

SIGNATURE PAGE

ARCHES H2 LLC Subrecipient Agreement

Subrecipient Information	
<i>Prime Recipient</i>	ARCHES H2 LLC
<i>Prime Award No.</i>	DE-CD0000041
<i>Subaward No.</i>	36
<i>Modification No.</i>	
<i>Prime Agreement Type</i>	Cooperative Agreement
<i>Sponsoring Federal Office</i>	Office of Clean Energy Demonstrations (OCED) U.S. Department of Energy 1000 Independence Ave, SW Forrestal Building, CD-1, Washington DC, 20585
<i>Authority</i>	Bipartisan Infrastructure Bill (BIL) EPACT 2005
<i>Effective Date</i>	July 17, 2024
<i>Awarded To (Subrecipient Name)</i>	City of Los Angeles Harbor Department
<i>Subrecipient Business Address</i>	425 S Palos Verdes St. San Pedro, CA 90731
Subrecipient Signature	
<i>Sign Here</i>	
<i>Name and Title of signee</i>	
<i>Date</i>	
ARCHES Representative Signature	
<i>Sign Here</i>	
<i>Name and Title of signee</i>	
<i>Date</i>	

ATTACHMENT 2
RESERVED

ATTACHMENT 3
Agreement Terms and Conditions

COVER PAGE

ARCHES H2 LLC Subaward # 36

<i>Prime Recipient/Pass-Through Entity</i>	ARCHES H2 LLC
<i>ARCHES H2 LLC UEI</i>	RM6LVS8DM9T9
<i>Contact Information for ARCHES H2 LLC Awarding Official</i>	Angelina Galiteva angelina.galiteva@arches.org
<i>Subrecipient Name</i>	City of Los Angeles Harbor Department
<i>Subrecipient UEI</i>	DBSHZ2LVFAE6
<i>Subrecipient Business Type</i>	
<i>Federal Award Identification Number</i>	DE-CD0000041
<i>Federal Award Date</i>	07/17/2024 through 12/31/2033
<i>Subaward Number</i>	36
<i>Subaward Period of Performance Start and End Date</i>	07/17/2024 through 12/31/2033
<i>Subaward Budget Period Start and End Date</i>	07/17/2024 through 03/31/2026
<i>Amount of Federal Funds Obligated to Subrecipient by the Current Action (Estimated)</i>	\$0
<i>Total Amount of Federal Funds Obligated to Subrecipient to Date (Estimated)</i>	\$0
<i>Total Amount of Federal Award Committed to Subrecipient (Estimated)</i>	\$50,000,000
<i>Federal Award Project Description</i>	Development and implementation of hydrogen hub in California
<i>Name of Federal Awarding Agency</i>	U.S. Department of Energy
<i>Assistance Listings Number and Title</i>	81.255 Regional Clean Hydrogen Hubs
<i>R&D Award?</i>	No

ARCHES H2 LLC Subrecipient Agreement

ARCHES H2 LLC, otherwise known as the Alliance for Renewable Clean Hydrogen Energy Systems (“ARCHES,” “Recipient,” or “Prime Recipient”), and the Office of Clean Energy Demonstrations (“OCED”), an office within the United States Department of Energy (“DOE”), have entered into Cooperative Agreement No. DE-CD0000041 (“Award”). Pursuant to the Award, the Prime Recipient hereby enters into this subaward (“Subaward”) with City of Los Angeles Harbor Department (“Subrecipient”). ARCHES and the Subrecipient may be referred to hereinafter individually as a “Party” or collectively as the “Parties.”

This Subaward is governed by the following documents, which together constitute the Subrecipient Agreement (“Agreement”):

Assistance Agreement	Agreement Form and Signature Page
Attachment 1	Subaward Cover Page
Attachment 2	Reserved
Attachment 3	(1) DOE Standard terms and Conditions; (2) DOE Award-Specific Terms and Conditions; (3) ARCHES Terms and Conditions
Attachment 4a	Statement of Work
Attachment 4b	Go/No-Go Table
Attachment 4c	[Reserved]
Attachment 4d	Data Needs
Attachment 4e	Out-of-Scope Details
Attachment 5	Intellectual Property Provisions
Attachment 6	Federal Assistance Reporting Checklist
Attachment 7	Phase 1 Budget Information

The Subrecipient agrees to comply with the terms and conditions of the Subaward as captured in this Agreement. The Subrecipient also agrees to apply all applicable terms and conditions of this Agreement to its lower-tier subrecipients (if any) and subcontractors (if any) and to require their strict compliance therewith.

Failure to comply with the terms and conditions of this Subaward may result in the imposition of additional conditions to the Subaward by the Prime Recipient pursuant to 2 CFR. § 200.208. If ARCHES or OCED determines that noncompliance cannot be remedied by imposing additional conditions, ARCHES or OCED may temporarily withhold or disallow reimbursement of costs, suspend or terminate the Subaward, and/or exercise other available remedies under 2 CFR. § 200.339.

The terms of 2 CFR Part 200, as supplemented by 2 CFR Part 910, apply to this Subaward.

The Subaward is subject to the following specifically elaborated terms and conditions.

Section 1: DOE Standard Terms and Conditions

General

Term 1. Legal Authority and Effect

This Subrecipient Agreement is valid only if it is in writing and is signed, either in writing or electronically, by an ARCHES Representative, or other ARCHES authorized signatory.

The Subrecipient is free to accept or reject this Subaward. Execution of this Agreement by the Subrecipient's authorized representative constitutes Subrecipient's acceptance of this Subaward.

Term 2. Incorporation by Reference and Definitions

The following are incorporated into this Subrecipient Agreement by reference:

- Financial Assistance Regulations: 2 CFR Part 200 and 2 CFR Part 910.
- The Reporting of Matters Related to Subrecipient Integrity and Performance Requirements Term in Appendix XII of 2 CFR Part 200.
- National Policy Requirements, available at <https://www.energy.gov/oced/Subaward-negotiations>.

For the purposes of the Subaward, the following definitions apply:

“Disadvantaged communities” means the census tracts that are defined and identified by the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool (CEJST) and all Federally Recognized Tribes and Tribal entities. For additional information about the Justice40 Initiative and the CEJST, please reference DOE’s Justice40 General Guidance. The Justice40 Initiative directs that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution. For information about whether a particular DOE program is covered under the Justice40 Initiative, see the White House’s Justice40 Initiative webpage and DOE’s Justice40 Initiative list of covered programs. For more information regarding the Justice40 Initiative, see Executive Order 14008 entitled “Tackling the Climate Crisis at Home and Abroad,” as well as Justice40 Initiative interim guidance by the White House Office of Management and Budget, White House Council on Environmental Quality, and White House Climate Policy Office, Memoranda # M-21-28 and M-23-09.

“Underrepresented” refers to communities or populations sharing a particular characteristic, as well as geographic communities, that are shown to have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by communities that have been denied fair, just, and impartial treatment, which may include Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; persons otherwise adversely affected by persistent poverty or inequality; women and veterans.

Term 3. Flow Down Requirement

The Subrecipient must apply the terms and conditions of this Subaward to all lower-tier Subrecipients (and contractors, as applicable). See 2 CFR § 200.332; 2 CFR § 200.101(b)(2).

Term 4. Resolution of Potentially Conflicting Conditions

The Subrecipient should promptly refer any questions about the application of a specific law, regulation, policy, term, or other requirement to the ARCHES Representative for clarification. The ARCHES Representative may require the Subrecipient to submit any of these questions in writing.

The Subrecipient must promptly refer any apparent inconsistency between Federal law(s) and regulation(s) and the requirements of this Subaward to the ARCHES Representative in writing for resolution. The Subrecipient must provide a detailed description of the apparent inconsistency.

Term 5. Compliance with Federal, Tribal, State, and Local Laws

The Subrecipient must comply with all applicable Federal, Tribal, State, and Local laws and regulations for all activities performed under this Subaward.

If any activities anticipated to take place under this Agreement could potentially impact the resources or reserved rights of Indian Tribe(s), as defined in 25 U.S.C. § 5304 (e), then the Subrecipient agrees to develop and maintain active and open communications with the potentially impacted Indian Tribe(s), during the period of performance of the Subaward, and, if necessary, after the end of the Subaward. The Subrecipient must obtain approval from ARCHES before any activities take place 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. The Subrecipient must coordinate with ARCHES on all Tribal interactions. DOE will determine if formal government-to-government consultation is needed, and if so, DOE will conduct that consultation.

Term 6. Permits and Approvals

The Subrecipient is required to obtain and maintain all applicable permits, licenses, authorizations, and approvals for activities under this Subaward.

Term 7. Senior and Key Personnel

The Subrecipient must notify ARCHES of changes in Subrecipient project personnel who may interface with DOE in connection with this Subaward, such as the Subrecipient Project Manager or equivalent.

Term 8. Project Management Plan

The Subrecipient must develop and regularly maintain, update, and implement the Project Management Plan (“PMP”), as requested by ARCHES.

Term 9. Community Benefits Implementation

The Subrecipient must implement the Sub-Project's Community Benefits Plan objectives and commitments.

DOE’s or ARCHES’s review, comments, or feedback provided to the Subrecipient do not constitute an endorsement of any specific elements in the proposed approach and such feedback should not be referenced or used in marketing or promotional materials.

Term 10. Cybersecurity Plan

The Office of Cybersecurity, Energy Security, and Emergency Response (“CESER”) is responsible for coordinating cybersecurity project plans for certain Infrastructure Investment and Jobs Act (“IIJA”) provisions. CESER may coordinate with DOE National Laboratory subject matter experts to provide support activities to help the Subrecipient maintain or improve the project’s cybersecurity over its lifecycle.

The Subrecipient is responsible for maintaining and improving the Subrecipient’s project cybersecurity during the life of the Subaward. The Subrecipient must submit a Cybersecurity Plan that meets DOE’s and ARCHES’ requirements.

DOE or ARCHES may require the Subrecipient to respond to DOE’s and ARCHES’ feedback on the Cybersecurity Plan, submit updates or revisions to the Cybersecurity Plan, and attend Cybersecurity Plan lifecycle support meetings with DOE or ARCHES.

The Subrecipient must submit the Cybersecurity Plan and any updates or revisions to the Cybersecurity Plan securely in the form and manner specified by DOE or ARCHES.

DOE’s or ARCHES’s review, comments, or feedback provided to the Subrecipient do not constitute an endorsement or approval of any specific elements within the Cybersecurity Plan or the proposed security approach, and such feedback should not be referenced or used in marketing or promotional materials. All Cybersecurity Plans and deliverables are exempt from disclosure under the Freedom of Information Act (5 U.S.C. § 552) pursuant to Section 40126(e). This exemption is limited to information provided to or collected by the Federal government as described in Pub. L. 117-58 § 41026, 42 U.S.C. § 18725.

Term 11. Project and Budget Changes

The Subrecipient must obtain prior written approval from the ARCHES Representative for project and budget changes as stated in 2 CFR § 200.308.

In addition, per 2 CFR § 200.308(f), DOE is electing to restrict the transfer of funds among direct cost categories. The Subrecipient is required to receive prior approval from DOE (through ARCHES) if the cumulative amount of the transfer exceeds or is expected to exceed 10 percent of the total budget for the budget period, including cost share, as last approved by DOE. *See also* Award-Specific Terms and Conditions, Term 5.3 and ARCHES Terms and Conditions, Term 5.

Term 12. Pre-Procurement Reviews

Prior to executing a contract as described in 2 CFR § 200.325(b)(1)-(5), the Subrecipient must provide to ARCHES and/or DOE, as requested, all relevant procurement documents related to that contract. Relevant procurement documents include, but are not limited to, a description of the supplies or services required, proposed type of contractual arrangement to be issued, requests for proposals, invitations for bid, cost estimates, proposals or bids, and price or cost analysis of proposals or bids.

DOE or ARCHES may require changes or incorporation of DOE's or ARCHES' feedback prior to executing the contract. DOE's or ARCHES' review does not constitute a determination by DOE or ARCHES of the allowability of any cost under the contract. DOE and ARCHES will not review contracts for legal sufficiency.

The Subrecipient is exempt from the pre-procurement review in 2 CFR § 200.325(b) if DOE or ARCHES determines that the Subrecipient's procurement systems comply with the standards of 2 CFR Part 200 Subpart D. The Subrecipient may request that DOE or ARCHES review its procurement system consistent with 2 CFR § 200.325(c)(1). The Subrecipient may self-certify its procurement system consistent with 2 CFR § 200.325(c)(2).

Term 13. Subawards

The Subrecipient is required to obtain prior written approval from the ARCHES Representative prior to issuance of any lower-tier subaward. These requests must be in writing, and must, at a minimum, include the following:

1. A detailed description of the work to be performed, the service(s) to be provided, and/or the equipment to be purchased;
2. Budget and budget justification;
3. Cost share commitment letter if the subrecipient is providing cost share;
4. A completed Environmental Considerations Summary or similar document or a statement that such documents are inapplicable;
5. An assurance that the subrecipient is not a debarred or suspended entity;
6. An assurance that all required subaward provisions will be flowed down in the resulting subrecipient agreement(s); and
7. An assurance that no potential, actual, or apparent conflict of interest exists between the Subrecipient and the selected subrecipient and that the Subrecipient's written standards

of conduct were followed. The existence of a “covered relationship” as defined in 5 CFR § 2635.502 between a member of the Subrecipient’s ownership or senior management and a member of a subrecipient’s ownership or senior management creates an apparent conflict of interest. In such an event, the Subrecipient must notify the ARCHES Representative and provide detailed information, justification, and mitigation measures to ensure there is no actual conflict of interest.

The Subrecipient must also notify the ARCHES Representative of any new subrecipient agreement with:

1. an entity that is owned or otherwise controlled by the Subrecipient;
2. an entity that is owned or otherwise controlled by another entity that also owns or otherwise controls the Subrecipient; or
3. an entity that is owned or otherwise controlled by a board member, principal, or executive of the Subrecipient.

