiver of the U.S. Competitiveness Provision. For example, the entity may propose modifying the language of the U.S. Competitiveness Provision in order to change the scope of the requirements or to provide more specifics on the application of the requirements for a particular technology. As another example, the entity may request that the U.S. Competitiveness Provision be waived in lieu of a net benefits statement or United States manufacturing plan. The statement or plan would contain specific and enforceable commitments that would be beneficial to the United States economy and competitiveness. Examples of such commitments could include manufacturing specific products in the United States, making a specific investment in a new or existing United States manufacturing facility, keeping certain activities based in the United States or supporting a certain number of jobs in the United States related to the technology. DOE may, in its sole discretion, determine that the proposed modification or waiver promotes commercialization and provides substantial United States economic benefits, and grant the request. If granted, DOE will modify the award terms and conditions for the requesting entity accordingly.

More information and guidance on the waiver and modification request process can be found in the DOE Financial Assistance Letter on this topic, available at <https://www.energy.gov/management/pf-2022-09-fal-2022-01-implementation-doe-determination-exceptional-circumstances-under>. Additional information on DOE’s Commitment to Domestic Manufacturing for DOE-funded R&D is available at <https://www.energy.gov/gc/us-manufacturing>.

The U.S. Competitiveness Provision is implemented by DOE pursuant to a Determination of Exceptional Circumstances (DEC) under the Bayh-Dole Act and DOE Patent Waivers. Please refer to the [Title to Subject Inventions](#) section below for more information on the DEC and DOE Patent Waivers.

15. Subject Invention Utilization Reporting

To ensure that recipients, subrecipients, and contractors holding title to subject inventions are taking the appropriate steps to commercialize subject inventions, DOE requires that each recipient,



subrecipient, and contractor holding title to a subject invention submit annual reports from the date the subject invention was disclosed to DOE on the utilization of the subject invention and efforts made by recipient or its licensees or assignees to stimulate such utilization. The reports must include information regarding the status of development, date of first commercial sale or use, gross royalties received by the recipient, and such other data and information as DOE may specify.

16. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at <http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>.

17. Go/No-Go Review

Please refer to the *NOFO Part 1, Award Administration Information--Post-Award Requirements* to determine if a Go/No-go review for each DOE-funded project will be applicable (if “Go/No-Go Review” is not listed in the *Applicable Post-Award Requirements and Administration* table, it is not required).

If applicable, each project selected under the applicable NOFO Part 1 will be subject to a periodic project evaluation referred to as a Go/No-Go Review.

A Go/No-Go Review is a risk management tool and a project management best practice to ensure that, for the current phase or period of performance, technical success is definitively achieved and potential for success in future phases or periods of performance is evaluated, prior to beginning the execution of future phases. At the Go/No-Go decision points, DOE will evaluate project performance, project schedule adherence, the extent milestone objectives are met, compliance with reporting requirements, and overall contribution to the program goals and objectives. Federal funding beyond the Go/No-Go decision point (continuation funding) is contingent upon (1) availability of federal funds appropriated by Congress for the purpose of this program; (2) the availability of future-year budget authority; (3) recipient’s technical progress compared to the Statement of Project Objectives and/or Milestone Summary Table stated in Attachment 1 of the award; (4) recipient’s submittal of required reports; (5) recipient’s compliance with the terms and conditions of the award; (6) DOE’s Go/No-Go decision; (7) the recipient’s submission of a continuation application⁵; and (8) written approval of the continuation application by the Grants Officer.

As a result of the Go/No-Go Review, DOE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding.

The Go/No-Go decision is distinct from a non-compliance determination. In the event a recipient fails to comply with the requirements of an award, DOE may take appropriate action, including but not limited to, redirecting, suspending, or terminating the award.

⁵ A continuation application is a non-competitive application for an additional budget period within a previously approved project period. At least ninety (90) days before the end of each budget period, the recipient must submit its continuation application per the instructions in the award terms and conditions.



18. Conference Spending

The recipient shall not expend any funds on a conference not directly and programmatically related to the purpose for which the grant or cooperative agreement was awarded that would defray the cost to the U.S. government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the U.S. government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such conference.