The Subrecipient is responsible for complying with 2 CFR § 200.332. The Subrecipient is responsible for monitoring the activities of all lower-tier subrecipients as necessary to ensure that the subaward is used for authorized purposes and is in compliance with applicable laws, regulations, and the terms and conditions of the Subaward. The Subrecipient is also responsible for ensuring that lower-tier subrecipients maintain all necessary documentation for the same retention period as the Subrecipient’s retention period. The Subrecipient must make all documentation available to ARCHES or DOE upon request. The Subrecipient shall include subaward activities in the project reports that are submitted to ARCHES and DOE.

Term 14. [Go/No-Go Reviews and Continuation Decisions](#)

DOE will conduct a Go/No-Go Review (“Continuation Review”) of each Subrecipient’s project (“Sub-Project”) to determine whether to fund the next phase of the Sub-Project (“Continuation Decision”). DOE will review each Sub-Project separately and individually, including in respect of the Hub-level activities, so that it may advance Sub-Projects to subsequent phases on separate timelines from the other Sub-Projects.

Continuation Application

The Subrecipient must submit to ARCHES a draft continuation application in writing for each Sub-Project at least 120 calendar days before the end of the relevant Sub-Project phase, and a final version at least 60 calendar days before the end of the relevant Sub-Project phase.

Each continuation application must include the following:

- A. The Deliverables listed in the ‘Deliverable’ column of the Go/No-Go Table (Attachment 4b “Go/No-Go Table”) with respect to the applicable Sub-Project. Exceptions are noted in 4b.
- B. An estimate of any balance of Federal cost share for each such Sub-Project that is not anticipated to be drawn down at the end of the applicable Sub-Project’s Phase. If there is a remaining balance for such Sub-Project for such phase, the Subrecipient must provide an explanation on how the Subrecipient proposes to use the funds in subsequent phases.
- C. Evidence that sufficient funds are available to meet the cost share requirements for the applicable Sub-Project’s subsequent phase as well as documentation of access to any required reserves.
- D. Revised Budget Submission and supporting justification for the applicable Sub-Project’s upcoming phase, which may include the Subrecipient’s budgets and justifications, as

- applicable.
- E. An update to the PMP and associated attachments for the applicable Sub-Project's next phase.
 - F. Each Sub-Project will prepare an Environmental Information Volume ("EIV") or Environmental Considerations Summary ("ECS"), if determined appropriate by DOE. The Sub-Project will submit a complete EIV (or ECS) to ARCHES for DOE approval.
 - G. Information pertaining to any other requirements identified in the Subaward.

Information Pertaining to Any Other Requirements Identified in the Award.

The Subrecipient may provide additional documents and information to ARCHES to demonstrate that the Go/No-Go Criteria in 4b have been met. ARCHES may request additional documents and information and may consider other documents and information to inform DOE's Continuation Decision.

Sub-Projects that will be developed in multiple stages or deployments (e.g., multiple procurements of buses or trucks over time, or multiple deployments of refueling stations over time) can proceed to the next phase once the initial stage or deployment satisfies the Go/No-Go Criteria for that Sub-Project. DOE may use multiple Budget Periods so that budget amounts corresponding to subsequent stages or deployments are withheld until DOE determines that the stated criteria for proceeding to the next budget period have been satisfied.

Go/No-Go Review and Continuation Decision

ARCHES will communicate to the Subrecipient DOE's view of the Sub-Project's progress and readiness to proceed prior to the end of the phase. Certain Go/No-Go Criteria may not apply to a Sub-Project given the specific nature of the Sub-Project.

Upon the Subrecipient's submission of the continuation application for a Sub-Project, ARCHES will submit the package to DOE, which will conduct a review to evaluate the Sub-Project's deliverables, performance, and readiness to continue to the next phase. DOE may require a review meeting with ARCHES and the Subrecipient conducting the Sub-Project.

DOE will base each Continuation Decision on the following Continuation Criteria:

1. Availability of Federal appropriations, program authority, and future-year budget authority for the purpose of the program;
2. The Sub-Project's satisfactory progress towards the Sub-Project's scope and identified milestones and deliverables, as well as consideration of the Sub-Project's assessment regarding cost, performance, and schedule;
3. The criteria ("Go/No-Go Criteria") set forth under the column of Success Criteria/Metrics in the Go/No-Go Table attached to this Agreement;
4. The Subrecipient's submittal of required information and reports identified in the Federal Assistance Reporting Checklist (FARC), as it pertains to the Sub-Project subject to a Continuation Decision;
5. The Sub-Project's compliance with the terms and conditions of the Subaward;
6. The Sub-Project's viability to proceed, as demonstrated by:
 - a. Fulfillment of the cost share requirements for the current phase;
 - b. Evidence that sufficient funds are available to meet the cost share requirements for the next phase;
 - c. Documentation of access to any required reserves; and

- d. The Sub-Project's continuing to support Programmatic Goals and to be economically viable.

DOE has agreed to work in good faith to review Sub-Project continuation applications and make associated continuation decisions in a timely manner as Sub-Project deliverables and National Environmental Policy Act ("NEPA") compliance are satisfied.

Outcomes of Continuation Decisions

DOE may conclude, based on this assessment, that the Sub-Project has:

1. Successfully met the Continuation Criteria and will proceed to its next phase;
2. Not successfully met the Continuation Criteria and is not ready to proceed to its next phase. In any such case, the Sub-Project will be provided with a reasonable period of additional time to demonstrate successful completion of the Continuation Criteria and schedule a follow-up completion meeting when the Continuation Criteria are satisfactorily met;
3. Not successfully met the Continuation Criteria but can proceed to its next phase, subject to conditions. In any such case, DOE will specify the conditions on which the Sub-Project can proceed to its next phase, and the Subrecipient will agree to complete the agreed upon actions to successfully meet the Continuation Criteria within a certain timeframe; or
4. Not successfully met the Continuation Criteria and there is no reasonable prospect of the Sub-Project's meeting the Continuation Criteria in a reasonable timeframe, and it therefore will not advance to future phases of the Subaward. Such final determinations will be treated as withdrawals from the Hub for the Sub-Project, subject to completion of close-out requirements.

The ARCHES Representative will communicate to the Recipient the results of each Continuation Decision by DOE in writing.

In the event that a Sub-Project does not continue to the next phase, the Subrecipient must still submit the most updated version of the deliverables for the Sub-Project's current phase in order to close out the Sub-Project and to issue any final reimbursements to the Subrecipient for the Sub-Project.

Each decision by DOE whether to authorize and fund future phases is separate and distinct. Neither ARCHES nor any Subrecipient has any entitlement to any authorization for Federal funding of activities beyond the current phase.

Financial

Term 15. Cost Sharing

A. Subrecipient Cost Sharing Obligations

The Subrecipient must provide at least its share of total project costs (“Subrecipient cost share”) for the entire Period of Performance of the Award and for each Budget Period as specified in the Subaward. ARCHES’ contribution of funds for the entire Period of Performance of the Award and for each Budget Period is limited as specified in the Subaward. ARCHES will not provide funding in addition to what is specified in the Subaward and will not move ARCHES funding anticipated for any future Budget Period into the current Budget Period.

B. Cost Sharing Records

The Subrecipient must retain records of all project costs that are claimed as Subrecipient cost share, as well as records of costs to be reimbursed by ARCHES under the Award with DOE. These records are subject to audit. If the Subrecipient cost share includes in-kind contributions, the Subrecipient must document the basis for determining the valuation of the in-kind contributions.

C. Inability to Meet Cost-Sharing Obligations

If the Subrecipient determines that it is or may become unable or unwilling to meet its cost-sharing obligations, the Subrecipient must notify the ARCHES Representative in writing immediately. The notification must include at least the following information: (1) whether the Subrecipient intends to continue with the Subaward, and (2) if the Subrecipient intends to continue with the Subaward, a plan for how the Subrecipient will provide (and secure replacement funding for, if applicable) the Subrecipient cost share.

Should ARCHES and DOE agree to the Subrecipient’s plan, the ARCHES Representative will modify the Subaward accordingly, including, if appropriate, adjusting the total amount of DOE funding. If ARCHES or DOE finds the Subrecipient’s proposed plans unacceptable, they may terminate or decide not to continue funding the Subaward.

If the Subrecipient fails to meet its cost-sharing obligations, ARCHES may recover some or all of the funds provided under this Subaward.

Term 16. Refund Obligation

The Subrecipient must refund any excess payments received from ARCHES under its Award with DOE, including any costs determined unallowable by the ARCHES Representative or by DOE.

Term 17. Allowable Costs

ARCHES and DOE will determine the allowability of costs under this Subaward in accordance with 2 CFR Part 200 and 2 CFR Part 910. The Subrecipient must document and maintain records of all project costs, including, but not limited to, the costs paid by Federal funds, costs claimed by its lower-tier Subrecipients, and project costs that the Subrecipient claims as cost sharing, including in-kind contributions.

The Subrecipient is responsible for maintaining records adequate to demonstrate that costs claimed have been incurred, are reasonable, allowable, and allocable, and comply with the appropriate cost principles. Upon ARCHES' or DOE's request, the Subrecipient must provide such records to ARCHES or DOE. These records are subject to audit. The Subrecipient's failure to provide adequate supporting documentation may result in a determination by the ARCHES Representative or by DOE that those costs are unallowable.

Term 18. Use of Program Income

Consistent with 2 CFR 200.1 and 2 CFR 200.307:

- (a) Program income does not include tax credits, including elective pay or transferable tax credits or Environmental Attribute Credits earned by the Recipient.
- (b) Consistent with 2 CFR 200.307(e), approval is hereby given to use program income to increase the total amount of funds committed to the Award or to meet cost share obligations.
- (c) For purposes of 2 CFR 200.307(d), "costs incidental to the generation of program income" may include, but are not limited to, operating and maintenance costs, debt service, required reserves and other payments or reserves required by third-party lenders, provided these costs have not been charged to the Federal Award."

Term 19. Insolvency, Bankruptcy, or Receivership

The Subrecipient must immediately, but no later than two (2) calendar days after, notify the ARCHES Representative of the occurrence of any of the following events: (i) filing by the Subrecipient or its parent entity(ies) of a voluntary case seeking liquidation or reorganization under the Bankruptcy Code (11 USC §§ 101-1532); (ii) the Subrecipient's consent to the institution of an involuntary case under the Bankruptcy Code against the Subrecipient or its parent entity(ies); (iii) the filing of any similar proceeding for or against the Subrecipient or its parent entity(ies), or its or their consent to the dissolution of, winding-up or readjustment of debts, appointment of a receiver, conservator, trustee, or other officer with similar powers over the Subrecipient or its parent entity(ies) under any other applicable state or Federal law; or (iv) insolvency of the Subrecipient or its parent entity(ies) due to the inability to pay debts generally as they become due.

Term 20. Audits

A. Annual Independent Audit (Single Audit or Compliance Audit)

The Subrecipient must comply with the annual independent audit requirements in 2 CFR Part 200 Subpart F for entities other than for-profit organizations (Single Audit) and 2 CFR Part 910 Subpart F

-Profit Organizations (Compliance Audit).

The annual independent audits are separate from Government-initiated audits discussed in part B of this Audits Standard Term and Condition.

To minimize expense, the Subrecipient may conduct a Single Audit, Compliance Audit, and/or Incurred Cost Audit in conjunction with its annual audit of financial statements. However, the annual audit of financial statements will not be accepted as a substitute for the Single Audit, Compliance Audit, or Incurred Cost Audit.

B. Government-Initiated Audits

The Subrecipient must provide any information, documents, site access, or other assistance required by ARCHES, DOE, or Federal auditing agencies (e.g., DOE Inspector General, Government Accountability Office, Department of Justice) for the purpose of audits and investigations. Such assistance may include, but is not limited to, reasonable access to the Subrecipient's records relating to this Subaward.

Consistent with 2 CFR Part 200 and 2 CFR Part 910, ARCHES or DOE may audit the Subrecipient's financial records or administrative records relating to this Subaward at any time, including records of lower-tier subrecipients. Government-initiated audits under this Subaward are generally paid for by DOE. Government-initiated audits can include but are not limited to accounting system audits and incurred cost audits.

Upon completion of an audit, the Subrecipient may be required to refund to ARCHES any payments for costs that were determined to be unallowable or may provide a corrective action plan. If the audit has not been performed or completed prior to the closeout of the Subaward, ARCHES retains the right to recover an appropriate amount after fully considering the recommendations on disallowed costs resulting from the final audit.

DOE will provide reasonable advance notice of government-initiated audits and will minimize interference with ongoing work to the extent practicable.

C. Accounting System Audit

In accordance with 2 CFR Part 200 and 2 CFR Part 910, DOE and ARCHES reserve the right to initiate an accounting system audit. The Subrecipient is required to maintain an accounting system with records that adequately reflect the costs charged to the Subaward and the nature and extent of the cost contribution. DOE and ARCHES may require the accounting system audit any time during the Period of Performance. DOE and ARCHES will make reasonable efforts to notify the Subrecipient prior to any accounting system audit. DOE will cover the cost of any accounting system audits.

D. Incurred Cost Audit and Final Incurred Cost Audit

In accordance with 2 CFR Part 200 and 2 CFR Part 910, DOE and ARCHES reserve the right to initiate an incurred cost audit on this Subaward to monitor project costs. The incurred cost audit may be required annually, during, or after a specific phase of the project (e.g., construction). DOE and ARCHES will make reasonable efforts to notify the Subrecipient prior to any incurred cost audit. DOE will cover the cost of any incurred cost audit.

If the final incurred cost audit has not been performed or completed prior to the closeout of the

Subaward, ARCHES retains the right to recover an appropriate amount after fully considering the recommendations on disallowed costs resulting from the final incurred cost audit.

Term 21. Contingency

The Subrecipient must account for reasonably foreseeable potential risks, uncertainty of estimates, and cost overruns in its budget estimates.