19. Invoice Review and Approval

DOE employs a risk-based approach to determine the level of supporting documentation required for approving invoice payments. Recipients may be required to provide some or all of the following items with their requests for reimbursement:

- Summary of costs by cost categories;
- Timesheets or personnel hours report;
- If applicable, proof of compliance with the Davis-Bacon Act and electronic submittals of certified payroll reports;
- Invoices/receipts for all travel, equipment, supplies, contractual, and other costs;
- UCC filing proof for equipment acquired with project funds by for-profit recipients and subrecipients;
- Explanation of cost share for invoicing period;
- Analogous information for some subrecipients; and
- Other items as required by DOE.

20. Cost Share Payment

DOE requires recipients to contribute the cost share amount incrementally over the life of the award. The terms and conditions of the award will specify the recipient's cost share interval, such as by billing period or on a budget period basis. The recipient's cost share for each interval must always reflect the overall cost share ratio negotiated by the parties (e.g., the total amount of cost sharing on each invoice when considered cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated). When FFRDC funding will be provided directly to the FFRDC(s) by DOE, recipients will be required to provide project cost share at a percentage commensurate with the FFRDC costs, on a budget period basis, resulting in a higher interim invoicing cost share ratio than the total award ratio.

In limited circumstances, and where it is in the government's interest, the DOE Grants Officer may approve a request by the recipient to meet its cost share requirements on a less frequent basis than required by the terms and conditions of the award. Regardless of the interval requested, the recipient must be up to date on cost share at each interval. Such requests must be sent to the Grants Officer during award negotiations and include the following information: (1) a detailed justification for the request; (2) a proposed schedule of payments, including amounts and dates; (3) a written commitment to meet that schedule; and (4) such evidence as necessary to demonstrate that the recipient has complied with its cost share obligations to date. The Grants Officer must approve all such requests before they go into effect.

21. Notice of Infrastructure Investment and Jobs (IIJA) Act or Inflation Reduction



Act Specific Requirements

Be advised that special terms and conditions apply to projects funded by the IIJA or IRA relating to:

- Reporting, tracking, and segregation of incurred costs;
- Reporting on job creation and preservation;
- Publication of information on the internet;
- Access to records by Inspectors General and the Government Accountability Office;
- Requiring all of the iron, steel, manufactured goods, and construction materials used in the infrastructure activities of applicable projects are produced in the United States;
- Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general;
- Certification and registration;
- Cybersecurity Plan (IIJA only);
- Davis-Bacon Act (IIJA only); and
- Ensuring laborers and mechanics employed by contractors or subcontractors are paid wages equivalent to prevailing wages on similar projects in the area (IRA only).

22. Implementation of Executive Order 13798, Promoting Free Speech and Religious Liberty

States, local governments, and other public entities may not condition subawards in a manner that would discriminate against or otherwise disadvantage subrecipients based on their religious character.

23. Human Subjects Research

Research involving human subjects, biospecimens, or identifiable private information conducted with DOE funding is subject to the requirements of DOE Order 443.1C, Protection of Human Research Subjects, 45 CFR Part 46, Protection of Human Subjects (subpart A which is referred to as the “Common Rule”), and 10 CFR Part 745, Protection of Human Subjects. Additional information on the DOE Human Subjects Research Program can be found at: [HUMAN SUBJECTS Human Subjects Pr... | U.S. DOE Office of Science \(SC\) \(osti.gov\)](#).

B. Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, attached to the award agreement.

DOE must measure the performance to show achievement of program goals and objectives, share lessons learned, improve program outcomes, and foster the adoption of promising practices. DOE will establish program goals and objectives during negotiations and incorporate it into the award terms. To clearly communicate the specific reporting requirements to meet the program goals and objectives in the federal award, DOE combined all reporting into one document, the Federal Assistance Reporting Checklist. This document, attached to the award agreement, provides any expected outcomes (such as outputs, service performance, or public impacts of any of these), indicators, targets, baseline data, or data collections that the applicant will be responsible for measuring and reporting

Additional reporting requirements apply to IIJA and IRA-funded projects.

Refer to the Federal Assistance Reporting Checklist (DOE F 4600.2), attached to the award package, for award-specific reporting requirements



IX. Other Information

A. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all applications received in response to this NOFO and to select any application, in whole or in part, as a basis for negotiation and/or award.