Administrative

Term 22. Independent Cost Reviews and Independent Cost Estimates

DOE or ARCHES may conduct Independent Cost Reviews (“ICR”) and Independent Cost Estimates (“ICE”) or other cost estimate reviews to assess and validate the Subrecipient’s cost estimates at any time during the Subaward.

The Subrecipient must develop its cost estimates consistent with the following standards and guidance as appropriate, and DOE and ARCHES will use these standards and guidance in its evaluation of Subrecipient cost estimates:

1. Association for the Advancement of Cost Engineering (“AACEI”) Recommended Practice (“RP”) 17R-97, Cost Estimate Classification System;
2. AACEI RP 18R-97, Cost Estimate Classification System – as Applied in Engineering, Procurement, and Construction for the Process Industries; and
3. Government Accountability Office (“GAO”) Guide GAO-20-195G, Cost Estimating and Assessment Guide, March 1, 2020.

If there is a potential conflict between these guidance documents, the Subrecipient should follow the GAO Cost Estimating and Assessment Guide as appropriate.

DOE and ARCHES will require the Subrecipient to submit information needed for DOE or ARCHES to conduct an ICR, ICE, or other cost estimate review. DOE will provide written instructions on required submissions. DOE may require information including, but not limited to, the following:

1. Executive Summary
2. Estimate Purpose
3. Technical Baseline Description
4. Cost Estimating Plan and Cost Model
5. Work Breakdown Structure (“WBS”) and WBS Dictionary
6. Current Schedule and Cost Estimate files with reference data
7. Basis of Estimate, including supporting methodologies and assumptions
8. Sensitivity Analysis
9. Current Risk Register, including cost and schedule risk and uncertainties.

Term 23. Subrecipient Inspection Requirements

The Subrecipient is responsible for performing any needed inspections, tests, start-up, commissioning, and other related activities under this Subaward.

The Subrecipient must maintain inspection system(s) acceptable to DOE and ARCHES that covers the activities under this Subaward. DOE or ARCHES may perform technical inspections and specialized inspections or tests as DOE or ARCHES deem necessary. DOE and ARCHES will make reasonable efforts to ensure these inspections or tests do not interfere with or unduly delay project work.

The Subrecipient is required to maintain complete records, including of inspections, tests, start-up, commissioning, and operations and provide those records when requested by either DOE or ARCHES.

Term 24. Independent Engineering Reviews and Assessments

DOE or ARCHES may, with prior notification, conduct independent engineering reviews and assessments of the Subaward. DOE or ARCHES may use DOE and/or contractor personnel to conduct these independent engineering reviews and assessments. The Subrecipient must cooperate with the conduct of these reviews and assessments by providing to DOE, ARCHES, and/or a contractor access to all facilities and information that are required to successfully complete these reviews and assessments. DOE and ARCHES shall ensure that all contractor personnel performing such reviews or assessments are subject to confidentiality and non-disclosure requirements prior to receiving Subrecipient information. The Subrecipient is responsible for providing all required training for site or system access. DOE, ARCHES, and/or their contractor personnel are responsible for completing all required training.

Term 25. Subrecipient Administrative Organizational Reviews

DOE or ARCHES may conduct Subrecipient Administrative Organizational Reviews to review the project and management control systems and to provide technical assistance.

Term 26. Record Retention and Access

The Subrecipient must retain and allow access to records relating to this Subaward consistent with 2 CFR § 200.334 through 2 CFR § 200.338, and all other applicable laws and regulations.

Term 27. Modifications

DOE must unilaterally modify the Cooperative Agreement between DOE and ARCHES where required by law. DOE may also unilaterally modify the Cooperative Agreement between DOE and ARCHES for administrative matters such as for updating regulatory citations, lines of accounting, and DOE contacts. Such modifications will, if applicable, automatically be considered incorporated into this Agreement/Subaward, and ARCHES will inform the Subrecipient of such modifications. Other modifications to the Cooperative Agreement between DOE and ARCHES may also need to be incorporated into this Agreement; if any such modifications materially affect the obligations of the Subrecipient, the Subrecipient may be entitled to a reasonable equitable adjustment to this Agreement, as necessary and appropriate. In the event of any of the modifications described above,

ARCHES will request the Subrecipient's written consent to such modification(s). The Subrecipient's failure to consent to such modification(s) may be grounds for termination of this Agreement/Subaward, and if the Subrecipient does not consent to such modification(s), any costs incurred subsequent to the modification(s) of the Cooperative Agreement between DOE and ARCHES may be considered unallowable and not payable by ARCHES.

Term 28. At-Risk Oversight and Monitoring

DOE and ARCHES reserve the right to increase oversight and monitoring of the Subrecipient based on factors including, but not limited to, schedule or cost performance, technology or supply chain risks, environmental or community impacts, meeting cost sharing requirements, obtaining project financing, or management of the project. DOE or ARCHES may require the Subrecipient to provide additional information and may modify existing requirements or impose additional requirements including, but not limited to, those listed in 2 CFR § 200.208(c) and 2 CFR § 910.372.

DOE or ARCHES also may terminate or partially terminate the Subaward or decide not to fund future Budget Periods under the Subaward without first increasing oversight or monitoring or imposing additional requirements.

Term 29. Government Access to Subaward Information

The Subrecipient must provide to DOE—including designated DOE contractors, ARCHES, and designated ARCHES contractors—unfettered access to all facilities, documents, papers, personnel, accounts, books, records, and other supporting documentation and information that are pertinent to the Subaward. DOE and ARCHES will make reasonable efforts to ensure this access does not interfere with or unduly delay project work. The access may include, but is not limited to, the following:

1. Facility sites before, during, and after construction
2. Contractor component manufacturing facilities
3. Facility sites during operations
4. Drawings and specifications
5. Construction and execution plans
6. Resource loaded schedules
7. Design functions and requirements for the final site design review
8. Risk management plans
9. Value management and engineering studies and/or plans
10. Acquisition strategies
11. Project controls, including earned value management systems
12. Qualifications of the integrated project team
13. Financial/cost share strategy for funding the construction project
14. Quality assurance and quality control plans
15. Financial modeling and financial cost data
16. Project agreements and contracts
17. Community benefits activities and proceedings
18. Facility start-up and commissioning plans
19. Facility operation plans
20. Facility operating costs

21. Decommissioning plans
22. Environmental information
23. Security and cybersecurity plans
24. Technical performance data and supporting information
25. Engineering design documentation and supporting information
26. Data strategy and management plan
27. Economic data and analyses
28. Lifecycle emissions and environmental impact data, analyses, and supporting information
29. Community, workforce, local and regional economic impact data, analyses, and supporting information

Term 30. Subaward Termination

Pursuant to 2 CFR § 200.340(a), this Subaward may be terminated as follows:

1. In whole or in part by DOE or ARCHES, if the Subrecipient fails to comply with the terms and conditions of this Subaward;
2. In whole or in part by DOE or ARCHES, to the greatest extent authorized by law, if the Subaward no longer effectuates the program goals or agency priorities;
3. In whole or in part by DOE or ARCHES with consent of the Subrecipient, in which case the Parties must agree in writing on the termination conditions, including the effective date;
4. In whole by the Subrecipient upon sending to the ARCHES Representative written notification setting forth the reasons for such termination and the effective date. The effective date must be at least 45 calendar days after the date of the written notification.

Disputes and appeals are governed by 2 CFR § 910.128. If the Subaward is terminated or partially terminated, DOE, ARCHES, and the Subrecipient remain responsible for compliance with the requirements in 2 CFR § 200.344 and 2 CFR § 200.345.

This Subaward may also be terminated as described in ARCHES Terms and Conditions, Term 18 of this Subrecipient Agreement.

Term 31. Budget Period Modifications and Extensions

Prior written approval from the ARCHES Representative is required for modifications to any Budget Period or extension of the Period of Performance. The Subrecipient must request the modification at least 100 calendar days before the modification would take effect. The ARCHES Representative will promptly respond to such requests. If approved, the change will be implemented by a modification to the Subaward.

Term 32. Insurance Coverage

The Subrecipient must at minimum obtain and maintain insurance consistent with the requirements in 2 CFR § 200.310 and 2 CFR § 910.360(e) but may choose to obtain and maintain additional insurance. The DOE or ARCHES Representative may also require the Subrecipient to obtain and maintain additional insurance related to the Subaward. *See also* ARCHES Terms and Conditions, Term 8.

Term 33. Liability

The Subrecipient agrees not to seek to hold ARCHES, DOE, or the United States Government liable, or to seek contribution from ARCHES, DOE, or the United States Government for any liabilities, including but not limited to environmental liabilities and third-party liabilities resulting from or arising out of any activities undertaken pursuant to the Subaward, except to the extent that such liability results from a negligent or wrongful act or omission of ARCHES, DOE, or the United States Government or to the extent such liability may be covered by applicable allowable cost provisions and then only to the extent of available funds obligated by DOE and ARCHES to the Subaward.

Term 34. Indemnity

To the extent allowed by applicable law, the Subrecipient shall indemnify ARCHES and its officers, agents, or employees for any and all liability, including litigation expenses and attorneys' fees, arising from suits, actions, or claims of any character for death, bodily injury, or loss of or damage to property or to the environment, resulting from any activities undertaken pursuant to the Subaward, except to the extent that such liability results from the direct fault or gross negligence of ARCHES officers, agents, or employees, or to the extent such liability may be covered by applicable allowable costs provisions. The Parties shall inform each other as soon as practicable of any suit or action alleging an indemnifiable claim and, to the extent allowed by applicable law, participate in litigation and settlement.

Term 35. Decontamination and/or Decommissioning Costs

ARCHES, DOE, and the US Government shall not be responsible for or have any obligation to the Subrecipient for (i) Decontamination and/or Decommissioning ("D&D") of any of the Subrecipient's facilities, or (ii) any costs that may be incurred by the Subrecipient in connection with the D&D of any of its facilities due to activities under this Subaward either before or after the effective date of this Subaward.

Term 36. Contaminated Sites

The Subrecipient must notify ARCHES if any activities under the Subaward will occur on previously contaminated or potentially contaminated sites with hazardous substances, including, but not limited to, Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") "Superfund sites" or properties where redevelopment or reuse may be complicated by hazardous substance contamination ("Brownfield sites"). The Subrecipient is solely responsible for handling and disposal of any hazardous substances and wastes arising from activities under this Subaward.

Term 37. Publications, Public Relations Activities, and Design Elements

The Subrecipient must follow the [OCED Communications Guidelines](#) and the [OCED Engagement Guidelines](#) when issuing publications, presentations, public relations activities, news releases, and engaging with Congress arising out of, or relating to, work performed under this Subaward, whether copyrighted or not.

The Subrecipient must provide ARCHES access to, either electronically or in paper form, a copy of every publication or presentation of material based on or developed under this Subaward, clearly labeled with the Subaward number and other appropriate Subaward identifying information, at least fifteen (15) calendar days prior to publication or public presentation.

Use of the OCED logo, name, or brand in all applications including but not limited to design, facility signage, and other markings must be in accordance with the [OCED Communications Guidelines](#) and the [OCED Engagement Guidelines](#). The Subrecipient must consult with the ARCHES Representative on the cost, timeline, design, and placement of any works using the OCED logo or name in any location, physical or digital, prior to use.

Term 38. System for Subaward Management and Universal Identifier Requirements

A. Requirement for System for Subaward Management

[RESERVED]

B. Requirement for Unique Entity Identifier

If the Subrecipient is authorized to make subawards under this Subaward, the Subrecipient:

1. Must notify potential lower-tier subrecipients that no entity (*see* definition in paragraph C of this Subaward term) may receive a subaward from the Subrecipient until the entity has provided its Unique Entity Identifier to the Subrecipient.
2. May not make a subaward to an entity unless the entity has provided its Unique Entity Identifier to the Subrecipient. Subrecipients are not required to obtain an active System for Award Management registration but must obtain a Unique Entity Identifier.

C. Definitions

For purposes of this term:

1. **System for Award Management (“SAM”)** means the Federal repository into which a prime recipient must provide information required for the conduct of business as a prime recipient. Additional information about registration procedures may be found at the SAM internet site (currently at <https://www.sam.gov>).
2. **Unique Entity Identifier** means the identifier assigned by SAM to uniquely identify business entities.
3. **Entity** includes non-Federal entities as defined at 2 CFR § 200.1 and also includes all of the following, for purposes of this term:

- i. A foreign organization;
 - ii. A foreign public entity;
 - iii. A domestic for-profit organization; and
 - iv. A Federal agency.
4. **Subaward** has the meaning given in 2 CFR § 200.1.
 5. **Subrecipient** has the meaning given in 2 CFR § 200.1.

Term 39. Corporate Felony Convictions and Federal Tax Liability Assurances

If a Subrecipient is organized as a corporation and has filed articles of incorporation in any of the 50 states, the District of Columbia, or the territories of the United States, including both for-profit and non-profit organizations but not foreign corporations, then the Subrecipient hereby attests that its corporation has not been convicted of a felony criminal violation under Federal law in the 24 months preceding the date of signature.

The Subrecipient further attests that its corporation does not have 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.

Term 40. Conference Spending

The Subrecipient must not expend any funds on a conference that is not directly and programmatically related to the purpose for which the Subaward was awarded that would defray the cost to the United States Government or a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the United States 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 of 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.

Term 41. Risk Mitigation and Due Diligence Reviews

DOE and ARCHES may conduct ongoing due diligence reviews, including to identify potential risks of undue foreign influence. In the event a risk is identified, DOE or ARCHES may require risk mitigation measures including, but not limited to, requiring that an individual or entity not participate in the Subaward.