B. Commitment of Public Funds

The Grants Officer is the only individual who can make awards or commit the government to the expenditure of public funds. A commitment by anyone other than the Grants Officer, either express or implied, is invalid.

C. Use and Disclosure of Application Information

Applicants should not include trade secrets or business-sensitive, proprietary, or otherwise confidential information in their application unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the NOFO. Applicants are advised to not include any critically sensitive proprietary detail.

If an application includes trade secrets or business-sensitive, proprietary, or otherwise confidential information, it is furnished to the federal government in confidence with the understanding that the information shall be used or disclosed only for evaluation purposes. For example, DOE may disclose such information to determine whether to select the project for funding under this NOFO or other government programs, or as otherwise authorized by law. This restriction does not limit the federal government's right to use the information if it is obtained from another source.

Applications and other submissions containing trade secrets or business-sensitive, proprietary, or otherwise confidential information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The federal government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose as authorized by law.

1. Notice of Restriction on Use and Disclosure of Information:

Pages [list applicable pages] of this document may contain trade secrets or business-sensitive, proprietary, or otherwise confidential information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes with the restriction that the information be retained in confidence and not be further disclosed, or in accordance with a financial assistance agreement between the submitter and the government. The government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]

In addition, (1) the header and footer of every page that contains trade secrets or business-sensitive, proprietary, or otherwise confidential information must be marked as follows: "CONTAINS TRADE



SECRETS, BUSINESS-SENSITIVE, PROPRIETARY, OR OTHERWISE CONFIDENTIAL INFORMATION EXEMPT FROM PUBLIC DISCLOSURE,” and (2) every line or paragraph containing such information must be clearly marked with double brackets or highlighting. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

All application information is subject to public release under FOIA except information that qualifies under a FOIA exemption. One of the exemptions is trade secrets or commercial or financial information that is confidential or privileged. The above markings are essential to assist DOE in identifying such information that is exempt from public disclosure. However, the existence of the above or other protective markings is not dispositive on whether information is exempt under FOIA; only DOE’s designated FOIA Officer may determine if the information qualifies for a FOIA exemption. See 10 C.F.R. Part 1004 for more information on how DOE processes FOIA requests.

D. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this NOFO include those that describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

E. Notice of Right to Conduct a Review of Financial Capability

DOE reserves the right to conduct an independent third-party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

F. Requirement for Full and Complete Disclosure

Applicants are required to make a full and complete disclosure of all information requested. Any failure to make a full and complete disclosure of the requested information may result in:

- The cancellation of award negotiations;
- The modification, suspension, and/or cancellation of a funding agreement;
- The initiation of debarment proceedings, debarment, and/or a declaration of ineligibility for receipt of federal contracts, subcontracts, and financial assistance and benefits; and
- Civil and/or criminal penalties.

G. Retention of Submissions

DOE expects to retain copies of all applications and other submissions. By applying to DOE for funding, applicants consent to DOE’s retention of their submissions.

H. Title to Subject Inventions

Ownership of subject inventions is governed pursuant to the authorities listed below:



- a. Domestic Small Businesses, Educational Institutions, and Nonprofits: Under the Bayh-Dole Act (35 U.S.C. § 200 et seq.), domestic small businesses, educational institutions, and nonprofits may elect to retain title to their subject inventions.
- b. Domestic Large Businesses: DOE has issued a class patent waiver that applies to this NOFO. Under this class patent waiver, domestic large businesses may elect title to their subject inventions similar to the right provided to the domestic small businesses, educational institutions, and nonprofits by law. To avail itself of the class patent waiver, a domestic large business must agree that any products embodying or produced through the use of a subject invention first conceived or first actually reduced to practice under this program will be substantially manufactured in the United States.
- c. All other parties: The Federal Non-Nuclear Energy Act of 1974, 42 U.S.C. § 5908, provides that the government obtains title to new inventions unless a patent waiver is granted. Applicants not covered by a class patent waiver or the Bayh-Dole Act may request a patent waiver that will cover subject inventions that may be invented under the award, in advance of or within 30 days after the effective date of the award. Even if an advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver for identified inventions, i.e., individual subject inventions that are disclosed to DOE within the timeframes set forth in the award's intellectual property terms and conditions. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.
- d. DEC: On June 07, 2021, DOE approved a Determination of Exceptional Circumstances (DEC) under the Bayh-Dole Act to further promote domestic manufacture of DOE science and energy technologies. In accordance with this DEC, all awards, including subawards, under the applicable NOFO Part 1 shall include the U.S. Competitiveness Provision in accordance with the U.S. Manufacturing Commitments. A copy of the DEC can be found at <https://www.energy.gov/gc/determination-exceptional-circumstances-decs>. Pursuant to 37 CFR 401.4, any nonprofit organization or small business firm as defined by 35 U.S.C. § 201 affected by any DEC has the right to appeal it by providing written notice to DOE within 30 working days from the time it receives a copy of the determination.
- e. DOE may issue and publish further DEC's on the website above prior to the issuance of awards under the applicable NOFO Part 1. DOE may require additional submissions or requirements as authorized by any applicable DEC.

I. Government Rights in Subject Inventions

Where recipients, subrecipients, and contractors retain title to subject inventions, the U.S. government retains certain rights.

1. Government Use License

The U.S. government retains a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world. This license extends to government contractors.

2. March-In Rights



The U.S. government retains march-in rights with respect to all subject inventions. Through “march-in rights,” the government may require a recipient or subrecipient who has elected to retain title to a subject invention (or their assignees or exclusive licensees), to grant a license for use of the invention to a third party. In addition, the government may grant licenses for use of the subject invention when a recipient, subrecipient, or their assignees and exclusive licensees refuse to do so.

DOE may exercise its march-in rights only if it determines that such action is necessary under any of the four following conditions:

- The owner or licensee has not taken or is not expected to take effective steps to achieve practical application of the invention within a reasonable time;
- The owner or licensee has not taken action to alleviate health or safety needs in a reasonably satisfied manner;
- The owner has not met public use requirements specified by federal statutes in a reasonably satisfied manner; or
- The United States manufacturing requirement has not been met.

Any determination that march-in rights are warranted must follow a fact-finding process in which the recipient has certain rights to present evidence and witnesses, confront witnesses and appear with counsel and appeal any adverse decision. To date, DOE has never exercised its march-in rights to any subject inventions.

J. Copyright

The recipient and subrecipient(s) may assert copyright in copyrightable works, such as software, first produced under the award without DOE approval. When copyright is asserted, the government retains a paid-up nonexclusive, irrevocable worldwide license to reproduce, prepare derivative works, distribute copies to the public, and to perform publicly and display publicly the copyrighted work. This license extends to contractors and others doing work on behalf of the government.

K. Export Control

The United States government regulates the transfer of information, commodities, technology, and software considered to be strategically important to the United States to protect national security, foreign policy, and economic interests without imposing undue regulatory burdens on legitimate international trade. There is a network of federal agencies and regulations that govern exports that are collectively referred to as “Export Controls.” All recipients and subrecipients are responsible for ensuring compliance with all applicable United States Export Control laws and regulations relating to any work performed under a resulting award.

The recipient must immediately report to DOE any export control investigations, indictments, charges, convictions, and violations upon occurrence, at the recipient or subrecipient level, and provide the corrective action(s) to prevent future violations.



L. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

As set forth in 2 CFR 200.216, recipients and subrecipients are prohibited from obligating or expending project funds (federal funds and recipient cost share) to procure or obtain covered telecommunications equipment or services; extend or renew a contract to procure or obtain covered telecommunications equipment or services; or enter into a contract (or extend or renew a contract) to procure or obtain *covered telecommunications equipment or services*. As described in Section 889 of Public Law 115-232, covered telecommunications equipment or services is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

See Section 889 of Public Law 115-232, 2 CFR 200.216, and 2 CFR 200.471 for additional information.

M. Personally Identifiable Information (PII)

All information provided by the applicant must to the greatest extent possible exclude PII. “PII” refers to information that can be used to distinguish or trace an individual’s identity, such as their name, Social Security number, or biometric records, alone or combined with other personal or identifying information linked or linkable to a specific individual, such as date and place of birth or mother’s maiden name.