Term 42. Changes to Board of Directors

[RESERVED]

Term 43. Disclosure of Connections with Foreign Countries of Risk

During the life of the Subaward, the Subrecipient must notify the ARCHES Representative no later than ten (10) business days after learning of any of the following connections in relation to the Subrecipient or any lower-tier subrecipients:

1. Any current or pending subsidiary, foreign business entity, or offshore entity that is based in or funded by a foreign country of risk;
2. Any current or pending contractual or financial obligation or other agreement specific to a business arrangement, joint venture or joint venture-like arrangement with an entity owned by a foreign country of risk or foreign entity based in a foreign country of risk;
3. Any current or pending change in ownership structure of the Subrecipient or lower-tier subrecipients that increases foreign ownership related to a foreign country of risk. Each notification shall be accompanied by a complete and up-to-date capitalization table showing all equity interests held, including limited liability company (LLC) and partnership interests, as well as derivative securities. Include both the number of shares issued to each equity holder, as well as the percentage of that series and of all equity on fully diluted basis. For each equity holder, provide the place of incorporation and the principal place of business, as applicable. If the equity holder is a natural person, identify the citizenship(s).
4. Any current or pending venture capital or institutional investment by an entity that has a general partner or individual holding a leadership role in such entity who has an affiliation with a foreign country of risk; and
5. Any current or pending technology licensing or intellectual property sales to a foreign country of risk.

Should DOE or ARCHES determine that the connection poses a security risk, DOE or ARCHES may require measures to mitigate or eliminate the risk.

Recognizing that the disclosures may contain business confidential information, the Subrecipient or lower-tier subrecipients may submit their disclosures directly to DOE.

Foreign Country of Risk. DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

Term 44. Foreign Commitments in Support of the Subaward

The Subrecipient must provide ARCHES with advanced written notice at least 45 calendar days before any potential commitment with foreign entities, organizations, or governments in connection with the Subaward. Commitments include any contractual, financial, or other binding commitment in which the Subrecipient, a lower-tier subrecipient, or a contractor will be obligated or entitled to provide or receive a sensitive service, product, or information resource. DOE may prohibit or impose conditions on the Subrecipient relating to such commitments.

The Subrecipient must also provide ARCHES with a written list of all existing foreign commitments into which it has entered in connection with this Subaward.

Term 45. Waiver Requests – Foreign Entity Participation as a Subrecipient or Lower-Tier Subrecipient

For this Subaward, the Subrecipient and all lower-tier subrecipients must be organized, chartered, or incorporated (or otherwise formed) under the laws of a state or territory of the United States; have majority domestic ownership and control; and have a physical location for business operations in the United States. To request a waiver of this requirement for the Subrecipient and any lower-tier subrecipients, the Subrecipient must submit a written waiver request.

The waiver must demonstrate to the satisfaction of DOE and ARCHES that the foreign entity's participation would further the purposes of the Award and is otherwise in the best interest of the DOE programmatic objectives.

A foreign entity waiver request must include the following:

1. The entity's name, point of contact, and proposed type of involvement in the project;
2. The entity's country of incorporation, the extent of ownership/level of 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 individual(s) (DOE may require capitalization table);
3. Rationale for proposing that a foreign entity participate;
4. Description of how the foreign entity's participation is essential to the project;
5. Description of the likelihood of Intellectual Property (IP) being created from the work and the treatment of any such IP; and
6. Countries where the work will be performed. If any work is proposed to be conducted outside the United States and the Subrecipient does not already have a waiver of the Performance of Work in the United States requirement, the Subrecipient must also submit a waiver request regarding the Performance of Work in the United States requirement.

DOE may require additional information in considering a waiver request. DOE's decision regarding a waiver request is not appealable.

Term 46. Foreign National Participation

A "foreign national" is defined as any person without U.S. citizenship or nationality and may include a stateless person.

If the Subrecipient anticipates involving foreign nationals in the performance of the Award, the Subrecipient must provide ARCHES with specific information about each foreign national to ensure compliance with the requirements for participation and access approval. The volume and type of information required may depend on various factors associated with the Award.

After ARCHES' submission of the Subrecipient's information to DOE, DOE may elect to deny a foreign national's participation in the Subaward, in its discretion, at any point during the performance of the Subaward. Likewise, DOE may elect to deny a foreign national's access to DOE sites, information, technologies, equipment, programs, or personnel. DOE's determination to deny participation or access is not appealable.

Term 47. Waiver Requests – Performance of Work in the United States

All work (including but not limited to purchases and labor) performed under this Subaward must be performed in the United States, unless otherwise approved as part of the original application, or during performance, by DOE.

To seek a waiver of the Performance of Work in the United States requirement, the Subrecipient must submit a waiver request to the ARCHES Representative. A waiver request must satisfactorily demonstrate that a waiver would further the purposes of the Funding Opportunity Announcement (“FOA”) and is otherwise in the best interest of the DOE programmatic objectives. A request for a foreign work waiver must include the following:

1. A description of the work proposed to be performed outside of the United States;
2. An explanation of how the foreign work is essential to the project;
3. The name of the entity that would perform the foreign work and information about the entity(ies) involved in the work proposed to be conducted outside of the United States (e.g., the entity seeking a waiver and the entity(ies) that will conduct the foreign work);
4. The rationale for performing the work outside of the United States (“foreign work”) and why the work cannot be done within the United States;
5. A description of the likelihood of IP being created from the foreign work and the treatment of such IP;
6. The total estimated cost (DOE, ARCHES, and Subrecipient cost share) of the proposed foreign work;
7. The country(ies) in which the foreign work is proposed to be performed; and
8. Timeline by which the waiver must be approved to support project schedules.

DOE may require additional information in considering a waiver request. DOE’s decision regarding a waiver request is not appealable.

If the Subrecipient fails to comply with the applicable Performance of Work in the United States requirement, ARCHES and/or DOE may deny reimbursement for the work conducted outside of the United States and such costs may not be recognized as allowable cost share. The Subrecipient is responsible for any work performed outside the United States without a waiver, regardless of whether the work is performed by the Subrecipient, contractors, or other project partners.

Term 48. Prohibition Related to Foreign Government-Sponsored Talent Recruitment Programs

A. Prohibition

Persons participating in a Foreign Government-Sponsored Talent Recruitment Program of a Foreign Country of Risk are prohibited from participating in this Subaward. The Subrecipient must exercise ongoing due diligence to reasonably ensure that no individuals participating in the DOE-funded project are participating in a Foreign Government-Sponsored Talent Recruitment Program of a Foreign Country of Risk. Consequences for violations of this prohibition will be determined according to applicable law, regulations, and policy. Further, the Subrecipient must notify DOE and ARCHES within three (3) business days upon learning that an owner of the Subrecipient or a lower-tier subrecipient or individual on the project team is or is believed to be participating in a Foreign

Government-Sponsored Talent Recruitment Program of a Foreign Country of Risk. DOE may modify and add requirements related to this prohibition to the extent required by law.

B. Definitions

For purposes of this Subaward, these definitions apply:

1. **Foreign Government-Sponsored Talent Recruitment Program.** An effort directly or indirectly organized, managed, or funded by a foreign government, or a foreign government instrumentality or entity, to recruit science and technology professionals or students (regardless of citizenship or national origin, or whether having a full-time or part-time position). Some foreign government-sponsored talent recruitment programs operate with the intent to import or otherwise acquire from abroad, sometimes through illicit means, proprietary technology or software, unpublished data and methods, and IP to further the military modernization goals and/or economic goals of a foreign government. Many, but not all, programs aim to incentivize the targeted individual to relocate physically to the foreign state for the above purpose. Some programs allow for or encourage continued employment at United States research facilities or receipt of federal research funds while concurrently working at and/or receiving compensation from a foreign institution, and some direct participants not to disclose their participation to U.S. entities. Compensation could take many forms including cash, research funding, complimentary foreign travel, honorific titles, career advancement opportunities, promised future compensation, or other types of remuneration or consideration, including in-kind compensation.
2. **Foreign Country of Risk.** DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

Term 49. Reporting Requirements

The Subrecipient must comply with the reporting requirements for this Subaward including, but not limited to, the requirements identified in the FARC.

Term 50. Property Standards

DOE's Property Interest

While the Award is in effect and DOE retains its reversionary interest in real property and equipment acquired under the Award, DOE has stated that DOE will not assert its rights in the property as long as it: (1) is being used for the authorized purposes set forth in the applicable Statement of Work (the "Authorized Purpose"); and (2) is not encumbered without permission. DOE has stated that DOE may assert its rights in the property consistent with the terms of any applicable consent agreement or other agreement regarding encumbered Award property.

DOE has committed that it will cooperate with ARCHES and/or the Subrecipient and potential debt and/or tax equity financing providers ("Financing Providers") to establish arrangements, including a consent agreement, relating to DOE's undivided reversionary interest in the Subrecipient's real property and equipment that address the reasonable requests of Financing Providers, including with respect to

the exercise of remedies by Financing Providers. Consistent with applicable regulation, upon ARCHES' or the Subrecipient's request, DOE has stated that DOE will consent to a *pari passu* position with the Financing Providers, which arrangements shall be set forth in a consent agreement or other agreement.

Upon ARCHES' request for vesting, including on behalf of the Subrecipient, DOE has stated that DOE will vest unconditional title to real property and equipment of the Subrecipient when it is demonstrated to DOE's satisfaction that the real property or equipment subject of the request has achieved its Authorized Purpose. Provided that no requirements in the Statement of Work related to the use of the property or equipment subject of the request extend beyond the date of commencement of commercial operations for the Subrecipient's project or sub-project, the date upon which such property may be deemed to have achieved its Authorized Purpose will be no later than the date of the commencement of commercial operations for the project or sub-project.

Any such vesting will be contingent upon the Subrecipient's agreeing to the following conditions:

1. Not selling the property to entities owned, incorporated in, or controlled by Foreign Countries of Risk;
2. Using the property for the Authorized Purpose for the duration of the Period of Performance; and
3. Completing all Subaward commitments as agreed to by the Subrecipient in Phase 3 or Phase 4, as applicable.

DOE has stated that it will address requests to vest at a different time or under other circumstances on a case-by-case basis.

Term 51. [Real Estate Transaction Approval](#)

Should the Subrecipient propose to acquire real property under the Subaward, the Subrecipient must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC § 4601 *et seq.*) and implementing regulations at 49 CFR Part 24, as applicable. At least 120 calendar days prior to consummating a real property acquisition under the Subaward, the Subrecipient must submit the proposed real estate transaction to the ARCHES Representative for review and approval.

Should the Subrecipient propose that a project under the Subaward be located on DOE or other Federally controlled land, authorization from the appropriate agency will be required. Such authorization may take the form of a lease, permit, easement, right-of-way, license, agreement, or any other appropriate legal instrument. Any such instrument will be subject to normal DOE real estate activity rules and procedures. The Subrecipient must contact the ARCHES Representative at least 180 calendar days in advance of the real property need date for guidance and to begin making the arrangements for the authorization.

National Policy Requirements

Term 52. Davis-Bacon Act Requirements

The Subaward is funded under Division D of the Bipartisan Infrastructure Law (“BIL”). All laborers and mechanics employed by the Subrecipient, contractors, or subcontractors in the performance of construction, alteration, or repair work in excess of \$2,000 funded directly by or assisted in whole or in part by funds made available under this Subaward 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”).

The Subrecipient shall provide a written assurance acknowledging the DBA requirements for the Subaward or project and confirming that all of the laborers and mechanics performing construction, alteration, or repair work in excess of \$2,000 on projects funded directly by or assisted in whole or in part by funding under the Subaward are paid or will be paid wages at rates not less than those prevailing on a project of a character similar in the locality as determined by Subchapter IV of Chapter 31 of Title 40, United States Code.

The Subrecipient must comply with all DBA requirements including, but not limited to:

1. Ensuring that the wage determination(s) and appropriate Davis-Bacon clauses and requirements are flowed down to and incorporated into any applicable contracts or lower-tier subrecipient awards.
2. Being responsible for compliance by any contractor or lower-tier subrecipient with the Davis-Bacon labor standards.
3. Receiving and reviewing certified weekly payrolls submitted by all contractors and lower-tier subrecipients for accuracy and to identify potential compliance issues.
4. Maintaining original certified weekly payrolls for three years after the completion of the project and making those payrolls available to the DOE or the Department of Labor upon request, as required by 29 CFR § 5.6(a)(2).
5. Conducting payroll and job-site reviews for construction work, including interviews with employees, with such frequency as may be necessary to assure compliance by contractors and lower-tier subrecipients and as requested or directed by ARCHES and/or DOE.
6. Cooperating with any authorized representative of the Department of Labor in their inspection of records, interviews with employees, and other actions undertaken as part of a Department of Labor investigation.
7. Posting in a prominent and accessible place the wage determination(s) and Department of Labor Publication: WH-1321, Notice to Employees Working on Federal or Federally Assisted Construction Projects.
8. Notifying the ARCHES Representative of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from the 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; Department of Labor investigations; or legal or judicial

proceedings related to the labor standards under this Subaward, a contract, or a subcontract.

9. Preparing and submitting 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 in accordance with the reporting instructions the FARC.

The Subrecipient must undergo DBA compliance training and must maintain competency in DBA compliance. The Department of Labor 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>.

The Subrecipient must ensure the timely submission of weekly certified payrolls as part of its compliance with the DBA.

DOE has contracted with LCPtracker, a third-party DBA electronic payroll compliance software application. A waiver for the use of LCPtracker may be granted to a particular contractor or subcontractor if they are unable or limited in their ability to use or access the software.

DBA Electronic Certified Payroll Submission Waiver

A waiver must be granted before the start of work subject to DBA requirements (e.g., construction, alteration, or repair work). The Subrecipient does not have the right to appeal DOE's decision concerning a waiver request.

For additional guidance on how to comply with the DBA 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>.

Term 53. Export Control

The United States Government regulates the transfer of information, commodities, technology, and software considered to be strategically important to the US 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." The Subrecipient is responsible for ensuring compliance with all applicable United States Export Control laws and regulations relating to any work performed under the Subaward.

The Subrecipient must immediately report to DOE any export control violations related to the activities funded under this Subaward, at the Subrecipient or lower-tier subrecipient level, and provide the corrective action(s) to prevent future violations.

Term 54. Notice Regarding the Purchase of American-Made Equipment and Products

It is the sense of Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under this Subaward should be American-made.

Term 55. Affirmative Action and Pay Transparency Requirements

All federally assisted construction contracts exceeding \$10,000 annually will be subject to the requirements of Executive Order 11246 as amended:

1. Subrecipients, lower-tier subrecipients, and contractors are prohibited from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin.
2. Subrecipients and contractors are required to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. This includes flowing down the appropriate language to all lower-tier subrecipients, contractors, and subcontractors.
3. Subrecipients, lower-tier subrecipients, contractors, and subcontractors are prohibited from taking adverse employment actions against applicants and employees for asking about, discussing, or sharing information about their pay or, under certain circumstances, the pay of their co-workers.

The Department of Labor's ("DOL") Office of Federal Contractor Compliance Programs ("OFCCP") uses a neutral process to schedule contractors for compliance evaluations. The Subrecipient is encouraged to consult [OFCCP's Technical Assistance Guide](#) to gain an understanding of the requirements and possible actions the Subrecipient, lower-tier subrecipients, contractors, and subcontractors must take.

For a construction project valued at \$35 million or more and lasting more than one year, the Subrecipient and its contractors or lower-tier subrecipients may be selected by the DOL OFCCP as a mega construction project. If selected by the DOL OFCCP, DOE, under relevant legal authorities including Sections 205 and 303(a) of Executive Order 11246, will require participation in the mega construction projects program, which offers extensive compliance assistance with Executive Order 11246. For more information regarding this program, see <https://www.dol.gov/agencies/ofccp/construction/mega-program>.

Term 56. Human Subjects Research

Research involving human subjects, biospecimens, or identifiable private information conducted with DOE funding is subject to all applicable laws, including the requirements of [DOE Order 443.1C](#), Protection of Human Subjects Research, 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: <https://science.osti.gov/ber/human-subjects>.

Term 57. Environmental, Safety, and Health and Performance of Work at DOE Facilities

For activities under the Subaward performed at a DOE-owned or -controlled site, the Subrecipient agrees to comply with all Federal and State environmental, safety, and health (“ES&H”) regulations and with all other ES&H requirements of the operator of such site. Prior to the performance of any portion of the work under this Subaward at a DOE-owned or -controlled site, the Subrecipient shall contact the site facility manager for information on DOE and site-specific ES&H regulations. The Subrecipient shall apply this term to its lower-tier subrecipients and contractors.

Term 58. Lobbying Restrictions

The Subrecipient agrees that none of the funds obligated for the Subaward shall be expended, directly or indirectly, to influence in any manner a Member of Congress, a jurisdiction, or an official of any government on action on any legislation, law, ratification, or appropriation matters pursuant to 18 USC § 1913. This restriction is in addition to those prescribed elsewhere in statute or regulation.

Term 59. National Historic Preservation Act Requirements

DOE must comply with the National Historic Preservation Act (“NHPA”), 54 USC § 306108 *et seq.*, which requires federal agencies to consider the effects of any undertaking (Federally funded or assisted projects and activities) on historic properties that are listed in or eligible for listing in the National Register of Historic Places prior to the expenditure of Federal funds. The Subrecipient is required to cooperate with DOE in its compliance with the requirements of Section 106 of the NHPA. The Subrecipient may not alter any structure or site, including any groundbreaking for any purpose, prior to the resolution of the NHPA process without DOE approval. The requirements of this part are applicable to activities funded under the Subaward and shall be coordinated in conjunction with DOE and ARCHES and, as appropriate, other federal agencies, the State Historic Preservation Officer or Tribal Historic Preservation Officer, Tribal representatives, and consulting parties.

Term 60. National Environmental Policy Act Requirements

DOE must comply with NEPA, 42 USC §§ 4321 *et seq.* and NEPA implementing regulations at 40 CFR Parts 1500 *et seq.* and 10 CFR Part 1021 prior to authorizing the expenditure of Federal funds. DOE is required to assess the impact of the activities authorized under this Subaward on the human environment and determine whether the work requires a preparation of an Environmental Impact Statement (“EIS”), an Environmental Assessment (“EA”), or if the activities fall into a class of actions that a Federal agency has determined do not individually or cumulatively have a significant effect. The Subrecipient is required to provide any information, documents, site access, or other assistance requested by DOE to complete the NEPA review.

The Subrecipient may not start work under this Subaward until the OCED NEPA Compliance Officer has produced a written NEPA document or determination and the ARCHES Representative has provided written authorization. The Subrecipient is restricted from using Federal funds to take any action prior to authorization from the ARCHES Representative. If the Subrecipient elects to undertake activities prior to authorization from the ARCHES Representative, the Subrecipient does so at the risk of not

receiving Federal funding for those activities and such costs may not be recognized as allowable cost share.

The Subrecipient agrees to:

1. Abide by the conditions, limitations, mitigation requirements, and monitoring requirements specified in the final NEPA document or determination;
2. Negotiate changes to the project schedule, costs, and/or scope as necessary to make effective the requirements or conditions in the final NEPA document or determination;
3. Allow DOE's authorized representatives to visit the site and facilities upon notice to verify project status and compliance to include conditions and requirements in the final NEPA document or determination; and
4. Submit data or otherwise meet specified reporting requirements that may be in the final NEPA document or determination.

If the Subrecipient later intends to add to or modify the activities or locations as described in the approved work scope and the final NEPA document or determination, both those additions and modifications are subject to additional NEPA review and are not authorized for Federal funding until the ARCHES Representative provides written authorization on those additions or modifications. Should the Subrecipient elect to undertake activities or change locations prior to written authorization from the ARCHES Representative, the Subrecipient does so at the risk of not receiving Federal funding for those activities, and such costs may not be recognized as allowable cost share.

Term 61. [National Security: Classifiable Information Originating Under an Subaward](#)

ARCHES does not expect that this Subaward will involve classified information. Under certain circumstances, however, a classification review of information originated under the Subaward may be required. DOE may review information generated under this Subaward at any time to determine if it requires classification.

Some information concerning (among other things) scientific, technological, or economic matters relating to national security or cryptology may arise during the Subaward and require classification. If the Subrecipient originates information during the course of this Subaward that the Subrecipient believes requires classification, the Subrecipient must promptly:

1. Notify the DOE Grants and Agreements Officer; and
2. Submit the information by registered mail directly to the Director, Office of Classification and Information, SO-10.2; U.S. Department of Energy; P.O. Box A; Germantown, MD 28075-0963, for classification review; and
3. Restrict access to the information to the maximum extent possible until the Subrecipient is informed that the information is not classified, but no longer than 30 days after receipt by the Director, Office of Classification and Information Control.

If DOE determines any of the information requires classification, the Subrecipient agrees that DOE may terminate the Subaward with consent of the Subrecipient in accordance with 2 CFR § 200.340(a)(3). All

material deemed to be classified must be forwarded to DOE in a manner specified by DOE. If DOE does not respond within the specified time periods, the Subrecipient is under no further obligation to restrict access to the information.

Term 62. Fraud, Waste, and Abuse

The mission of the DOE Office of Inspector General (“OIG”) is to strengthen the integrity, economy, and efficiency of DOE’s programs and operations including deterring and detecting fraud, waste, abuse, and mismanagement. The DOE OIG accomplishes this mission primarily through investigations, audits, and inspection of DOE activities, including grants, cooperative agreements, loans, and contracts. The DOE 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, the Subrecipient must be cognizant of and comply with the mandatory disclosure requirements of 2 CFR § 200.113 concerning the disclosure of violations of Federal criminal laws involving fraud, bribery, or gratuity violations potentially affecting the Subaward.

Term 63. Nondisclosure and Confidentiality Agreements Assurances

By entering into this agreement, the Subrecipient attests that 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.

The Subrecipient further attests that 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:

- A. “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.”
- B. The limitation above shall not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.
- C. 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 United States Government, may contain provisions appropriate to the

particular 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 in the course of such activity unless specifically authorized to do so by the United States 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 Department of Justice, that are essential to reporting a substantial violation of law.

Term 64. Interim Conflict of Interest Policy for Financial Assistance

The DOE interim Conflict of Interest Policy for Financial Assistance (“COI Policy”) can be found at <https://www.energy.gov/management/department-energy-interim-conflict-interest-policy-requirements-financial-assistance>. This policy is applicable to all non-Federal entities applying for, or that receive, DOE funding by means of a financial assistance Award (e.g., a grant, cooperative agreement, or technology investment agreement) and, through the implementation of this policy by the entity, to each key personnel who is planning to participate in, or is participating in, the project funded wholly or in part under this Subaward. The interim COI Policy establishes standards that provide a reasonable expectation that the design, conduct, and reporting of projects funded wholly or in part under DOE financial assistance Subawards will be free from bias resulting from financial conflicts of interest or organizational conflicts of interest. The Subrecipient is subject to the requirements of the interim COI Policy, and the Subrecipient must certify that it is compliant with all requirements in the interim COI Policy. The Subrecipient must flow down the requirements of the interim COI Policy to any lower-tier subrecipient non-Federal entities, with the exception of DOE National Laboratories. Further, the Subrecipient must identify all financial conflicts of interests (“FCOI”), i.e., managed and unmanaged/unmanageable, in its initial and ongoing FCOI reports.

Prior to Subaward, the Subrecipient was required to: 1) ensure all key personnel on this Subaward completed their significant financial disclosures; 2) review the disclosures; 3) determine whether a FCOI exists; 4) develop and implement a management plan for FCOIs; and 5) provide ARCHES with an initial FCOI report that includes all FCOIs (i.e., managed and unmanaged/unmanageable). Within 180 calendar days of the date of the Subaward, the Subrecipient must be in full compliance with the other requirements set forth in the DOE interim COI Policy.

Term 65. Organizational Conflicts of Interest

Organizational conflicts of interest are those where, because of relationships with a parent company, affiliate, or subsidiary organization, the Subrecipient is unable or appears to be unable to be impartial in conducting procurement action involving a related organization (2 CFR § 200.318(c)(2)).

The Subrecipient must immediately disclose in writing any potential or actual organizational conflict of interest to the ARCHES Representative. The Subrecipient must provide the disclosure prior to engaging in a procurement or transaction using project funds with a parent, affiliate, or subsidiary organization that is not a state, local government, or Indian tribe. For a list of the information that must be included in the disclosure, see Section VI. of the [DOE interim Conflict of Interest Policy for Financial Assistance](#).

If the effects of the potential or actual organizational conflict of interest cannot be avoided, neutralized, or mitigated, the Subrecipient must procure goods and services from other sources when

using project funds.

Otherwise, ARCHES or DOE may terminate the Subaward in accordance with 2 CFR § 200.340 unless continued performance is determined to be in the best interest of the Federal government.

The Subrecipient must flow down the requirements of the interim COI Policy to any lower-tier subrecipient non-Federal entities, with the exception of DOE National Laboratories. The Subrecipient is responsible for ensuring lower-tier subrecipient compliance with this term.

If the Subrecipient has a parent, affiliate, or subsidiary organization that is not a state, local government, or Indian tribe, the Subrecipient must maintain written standards of conduct covering organizational conflicts of interest.

Section 2: DOE Award-Specific Terms and Conditions

Term 1. Approved Budget

Subrecipient acknowledges that DOE has selected ARCHES (i.e., the “Recipient”) as the Prime Recipient of the Award, and Recipient has selected Subrecipient. By the end of the Award, the Recipient is expected to provide an estimated cost share amount of 90% of the total Award costs to DOE, and Subrecipient shall provide to ARCHES any information needed to fulfill this obligation to DOE. (See also Subaward Term 15 regarding Cost Sharing.) Total cost share will be reassessed by DOE at the end of each phase and ARCHES will inform Subrecipient if any budgetary changes are necessary at that time.

The Subaward will have multiple phases and Phase 1 will consist of a single budget period. DOE is only obligating funds associated with the current phase. The Subrecipient acknowledges that use of funding for any future phase is contingent upon DOE’s Continuation Decision.

Term 2. Period of Performance and Budget Periods

Consistent with 2 CFR § 200.1, “Period of Performance” for the Hub means the period between the Award start date and the Award end date, and it can include one or more Budget Periods. The same definition will apply to this Subaward. Authorizations for this Subaward will be completed by phase, and ARCHES is authorizing the Phase 1 Budget Period stated below in Table 2-1.

The Subrecipient may only request reimbursement for the Federal share of costs associated with an authorized phase. ARCHES and DOE do not guarantee or assume any obligation to reimburse expenses not associated with the authorized phase or to increase the phase funding to cover any unanticipated cost.

Table 2-1. Authorized Budget Period/Phase

Budget Period/Phase	Start	Anticipated End
1	07/17/2024	03/31/2026

Term 3. Sub-Projects

The Subrecipient is responsible to ARCHES and DOE for project execution and compliance with all applicable requirements. DOE recognizes that the Hub consists of multiple discrete projects implemented by Subrecipients (“Sub-Projects”) that each have independent value and economic viability. As such, per Term 6 of these Award-Specific Terms and Conditions (“Go/No-Go Reviews and Criteria”), the schedules and Go/No-Go Criteria are tailored for each Sub-Project based on the Parties’ agreed-upon scope. The Subrecipient agrees to comply with all applicable schedules.

Term 4. Critical Project Activities for the Current Budget Period

Critical activities for Phase 1 have been provided to ARCHES and will be communicated to the Subrecipient as required. Reference the Go/No-Go Tables in Attachment 4b for details.