By way of example, applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails. **Under no circumstances should Social Security numbers (SSNs) be included in the application.** Federal agencies are prohibited from the collecting, using, and displaying unnecessary SSNs. (See the Federal Information Security Modernization Act of 2014 (Pub. L. No. 113-283, Dec 18, 2014; 44 U.S.C. § 3551).

N. Annual Independent Audits

If a for-profit entity is a recipient and has expended \$1,000,000 or more of DOE awards during the entity’s fiscal year, an annual compliance audit performed by an independent auditor is required. For additional information, please refer to 2 CFR 910.501 and Subpart F.

If an educational institution, nonprofit organization, or state/local government is a recipient or subrecipient and has expended \$1,000,000 or more of federal awards during the non-federal entity’s fiscal year, a Single or Program-Specific Audit is required. For additional information, please refer to 2 CFR 200.501 and Subpart F.

Applicants and subrecipients (if applicable) should propose sufficient costs in the project budget to cover the costs associated with the audit. DOE will share in the cost of the audit at its applicable cost share ratio.

O. Buy America Preference for Infrastructure Projects

1. Overview

Made law via the passage of the Infrastructure Investment and Jobs Act (P.L. 117-58), the Build America, Buy America Act (“BABA”) mandates that all iron, steel, manufactured products, and construction



materials used in Federally-funded projects meets certain domestic assembly and domestic content requirements. **Applicants are strongly encouraged to read this section carefully, as this requirement may impact project budget and/or timeline; it is crucial that applicants properly understand the requirements of BABA as they scope out their projects.**

As is detailed more thoroughly below, BABA applies to any project that is receiving Federal financial assistance where the prime recipient is a State, local, or tribal government, nonprofit organization, or institution of higher education. It does not apply to projects that have a for-profit organization serving as the prime recipient.

2. Definitions

There are several terms of art that are given specific definitions with respect to the application and execution of BABA. [Full definitions of these terms can be found by following this hyperlink to the relevant section \(2 CFR 184.3\) of the Code of Federal Regulations.](#) Any additional context not present in the Code of Federal Regulations definition for a given term is provided below.

- a. *Buy America Preference* (Sometimes also referred to as the **Buy America Requirement** or **Domestic Content Procurement Preference**). Note that, despite the use of the word “Preference,” this is very much a mandatory compliance requirement. The statute, implementing regulations, and OMB guidance characterize this requirement as the “Buy America Preference,” and so that terminology is reflected here to ensure consistency with the statute and existing guidance.
- b. *Component*
- c. *Construction Materials*
- d. *Infrastructure Project*
- e. *Iron or steel products*
- f. *Manufactured Products*
- g. *Manufacturer*
- h. *Predominantly of iron or steel or a combination of both*
- i. *Produced in the United States* (Sometimes also referred to as the “Domestic Production requirement”)
- j. [Section 70917\(c\) Materials](#) (i.e., certain materials used in construction that are specifically excluded from being categorized as “construction materials”; as such, the Buy America Preference is not applied to these materials).

Additionally, the following terms are not defined in 2 CFR 184.3, but are important for a proper understanding of BABA and its application:

- k. *Project* – means the construction, alteration, maintenance, or repair of public infrastructure in the United States.
- l. *Infrastructure* – Infrastructure includes, at a minimum: the structures, facilities, and equipment for roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; buildings and real property; and structures, facilities, and equipment that generate, transport, and distribute energy, including electric vehicle (EV) charging.



- m. *Public infrastructure* – The Buy America Preference does not apply to non-public (private) infrastructure. For purposes of compliance with BABA, infrastructure should be considered “public” if it is:
- (1) publicly owned (owned, operated, funded and managed, in whole or in part, by any unit or authority of a Federal, State, or Local government-including U.S. Territories and Indian Tribes); or
 - (2) privately owned but utilized primarily for a public purpose. Infrastructure should be considered to be “utilized primarily for a public purpose”, and therefore “public”, if it is privately owned but operated on behalf of the public or is a place of public accommodation.