Term 5. Specific and Special Award Conditions

1. [RESERVED]
2. [RESERVED]
 - A. [RESERVED]
 - B. Phase 1 costs incurred after the effective date of ARCHES' Award may be reimbursable with DOE funds or creditable toward the Subrecipient's cost share; however, no Phase 1 costs shall be reimbursable unless and until this Agreement is fully executed by both Parties. If the Subrecipient begins Phase 1 activities prior to the Subrecipient Agreement's being executed, the Subrecipient may work on Phase 1 activities only with consent from ARCHES and at its own risk. Any costs incurred prior to execution of the Subrecipient Agreement will be reviewed by ARCHES for alignment with Phase 1 scope and funding and may be counted as cost share contribution toward the Subaward subject to review and approval by DOE.
 - C. Within 30 calendar days after this Agreement is executed, the Subrecipient shall provide an initial Sub-Project schedule to DOE that details Phase 1 activities, identifying deliverable submissions dates, deliverable progress reviews, or key milestones associated with the WBS that is detailed in the PMP. The Subrecipient will update and provide the Sub-Project schedule at least quarterly.
 - D. Within 30 calendar days after this Agreement is executed, the Subrecipient shall provide an initial PMP to ARCHES. The Subrecipient will update and provide its PMP to ARCHES on a quarterly submission schedule specified by ARCHES.
3. During Budget Period 1, the Subrecipient may, without approval from ARCHES (any actions above the thresholds below will require approval from ARCHES):
 - A. Change the allocation of funds in the Subrecipient's budget among direct cost categories, functions, and activities within the budget period in an amount up to 5% of the Subrecipient's Phase 1 budget,
 - B. Change a Subrecipient's cost share in an amount \pm 5% of such Subrecipient's estimated cost share amount for Phase 1, or
 - C. Change a Subrecipient's planned technical scope of work (e.g., hydrogen production amount, vehicles amount) by \pm 5%.

The Subrecipient must ensure that DOE's Programmatic Goals (as defined below) will continue to be met after any such changes. For any reallocation of funds or change in cost share or scope of work in a larger amount than specified in the preceding clauses, the Subrecipient must submit a written request to the ARCHES Representative detailing the proposed reallocation or change and obtain the ARCHES Representative's approval. The ARCHES Representative will review the request and approve or deny such request in writing within 45 days of receipt.

DOE's Programmatic Goals ("Programmatic Goals") include the ability to create a network of Clean Hydrogen (as defined below) producers, Clean Hydrogen consumers, and connective infrastructure located in close proximity that demonstrably aids the achievement of the clean hydrogen production standard, demonstrates the production, processing, delivery, storage and end use for Clean Hydrogen, and that can develop into a national Clean Hydrogen network to facilitate a Clean Hydrogen economy.

4. The Subrecipient will ensure the following for the duration of this Subaward:
 - A. Each hydrogen production Sub-Project funded by the Subaward will produce only Clean Hydrogen. For purposes of this Subaward, "Clean Hydrogen" is defined as hydrogen produced through a process that results in a lifecycle greenhouse gas (GHG) emissions rate of not greater than 4.0 kilograms of carbon dioxide equivalent (CO₂e) per kilogram of hydrogen on an annual basis using well-to-gate system boundaries. Each Sub-Project that uses hydrogen (e.g., transport, storage and end-use) must use/consume hydrogen that has, in aggregate, a production carbon intensity below 4.0 kilograms of carbon dioxide equivalent (CO₂e) per kilogram of hydrogen in any given year using well-to-gate system boundaries, or have an identified path and timeline to doing so in a reasonable timeframe, where GHG emissions are minimized in the interim through mitigation strategies collaboratively developed by ARCHES and the Sub-Project. Sub-Projects that use hydrogen with proposed or potential timing gaps between their start date and their ability to source Clean Hydrogen, which could be for reasons outside of the Sub-Project's control, are subject to DOE review and approval and must justify potential timing gaps, demonstrate/describe what those projects will do during timing gaps to mitigate carbon intensity, and have a clearly identified timeline and source for Clean Hydrogen. Clean Hydrogen itself may be in the form of attribute credits, subject to DOE review and approval.
 - B. [RESERVED]
 - C. The Subrecipient must notify ARCHES and DOE of any change of control of a Subrecipient and obtain DOE's prior approval for the new controlling entity to continue the Subrecipient's participation under the Award. "Change of control" is used as defined in 2 CFR 910.368 with reference to "Recipient" construed to include Subrecipients.
 - D. As the Subrecipient becomes aware, the Subrecipient shall promptly notify ARCHES of any material Subaward-related business disputes or litigation concerning the Subrecipient, Contractors, Subcontractors, or lower-tier subrecipients that may have a material adverse effect on the activities under the Subaward.
 - E. The Subrecipient may reassess its Sub-Project's economic and technical viability throughout the phase and may work with ARCHES to adjust scope and/or budget and cost share, if necessary. A withdrawal of a Sub-Project, including as a result of a Section 45V assessment or at a time when program income will be generated, will not require a refund of prior federal payments except to the extent specifically set forth in the Award or applicable law or regulation.
 - F. [RESERVED]
 - G. The Subrecipient, as authorized by ARCHES, must meet with DOE, if requested, to provide updates on its work authorized under the Subaward and material changes to baseline schedules or budgets as defined in the PMP and Revised Budget Submission.

- H. If applicable, the Subrecipient will report on out-of-scope activities that are necessary to the execution, completion, and successful operations of the in-scope project activities for the Subaward. The out-of-scope activities considered by DOE to meet these criteria are defined in 4d. The Subrecipient must provide a qualitative report quarterly on the submission schedule specified by ARCHES confirming that key milestones are being met and the out-of-scope activities will be completed and available to the Sub-Project as and when needed. The Subrecipient will promptly inform ARCHES of any material events (including material modifications, the achievement of major milestones, or any delays or failures) relating to the out-of-scope items as detailed in Attachment 4d.
- I. [RESERVED]
- J. In Phase 1, ARCHES and the Subrecipient will work with DOE to mature and finalize the proposed initial data list provided in Attachment 4e, "Data Needs", which, once agreed to, should be utilized as the basis of a Sub-Project's Data Management Plan. During the relevant phases, the Subrecipient must provide to ARCHES the data set forth in the Data Management Plan. Before DOE publicly releases any protected data, DOE will anonymize, aggregate, and synthesize the data from the H2Hubs in a summary manner that is not reasonably linked to any specific Sub-Project and is not reasonably likely to adversely affect commercial negotiations or market prices. In the event there is disagreement between DOE, ARCHES, and/or the Subrecipient as to whether the release of information would be reasonably likely to adversely affect commercial negotiation or market prices, DOE, ARCHES, and the Subrecipient will engage in good faith discussions to resolve the disagreement.
- K. Sub-Projects will design and employ commercially reasonable technologies and processes to mitigate emissions of greenhouse gases and criteria pollutants.
- L. Sub-Projects will design delivery and storage infrastructure to minimize releases, leaks, and fugitive emissions and actively seek to identify and install, during operations, commercially reasonable mitigation and monitoring equipment to detect and quantify hydrogen leaks both indoors and outdoors to ensure monitoring, data collection, and risk mitigation related to hydrogen losses.
- M. [RESERVED]

Term 6. Go/No-Go Reviews and Criteria

[RESERVED]

Term 7. Updates to the Cooperative Agreement

[RESERVED]

Term 8. Subawards

[RESERVED]

Term 9. Incorporation by Reference

[RESERVED]

Term 10. Payment Procedures

In accordance with 2 CFR 200.305(b)(5), to the extent available and applicable, the Subrecipient must disburse any funds from program income including repayments to a revolving fund, rebates, refunds, contract settlements, audit recoveries, credits, discounts, and interest earned on any of those funds before the Subrecipient can request additional cash payments from ARCHES/DOE.

The Subrecipient will provide to ARCHES any information necessary for ARCHES to comply with the payment terms in the DOE Award, including but not limited to the following:

1. Summary cost data, including cost share amounts for the billing period and cumulative cost data, showing all budget cost categories identifying Federal, non-Federal, and total amounts.
2. Invoices/receipts for purchase of equipment with an acquisition cost over \$500,000.
3. A statement affirming that invoiced costs are related only to tasks or activities authorized by a final Phase 1 NEPA determination.
4. Explanation of cost share for invoicing period, including cost category and rationale if cost share exceeds or is below the Subaward requirement.
5. Invoices/receipts/expenditure explanations for all travel, supplies, contractual, vendor quotes and other direct costs in excess of \$250,000.
6. Invoices and summary cost data showing all budget cost categories listed in the SF-424A for Subrecipients.

Upon request, the Subrecipient must provide documentation supporting ARCHES' post-payment review of invoices and costs in a form and manner specified by ARCHES. These post-payment reviews are in addition to audits.

Term 11. Indirect and Fringe Costs

A. Indirect Cost Allocation

[RESERVED]

B. Fringe Cost Allocation

[RESERVED]

C. Reconciliation

Consistent with applicable regulations, the indirect cost billing rates shall be reconciled or trued up on an annual basis via the annual incurred cost proposal within six months after ARCHES' fiscal year end. If an audit is performed, the indirect cost billing rates can be subsequently trued up based on the results of the audit.

D. Modifications to Indirect Cost Billing Rates

Proposed modifications to the Subrecipient's cost billing rates must be approved by ARCHES' Cognizant Agency for Indirect Costs (as defined in 2 CFR § 200.1) or Cognizant Federal Official

OCEd, the Director of Financial Oversight and Performance is the Cognizant Federal Agency Official).

When the Subrecipient enters into a Negotiated Indirect Cost Rate Agreement (“NICRA”) or updates a NICRA and DOE is not the Subrecipient’s Cognizant Agency for Indirect Costs, the Subrecipient must promptly provide ARCHES/DOE with a copy of the NICRA.

When DOE is the Subrecipient’s Cognizant Agency for Indirect Costs, to change indirect cost billing rate(s), the Subrecipient must submit proposed changes to ARCHES/DOE for approval.

The Subrecipient must manage its indirect costs. ARCHES will not amend this Subaward solely to provide additional funds for changes in indirect costs. ARCHES recognizes that the inability to obtain full reimbursement for indirect costs means the Subrecipient must absorb the underrecovery.

E. Cost Sharing

The Subrecipient may use unrecovered indirect costs as cost share only with prior approval from the ARCHES Representative (does not apply when using de minimis indirect rate).

F. Closeout

At the completion of this Agreement, the closeout process may include audits of indirect and fringe rates and incurred costs. If the DOE share of the incurred costs is less than the amount reimbursed under this Agreement, the Subrecipient shall refund the difference to ARCHES. If the DOE share of the incurred costs is greater than the amount reimbursed, but less than the total cumulative obligations, the Subrecipient may request payment of the difference. If the DOE share of the incurred costs is greater than the total cumulative obligations, DOE will not make additional obligations, reimbursements, or payments.

The closeout of the Award does not affect (1) the right of ARCHES/DOE to disallow costs and recover funds on the basis of a later audit or other review; (2) the requirement for the Subrecipient to return any funds due as a result of later refunds, corrections or other transactions including final indirect cost billing rate adjustments; and (3) the ability of ARCHES/DOE to make financial adjustments to a previously closed award resolving indirect cost payments and making final payments.

Term 12. Prior Approvals for Real Property and Equipment Acquisition with Federal Funds

The Subrecipient must obtain prior written approval from ARCHES for real property or equipment purchases with a per unit cost of \$500,000 or more that is not already approved in the authorized Revised Budget Submission.

Term 13. National Environmental Policy Act (“NEPA”) Requirements

DOE must comply with the National Environmental Policy Act (“NEPA”), 42 USC §§ 4321 *et seq.*, and implementing regulations at 40 CFR Parts 1500 *et seq.* and 10 CFR Part 1021, prior to authorizing the expenditure of Federal funds. DOE has made a final NEPA determination by issuing a categorical

exclusion (CX) for activities authorized in this Budget Period (Phase 1) as described in OCED-[0000020-001-CX]. The Subrecipient is thereby authorized to use Federal funds for the specific activities and locations described in the CX, except where such activity is subject to a restriction set forth elsewhere in this Subaward. The authorized activities are subject to any conditions listed in the CX, which are hereby incorporated into this Term.

Federal funding for Subaward activities and locations that are not included in the CX is not authorized. Undertaking unauthorized activities may jeopardize DOE funding and this Subaward.

If the Subrecipient later intends to add to or modify the activities or locations described in the CX, those new or modified activities/locations are subject to additional NEPA review and are not authorized until ARCHES provides written authorization for those additions or modifications.

Term 14. Pre-Award Costs

This term is not applicable to this Subaward.

Term 15. Security Framework

A. Security Framework

1. **Initial Submission** — The Subrecipient must submit a Security Framework for ARCHES' review and approval within 60 calendar days of Subaward. The Security Framework must document the Subrecipient's approach to ensure compliance with the terms stated in section A.3 below. ARCHES/DOE will provide comments or feedback to the Security Framework. The Subrecipient and ARCHES will coordinate to address DOE objections and comments as soon as practicable for both Parties but no later than 30 calendar days.
2. **Changes to the Security Framework** — The Subrecipient must notify ARCHES of any substantive changes to its Security Framework prior to finalization of the same for review and approval by ARCHES/DOE. DOE will provide comments or feedback as soon as practicable but no later than 30 calendar days from receipt of changes to the Security Framework. The Subrecipient and ARCHES will coordinate to address DOE objections and comments as soon as practicable for both Parties.
3. **Security Framework Scope** — The Security Framework must document the Subrecipient's security approach to the following ("Security Requirements"):
 1. Regulations
 - a. 2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Equipment
 2. Standard Terms and Conditions
 - a. Cybersecurity Plan
 - b. Risk Mitigation and Due Diligence Reviews
 - c. Changes to Board of Directors of Subrecipient
 - d. Disclosure of Connections with Foreign Countries of Risk
 - e. Waiver Requests – Foreign Entity Participation as a Subrecipient

- f. Foreign Commitments in Support of the Subaward
 - g. Foreign National Participation
 - h. Waiver Requests – Performance of Work outside the United States
 - i. Prohibition Related to Foreign Government-Sponsored Talent Recruitment Programs
 - j. Export Control
3. Project Management Plan Requirements
 - a. Site and Project-Specific Physical Security Plan(s), once site(s) or physical infrastructure is determined and secured, including management of access controls, surveillance systems, perimeter protection, security personnel procedures, emergency response protocols, and all other site security planning, documentation, and response.
 - b. Cybersecurity Plan
 4. Federal Assistance Reporting Checklist (FARC) Requirements as they apply to security issues
 - a. Current and Pending Disclosures
 - b. Participants and Collaborating Organizations
 - c. Potentially Duplicative Funding Notice
 - d. Safety and Security Breach Reporting (Special Status Report)

Term 16. Financial Commitment/Funding Plan

DOE will require evidence of firm commitments for funding the Subrecipient cost share in subsequent Budget Periods. DOE may also require credit support from any signatory to such cost share commitment that DOE determines to be not creditworthy on a stand-alone basis. This term will be applicable to the Subaward in future Budget Periods.

Term 17. Federally Owned Property (Government-Furnished)

This term is not applicable to this Subaward.

Term 18. Subawards to DOE National Laboratories

[RESERVED]

Term 19. Build America Buy America Requirements for Infrastructure Projects

See the Build America, Buy America Act under Division G, Title IX of the IIJA, Public Law 117–58 for the complete description and requirements.

A. Buy America Preference

Recipients of an award of Federal financial assistance (including Subrecipients) from a program for infrastructure are hereby notified that none of the funds provided under this award may be used for an infrastructure project unless:

1. All iron and steel used in the project are 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;
2. 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 that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and
3. All construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. The construction material standards are listed below.

B. Incorporation into an infrastructure project

The Buy America Preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America Preference apply 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.

C. Categorization of articles, materials, and supplies

An article, material, or supply should only be classified into one of the following categories: (i) Iron or steel products; (ii) 15 Manufactured products; (iii) Construction materials; or (iv) Section 70917(c)

materials. An article, material, or supply should not be considered to fall into multiple categories. In some cases, an article, material, or supply may not fall under any of the categories listed in this paragraph. The classification of an article, material, or supply as falling into one of the categories listed in this paragraph must be made based on its status at the time it is brought to the work site for incorporation into an infrastructure project. In general, the work site is the location of the infrastructure project at which the iron, steel, manufactured products, and construction materials will be incorporated.

D. Application of the Buy America Preference by category

An article, material, or supply incorporated into an infrastructure project must meet the Buy America Preference for only the single category in which it is classified.

E. Determining the cost of components for manufactured products

In determining whether the cost of components for manufactured products is greater than 55 percent of the total cost of all components, use the following instructions:

- a. For components purchased by the manufacturer, the acquisition cost, including transportation costs to the place of incorporation into the manufactured product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or
- b. For components manufactured by the manufacturer, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (a), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the manufactured product.

F. Construction material standards

The Buy America Preference applies to the following construction materials incorporated into infrastructure projects. Each construction material is followed by a standard for the material to be considered “produced in the United States.” Except as specifically provided, only a single standard should be applied to a single construction material.

1. Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
2. Plastic and polymer-based products. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
3. Glass. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
4. Fiber optic cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
5. Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
6. Lumber. All manufacturing processes, from initial debarking through treatment and planning, occurred in the United States.
7. Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
8. Engineered wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

G. Waivers

When necessary, Subrecipients may apply for, and the agency may grant, a waiver from these requirements. The agency should notify ARCHES for information on the process for requesting a waiver from these requirements.

When the Federal agency has made a determination that one of the following exceptions applies, the DOE Grants and Agreements Officer may waive the application of the Buy America Preference in any case in which the agency determines that:

1. Applying the Buy America Preference would be inconsistent with the public interest;
2. 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
3. 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.

A request to waive the application of the Buy America Preference must be in writing. The agency will provide instructions on the format, contents, and supporting materials required for any waiver request. Waiver requests are subject to public comment periods of no less than 15 business days and must be reviewed by the Made in America Office.

There may be instances where an award qualifies, in whole or in part, for an existing waiver described at <https://www.energy.gov/management/doe-buy-america-requirement-waiver->

[requests.](#)

H. Definitions

“Federal agency” means any authority of the United States that is an “agency” (as defined in section 3502 of title 44, United States Code), other than an independent regulatory agency (as defined in that section)

“Buy America Preference” means the “domestic content procurement preference” set forth in section 70914 of the Build America, Buy America Act, which requires the head of each Federal agency to ensure that none of the funds made available for a Federal award for an infrastructure project may be obligated unless all of the iron, steel, manufactured products, and construction materials incorporated into the project are produced in the United States.

“Construction materials” means articles, materials, or supplies that consist of only one of the items listed in paragraph 1 of this definition, except as provided in paragraph 2 of this definition. To the extent one of the items listed in paragraph 1 contains as inputs other items listed in paragraph 1, it is nonetheless a construction material.

1. The listed items are: (i) Non-ferrous metals; (ii) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); (iii) Glass (including optic glass); (iv) Fiber optic cable (including drop cable); (v) Optical fiber; (vi) Lumber; (vii) Engineered wood; and (viii) Drywall.
2. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

“Infrastructure” means public infrastructure projects in the United States, which 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; and buildings and real property; and structures, facilities, and equipment that generate, transport, and distribute energy including electric vehicle (EV) charging.

“Infrastructure project” means any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States regardless of whether infrastructure is the primary purpose of the project. See also paragraphs (c) and (d) of 2 CFR 184.4.

“Iron or steel products” means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

“Manufactured products” means:

1. Articles, materials, or supplies that have been: (i) Processed into a specific form and shape; or
(ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
2. If an item is classified as an iron or steel product, a construction material, or a Section 70917(c) material under 2 CFR 184.4(e) and the definitions set forth in 2 CFR 184.3, then

it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under 2 CFR 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or Section 70917(c) materials.

“Predominantly of iron or steel or a combination of both” means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

“Section 70917(c) materials” means cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. See Section 70917(c) of the Build America, Buy America Act.

Term 20. Project Labor Agreement

The Subrecipient must develop and implement a Community Benefits Plan consistent with the objectives and milestones set forth in the then-current ARCHES Community Benefits Pathway.

For Subawards involving construction projects, the Subrecipient is expected to pursue a Project Labor Agreement (“PLA”) to be executed in Phase 3, the Subrecipient must work in good faith towards the following requirements as part of the PLA.

Consistent with applicable law, the Project Labor Agreement will:

1. Bind all contractors and subcontractors, including subcontractors of subcontractors, on the construction project through the inclusion of appropriate specifications in all relevant solicitation provisions and contract documents;
2. Allow all contractors and subcontractors on the construction project to compete for contracts and subcontracts without regard to whether they are otherwise parties to collective bargaining agreements;
3. Contain guarantees against strikes, lockouts, and similar job disruptions;
4. Set forth effective, prompt, and mutually binding procedures for resolving labor disputes arising during the term of the PLA;
5. Provide other mechanisms for labor-management cooperation on matters of mutual interest and concern, including productivity, quality of work, safety, and health; and
6. Fully conform to all statutes, regulations, Executive Orders, and any other DOE requirements contained in this Agreement.

Failure to address the above-referenced requirements in this Term may result in additional reporting.

Term 21. Modifications of Standard Terms and Conditions

[RESERVED]

Term 22. Long-Lead Procurement

A. Definition

Long-lead procurements (“LLP”) include equipment as defined in 2 CFR 200.1, construction materials, services, or other orders that will not be delivered until a future phase or that must be ordered well in advance of the estimated start of installation or construction to ensure availability at the time needed.

B. DOE Approval

The Subrecipient may only incur costs and be reimbursed through the Subaward for long-lead procurement purchases that have been reviewed and approved by ARCHES/DOE. The Subrecipient must notify ARCHES/DOE of any additions, changes, or updates to proposed LLP. The Subrecipient may incur costs and be reimbursed through the Subaward for long-lead procurement purchases once reviewed and approved by ARCHES/DOE in the Revised Budget Workbooks. The Revised Budget Workbooks should include the current estimate of anticipated LLP and the projected cost payments per phase for each item. The Subrecipient must notify ARCHES/DOE of any changes or updates to the list.

If additional LLP are proposed by the Subrecipient, DOE prior approval is required and contingent on DOE’s review of total costs, review of schedule, project progress, and consideration of NEPA.

To request a long-lead procurement, the Subrecipient must:

1. Provide a description of the equipment, services, materials, or other order needed and why it is needed for the project;
2. Explain how a delay in purchasing the equipment, services, materials or other order would impact the project, specifically its schedule;
3. Describe the proposed type of contractual arrangement to be utilized for the LLP;
4. Provide a summary of the Subrecipient’s acquisition strategy including sources sought, bid price, and cost analysis; and
5. Negotiate in good faith with the long-lead procurement provider to limit non-refundable payments and contracts which are not cancellable prior to delivery to the extent practicable.

C. Iterative Payments

In the event the Subaward is not continued into subsequent phases or available Federal funding is not adequate to cover the Subrecipient’s future payments for LLP, ARCHES and DOE are not responsible for providing additional funding to cover the Subrecipient’s commitments. If the Subaward does not continue or a Sub-Project withdraws and the long-lead procurements contract is terminated, this event will not change the determination of previously made Federal payments for LLPs that were deemed, allocable, allowable, and reasonable. In the event that a long-lead procurement is continued after a Sub-Project withdraws, DOE’s interests in property that is the subject of the LLP will be governed by Term 50 of the DOE Standard Terms and Conditions.

Term 23. Equipment, Supplies, and Services

Any equipment, supplies, or services (including any professional or consultant services referenced in 2 CFR 200.459 or 48 CFR 31.205-33) that are sold or transferred between any divisions, subdivisions, subsidiaries, or affiliates of the Subrecipient shall be on the basis of cost incurred for this project.

Term 24. Shared Principles for Community Collaboration

If required by ARCHES, the Subrecipient will cooperate in ARCHES' and DOE's developing Shared Principles for Community Collaboration ("Shared Principles") process, which brings ARCHES, OCED, and the host communities into meaningful dialogue to develop these Shared Principles.

Section 3: ARCHES Terms and Conditions

Term 1. Baseline Development and Delivery

Within 30 calendar days of execution of this Agreement, the Subrecipient shall collaboratively participate with ARCHES to develop the Subrecipient's delivery baseline (i.e., scope, schedule, budget, milestones, resources, risks/opportunities, deliverables, key performance indicators, etc.). This baseline will be actively tracked, managed, and reported throughout the course of the Subaward in accordance with this Agreement's terms and conditions. The total cost share required from the Subrecipient will not be less than the combined amount of funding provided to the Subrecipient through ARCHES from Federal and State sources. The total cost share commitment for Phases 2-4 will be confirmed via delivery baseline discussion and committed under amendments to this agreement. Once developed, the Subrecipient's delivery baseline will be documented in the Subrecipient Project Management Plan ("PMP") and updated quarterly.

Term 2. Program and Project Controls

To manage delivery of the program baseline, including every Subaward, ARCHES has developed a program controls framework for program assurance and oversight. The Subrecipient will be required to submit a project baseline and provide status reports monthly. ARCHES will provide the Subrecipient with a project controls reporting template to support compliance with the program controls framework and to support management of the program baseline. This template will be submitted monthly by the Subrecipient as the basis of a project controls tracking plan and will include at a minimum, but not be limited to, planned and actual deliverable submissions dates, planned deliverable progress reviews, key milestones associated with the WBS, and monthly planned and actual budget tracking.

Term 3. Performance Management

To effectively manage the delivery performance of each Subaward within the ARCHES program, ARCHES has developed a performance management framework that will require Subrecipients to provide various information to ARCHES for project oversight.

As part of the baselining process (see ARCHES Terms and Conditions, Term 1), key performance indicators ("KPIs") will be developed for each Subrecipient project. Information gathered within the Program and Project Controls system (see ARCHES Terms and Conditions, Term 2) will be assessed and regularly reported against the project-based KPIs.

The Subrecipient will be required to collaboratively participate in the performance management process. ARCHES will oversee the performance management process, regularly assessing Subrecipient project performance. However, the Subrecipient retains full responsibility over all aspects of its project, including performance management.

Escalation and intervention measures that will apply in the case of Subrecipient non-performance will be developed in Phase 1 and provided to Subrecipients.

Term 4. Governance

A key element of the ARCHES governance framework is the project-to-program interface. The

governance framework, which will be further progressed with the Subrecipients post-Agreement execution, will further detail the project-to-program interface requirements (people, processes, tools, templates, and system), including roles/responsibilities, authorities, escalation routes, etc. Each Subrecipient will be required to comply with the governance framework.

Term 5. Change Management

Changes to the Subrecipient's baseline shall be managed in accordance with 2 CFR § 200.308 ("Revision of budget and program plans") and pursuant to the ARCHES change management processes and procedures.

Term 6. Financial Oversight

The Subrecipient must permit ARCHES and auditors to have access to the Subrecipient's records and financial statements as necessary for ARCHES to meet the requirements of 2 CFR § 200.332 ("Requirements for pass-through entities"). The Subrecipient must provide to ARCHES, upon request, financial management documents and information to ensure records are in accordance with 2 CFR § 200.302 ("Financial management"). Upon request, the Subrecipient shall provide financial documentation required by ARCHES' financial management systems. This may include, but is not limited to, certified payroll documentation, audit reports and findings, federally negotiated indirect and fringe rate agreements, purchase orders, quotes, invoices, and receipts of project expenditures. In responding to information requests, the Subrecipient shall not differentiate between Subrecipient cost share and DOE funding; both are subject to the same requirements for financial oversight.

Term 7. Payment Terms

The payment term applicable to work under this Agreement is Net 30 calendar days after ARCHES receives payment from DOE for an approved Subrecipient invoice. ARCHES will submit combined Subrecipient and Recipient invoices to DOE on a monthly basis, no later than the third Friday of the month following the invoicing period.