3. Buy America Preference

The Buy America Preference

Absent an approved waiver, none of the funds provided under a federal award (i.e., whether paid for with federal share or recipient cost-share) may be used for a project for infrastructure unless all iron, steel, manufactured products, and/or construction materials are “produced in the United States.”

In general, applicants should ask the following questions to determine BABA applicability to their award:

1. Is the recipient a State, local, or tribal government; nonprofit organization, or institution of higher education? (If the prime is a for-profit organization, BABA does not apply. Otherwise, move on to question 2);
2. Does the project include the construction, alteration, maintenance, and/or repair of infrastructure in the United States? (“Infrastructure” is defined in the BABA statute and regulations, and is quite broad; although the definition provides several specific items that are considered infrastructure, it also includes broad categories such as “buildings and real property,” which casts a wide net. If the project does not include work on infrastructure, then BABA does not apply. Otherwise, move to question 3);
3. Is the infrastructure in question publicly-owned or privately-owned but utilized primarily for a public purpose? (Anything owned by a public entity is publicly-owned, by definition. “privately owned but utilized primarily for a public purpose” generally means privately-owned infrastructure that is operated on behalf of the public, or that serves as a place of public accommodation. DOE has the final say on this determination, so applicants who do not think their infrastructure is “privately-owned but utilized primarily for a public purpose” should have justifications prepared supporting their determination).

If the answer to the above questions is “yes,” then BABA applies to your project.

If a determination is made that BABA will apply to a project, recipients must then ensure that all iron, steel, manufactured products, and construction materials used in the project are “produced in the United States.” Standards to satisfy this requirement differ based on the category a given material falls under:



- a. All iron and steel used in the project is produced in the United States—this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
- b. All manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation. (**Note:** [2 CFR 184.5](#) provides specific guidance for determining the cost of components for manufactured products); and
- c. All construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. (**Note:** [2 CFR 184.6](#) provides additional standards that must be satisfied for some specified construction materials in order for those materials to be considered “produced in the United States”).

Recipients are responsible for administering their award in accordance with the terms and conditions, including the Buy America Preference. The recipient must ensure that the Buy America Preference flows down to all subawards and that the subawardees and subrecipients comply with the Buy America Preference. The Buy America Preference term and condition must be included all sub-awards, contracts, subcontracts, and purchase orders for work performed under the infrastructure project.

Specific Application of the Preference

The Domestic Production requirement only applies to the iron or steel products, manufactured products, and construction materials used for the construction, alteration, maintenance, or repair of public infrastructure in the United States. Only items that are consumed in, incorporated into, or permanently affixed to the infrastructure in the project are required to meet the “produced in the United States” requirements. As such, this requirement does not apply to tools, equipment, and supplies - such as temporary scaffolding - brought into the construction site and removed at or before the completion of the infrastructure project. This is likewise applicable to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

Section 70917(c) Materials

The BABA Statute at Section 70917(c) provides a list of materials which are specifically excluded from categorization as “construction materials,” and therefore may be used without meeting the relevant “produced in the United States” standard.

Generally referred to as “Section 70917(c) Materials,” these are:

- cement and cementitious materials;
- aggregates such as stone, sand, or gravel; or
- aggregate binding agents or additives as provided in Section 70917(c) of BABA.



Asphalt concrete pavement mixes are typically composed of asphalt cement (a binding agent) and aggregates such as stone, sand, and gravel. Accordingly, asphalt is also excluded from the definition of Construction materials.

[Section 70917\(c\)](#) materials, on their own, are not manufactured products. Further, [Section 70917\(c\)](#) materials should not be considered manufactured products when they are used at or combined proximate to the work site—such as is the case with wet concrete or hot mix asphalt brought to the work site for incorporation. However, certain [Section 70917\(c\)](#) materials (such as stone, sand, and gravel) may be used to produce a manufactured product, such as is precast concrete. Precast concrete is made of components, is processed into a specific shape or form, and is in such state when brought to the work site. Furthermore, wet concrete should not be considered a manufactured product if not dried or set prior to reaching the work site.

Further clarification is provided in 2 CFR 184 on the circumstances under which a determination is made that [Section 70917\(c\)](#) materials should be treated as components of a manufactured product. That determination is based on consideration of: (i) the revised definition of the “manufactured products” at [2 CFR 184.3](#); (ii) a new definition of “[Section 70917\(c\)](#) materials” at [2 CFR 184.3](#); (iii) new instructions at [2 CFR 184.4\(e\)](#) on how and when to categorize articles, materials, and supplies; and (iv) new instructions at [2 CFR 184.4\(f\)](#) on how to apply the Buy America preference by category.

Certification of Compliance

Recipients must request a certification from a product manufacturer that the iron, steel, manufactured product or construction material they are acquiring from the manufacturer were “produced in the United States” (i.e., that they meet the requisite standards outlined at the beginning of Section 3, above). DOE will not provide any sort of “certification template” for this purpose; recipients are responsible for ensuring that a certification contains enough information that it properly validates the BABA compliance of the item(s) listed within the certification.

Although DOE does not require a specific format for the certification, the following elements must be present:

- A listing of all products covered by the certification, including their category (e.g., iron, steel, manufactured product, or construction material);
- A recitation of the relevant “produced in the United States” standard for any categories (iron, steel, manufactured product, or construction material) provided in the above list, to ensure the manufacturer properly understands the standards to be met;
- A clear statement that the products listed meet the relevant “produced in the United States” standard(s);
- A signature from an authorized representative of the manufacturer certifying the contents of the compliance statement; and
- Any other information the recipient deems necessary for the certification to demonstrate compliance with the BABA requirements.

Recipients must also maintain certifications or equivalent documentation for proof of compliance that those articles, materials, and supplies that are consumed in, incorporated into, affixed to, or otherwise used in the infrastructure project, not covered by a waiver or exemption, are produced in the United States. The certification or proof of compliance must be provided by the suppliers or manufacturers of



the iron, steel, manufactured products and construction materials and flow up from all subawardees, contractors and vendors to the recipient. Recipients must keep these certifications with the award/project files and be able to produce them upon request from DOE, auditors or Office of Inspector General.

Waivers

When necessary, recipients may apply for, and DOE may grant, a waiver from the Buy America Preference. In general, DOE will not review or consider waiver requests from applicants. Waiver requests are subject to review by DOE and the Office of Management and Budget, as well as a public comment period of no less than 15 calendar days.

Waivers must be based on one of the following justifications:

- Public Interest- Applying the Buy America Preference would be inconsistent with the public interest;
- Non-Availability- The types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
- Unreasonable Cost- The inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

Additional information on the submission and processing of a waiver request will be provided to applicants whose applications are selected for award negotiations. Alternatively, applicants can find more information about the process on DOE's [Build America, Buy America home page](#).

Q. Acronyms

Acronym Spelled Out		Acronym Spelled Out	
ANC	Alaska Native Corporation	NHPA	National Historic Preservation Act
BABA	Build America, Buy America Act	NOFO	Notice of Funding Opportunity
COI	Conflict of Interest	NSF	National Science Foundation
CRADA	Cooperative Research and Development Agreement	OFCCP	Office of Federal Contractor Compliance Programs
DBA	Davis-Bacon Act	OIG	Office of Inspector General
DEC	Determination of Exceptional Circumstances	OMB	Office of Management and Budget
DMP	Data Management Plan	OTA	Other Transactions Authority
DOE	United States Department of Energy	PII	Personally Identifiable Information
DOI	Digital Object Identifier	RD&D	Research, Development, and Demonstration
DOL	United States Department of Labor	RTES	Research, Technology, and Economic Security
EO	Executive Order	SAM	System for Award Management
FCOI	Financial Conflicts of Interest	SciENCv	Science Experts Network Curriculum Vita



FFATA	Federal Funding and Transparency Act of 2006	SMART	Specific, Measurable, Achievable, Relevant, and Timely
FFRDC	Federally Funded Research and Development Center	SOPO	Statement of Project Objectives
IIJA	Infrastructure Investment and Jobs Act	STEM	Science, Technology, Engineering, and Mathematics
IRA	Inflation Reduction Act	UCC	Uniform Commercial Code
NDA	Non-Disclosure Acknowledgement	UEI	Unique Entity Identifier
NEPA	National Environmental Policy Act	WP	Work Proposal