Prior to submission to DOE, ARCHES will complete a review of Subrecipient invoices within 10 business days of receipt. Invoices approved by the third Wednesday of each month will be submitted to DOE for review on the third Friday of each month, unless that day falls on a recognized state or federal holiday. Invoices approved after the third Wednesday of each month will be submitted to DOE on the third Friday of the following month, unless that day falls on a recognized state or federal holiday. DOE has stated that it will typically approve payment requests in 30 calendar days unless the billing and/or supporting documentation provided is improper per Term 10(C) of the DOE Award-Specific Terms and Conditions. Payment of federal funds is also contingent on ARCHES' cumulative contributed cost share remaining at or above 50%; if the cumulative cost share for the Recipient and all Subrecipients combined falls below 50%, DOE may decline to issue any reimbursements until the documented cost share from the Recipient and all Subrecipients rises to 50% or above. In such a situation, ARCHES will be unable to reimburse any Subrecipient costs and this Term 7 shall not apply until the cost share has risen to 50% or above.

Term 8. Insurance

Prior to commencing work under this Subaward, the Subrecipient agrees to obtain and maintain the following insurance coverage, which may be in the form of self-insurance, and shall provide proof of insurance coverage within 30 calendar days after execution of this Subrecipient Agreement:

- **General Liability Insurance:** Coverage for bodily injury, property damage, and personal injury arising from the Subaward activities in an amount not less than \$1,000,000 per occurrence and \$2,000,000 in the aggregate.
- **Worker's Compensation Insurance:** If applicable, coverage for employees engaged in the Subaward work in an amount not less than the statutory requirement.
- **Automobile Liability Insurance:** If vehicles are used in connection with the Subaward, coverage for liability arising from vehicle-related incidents in an amount not less than \$1,000,000 per occurrence and \$2,000,000 in the aggregate.

Additional Insured Endorsement:

The Subrecipient shall name ARCHES H2 LLC as an additional insured on its general liability insurance policy. This endorsement ensures that the Recipient is protected against claims arising from the Subrecipient's work.

Notice of Cancellation or Modification:

The Subrecipient shall provide ARCHES with at least thirty (30) calendar days' written notice before canceling or modifying any insurance coverage such that the Subrecipient's insurance coverage would no longer comply with the requirements herein.

Term 9. Communication

The Subrecipient shall maintain regular communication with the project stakeholders, both internal and external, throughout the duration of this Subaward. Communication channels may include email, phone calls, and virtual and in-person meetings. The Subrecipient agrees to participate actively in project-related meetings, including but not limited to, project kick-off meetings, progress review meetings, and technical working group sessions.

Pursuant to the Prime Agreement's communication requirements, the Subrecipient is required to develop a Communications Plan within 30 calendar days of the Subrecipient Agreement's execution. The Subrecipient's Communication Plan shall establish the scope, schedule/milestones, budget, resources, KPIs, etc. to comply with the program communication requirements.

Term 10. Community Benefits

The Subrecipient agrees to develop a preliminary Community Benefits implementation plan, within an ARCHES-provided planning template, that will establish the scope, schedule/milestones, budget, resources, KPIs, etc. related to community benefits. The Subrecipient will deliver a draft of this plan by January 31, 2025, or at a later date approved by ARCHES.

The Subrecipient agrees to allocate a minimum of 1% of the total project costs toward community benefits planning, community benefits administration, community engagement, and direct community benefits. These community benefits shall directly enhance the well-being of the local community

affected by the project and adhere to requirements set forth in DOE Go/No-Go Documents and Justice40 Initiative. ARCHES will monitor community benefits costs to ensure that funds are used efficaciously, with an emphasis on maximizing direct benefits. If the Subrecipient fails to meet the minimum of 1% of total project costs allocated to community benefits by the end of the Subaward, the Subrecipient shall pay ARCHES the remaining balance for ARCHES to distribute to the local community.

The Subrecipient shall maintain a staffed role designated to Diversity, Equity, Inclusion, and Accessibility (“DEIA”) and designate a staffed project liaison for community benefits. The Subrecipient shall hire and use local resources whenever possible to perform engagement activities.

The Subrecipient agrees to engage the affected community actively in a consistent and sustained manner pursuant to its CB implementation plan and in alignment with the ARCHES Communication Protocols (see ARCHES Terms and Conditions, Term 9).

The Subrecipient will follow, as applicable, a set of “Shared Principles” that will be developed by ARCHES and OCED; any activities contemplated in the Shared Principles will support, and not supersede, community benefits activities otherwise outlined and required herein.

The Subrecipient shall meet DEIA requirements to ensure inclusion and accessibility of engagement activities in disadvantaged communities. The Subrecipient shall ensure that all managers and supervisors at Subaward sites have in-person DEIA training at project initiation or upon hire. The Subrecipient shall include at least the following topics: anti-bias, unconscious bias, harassment, reporting processes, and anti-retaliation policy. The Subrecipient shall collect DEIA data as specified in the ARCHES orientation and submit the data to ARCHES according to the process specified in the ARCHES orientation.

If ARCHES determines that a Subrecipient is not properly following the Community Benefits requirements, ARCHES may allocate the Subrecipient’s federal funding to community benefits on the project’s behalf up to the required 1% of project costs.

Term 11. Data Reporting

The Subrecipient must comply with the data management requirements set out in Attachment 4e. Pursuant to the Prime Agreement data management requirements, the Subrecipient is required to develop a Data Management Plan during Phase 1. The Subrecipient’s Data Management Plan shall establish the scope, schedule/milestones, budget, resources, KPIs, etc. to comply with Attachment 4e. It shall include, but not be limited to, the following elements:

A. Technoeconomic Analysis (“TEA”) and Lifecycle Analysis (“LCA”) Data

The Subrecipient shall provide to ARCHES all data required for ARCHES to create a Hub TEA and LCA, including all front-end engineering design (“FEED”) type data for the equipment and layout of a project and expected costs for major equipment. Any TEA or LCA that is prepared by the Subrecipient shall be shared with ARCHES, including its assumptions, methodology, inputs, and results.

B. Feedstock Agreements

The Subrecipient will provide ARCHES with copies of all feedstock agreements related to the project, including but not limited to pricing, tariffs, hydrogen amounts and prices, renewable assets, etc.

C. Offtake/Intake Agreements

The Subrecipient shall provide all offtake and intake agreements related to the project to ARCHES, including but not limited to tenders, MOUs, and contracts for the hydrogen involved within the ARCHES ecosystem.

D. Operating Data

The Subrecipient shall provide operating data from each project to ARCHES as long as the project is operational or as long as this Subrecipient Agreement remains in effect, whichever is shorter. The Subrecipient shall provide usage and performance data no less than quarterly for all operation under this project.

E. Air Quality Data

ARCHES will work with each Subrecipient to establish appropriate air quality data requirements pursuant to the Subrecipient's existing permitting requirements.

Term 12. Confidentiality

ARCHES and the Subrecipient may enter into a non-disclosure agreement ("NDA"), and the terms of that NDA shall be considered incorporated by reference as if fully set forth herein and shall remain in effect until the later of either: (1) the term described in the NDA; or (2) the termination of this Agreement/Subaward. ARCHES and the Subrecipient will handle Proprietary Information, as defined in the NDA, pursuant to the NDA's requirements and will clearly identify any Proprietary Information as such. To the extent that this Subrecipient Agreement requires disclosure of Proprietary Information to DOE or to any of its representatives or agents, the terms of the NDA shall be considered inapplicable to that disclosure, but ARCHES will convey such Proprietary Information with any markings included by the Subrecipient.

If ARCHES and the Subrecipient, by mutual agreement, do not enter into an NDA, they will develop appropriate information-sharing protocols to address any concerns regarding the confidentiality of information shared by the Parties.

Term 13. Funding Requirements Management

Pursuant to DOE funding requirements (as set out in the Prime Award Standard and Award-Specific Terms and Conditions), ARCHES is obligated to oversee and manage delivery of all projects that include DOE funding, regardless of amount. Part of this oversight includes monitoring and reporting delivery of all funding streams, DOE and otherwise, which, by association, include all matching funds and their associated funding requirements.

Reporting of DOE funding and cost share for DOE funding shall be provided at the same level of detail in each invoice, regardless of the value of the invoice. DOE and cost share funding documentation shall be provided to demonstrate that all costs (DOE funding and Subrecipient cost share) are necessary, reasonable, allowable, and allocable. These requirements will be set out in the Cost Management component of the Program and Project Controls framework (see ARCHES Terms and Conditions, Term 2).

These additional funding sources and their requirements shall be captured in the Subrecipient's project baseline (see ARCHES Terms and Conditions, Term 1), controls plan (see ARCHES Terms and Conditions, Term 2).

Term 14. ARCHES Marketplace.

A core element of ARCHES' strategy is the development of a hydrogen marketplace in which a sustainable supply of hydrogen is produced, transmitted, and utilized by ARCHES members. Each Subrecipient's participation in the development and implementation of this marketplace is critical to its success. Therefore, each Subrecipient will be expected to participate in ongoing discussions and data reporting related to the development of the ARCHES hydrogen marketplace in California.

Term 15. Subcontracting

All requirements and terms and conditions applicable to contracting/subcontracting and set forth in this Subrecipient Agreement shall be applied, in full, to each subcontract the Subrecipient establishes for each project.

The Subrecipient will be required to report on subcontractor activities related to project scope, schedule, and budget. The level of detail will be commensurate with the value of the subcontract.

Term 16. Subrecipient Agreement Management

This Subrecipient Agreement will serve as an overarching agreement for the life of the project, encompassing all phases of the Subrecipient's Subaward. This Agreement will be reviewed regularly (minimally, at the end of each phase and at each key milestone) and revised as/if required, throughout the lifecycle of the ARCHES program.

In accordance with the determination of the continuation application (see DOE Terms and Conditions, Term 14), and 90 calendar days prior to the end of each phase, ARCHES and the Subrecipient will begin preparation of modifications to this Agreement to allow for continuation to the subsequent phase and will make any required updates to the terms and conditions. If DOE elects to fund the next phase of the project, the Parties will update this Agreement to reflect the revised funding level, Budget Period, milestones, deliverables, Go/No-Gos Table, and any other changes. ARCHES and the Subrecipient must execute such modifications to this Agreement before the Subrecipient may proceed to the next phase.

In the event that the DOE Grants and Agreements Officer unilaterally modifies the agreement between ARCHES and DOE, whether required by law or for administrative matters such as updating regulatory citations, lines of accounting, and DOE contacts, ARCHES reserves the right to modify the Subrecipient Agreement unilaterally. Additionally, if ARCHES and DOE, through mutual agreement, modify the Prime Agreement, ARCHES will subsequently issue a modification to the Subrecipient Agreement if required. As detailed in DOE Terms and Conditions, Term 27, in the event of any of the modifications described above, ARCHES will request the Subrecipient's written consent to such modification(s). The Subrecipient's failure to consent to such modification(s) may be grounds for termination of this Agreement/Subaward, and if the Subrecipient does not consent to such modification(s), any costs incurred subsequent to the modification(s) of the Cooperative Agreement between DOE and ARCHES may be considered unallowable and not payable by ARCHES.

All changes requiring modification to the Subrecipient Agreement will be tracked on a changes log for the project, maintained by ARCHES. ARCHES will undertake modifications on an as-needed basis and to reduce administrative burden will target a frequency of no more than quarterly. In circumstances where the schedule or critical scope activities require expedited approval, ARCHES, through consultation with DOE, may issue a written Notice to Proceed (“NTP”) that will be followed by a formal modification to this Agreement.

Term 17. Dispute Resolution

Any dispute, controversy, or claim arising out of or related to this Subaward, including its interpretation, performance, enforcement, or breach, shall be finally resolved by arbitration in accordance with the International Institute for Conflict Prevention and Resolution (“CPR”) Rules for Administered Arbitration. The arbitration shall be conducted by three arbitrators, of whom each Party shall designate one, with the third arbitrator to be appointed by CPR. The arbitration proceedings shall take place in California.

Final and Binding Decision:

The arbitration award shall be final and binding on both Parties. The award may be enforced in any court of competent jurisdiction.

Costs and Attorneys’ Fees:

The prevailing Party in the arbitration shall be entitled to recover reasonable attorneys’ fees and costs incurred in connection with the dispute.

Continuation of Work:

Pending resolution of the dispute, the Parties shall continue performing their obligations under the subaward, except to the extent that the dispute directly affects those obligations.

These requirements will be set out in the PMP.

Term 18. Termination

Notwithstanding any other term of this Agreement, all or part of this Agreement may be terminated by ARCHES. ARCHES will notify Subrecipient in writing, via email or letter to the Subrecipient Project Manager. The Termination will be effective on the date of receipt of the termination notice. In such event, the Subrecipient will be entitled to reimbursement for work previously assigned to federal funding on the Subaward that was competently performed up to the date of termination, including any reasonable termination expenses as determined at the discretion of ARCHES. The Subrecipient will not be entitled to reimbursement on work not performed. *See also* DOE Standard Terms and Conditions, Term 30.

Term 19. Shared Principles for Community Collaboration

As described in Section 2, Term 24, ARCHES and DOE are currently engaging Shared Principles for Community Collaboration process. Subrecipient commits to participating in the development of the Shared Principles as relevant to Subrecipient’s project. Upon establishment of the Shared Principles, ARCHES and Subrecipient will confer on best practices to implement within Subrecipient’s project. Subrecipient commits to incorporating reasonable practices and procedures developed within the Shared Principles process. Any activities contemplated in the Shared Principles will support, and not supercede, community benefits activities otherwise outlined and required herein..

ATTACHMENT 4a
Statement of Work

ATTACHMENT 4a

Statement of Work

The City of Los Angeles Harbor Department (Port of Los Angeles, "POLA"), in partnership with to-be-determined terminal operators, plans to deploy approximately 95 cargo handling equipment (CHE), 5 mobile refuelers, and 375 fuel cell electric trucks (FCETs). These deployments are estimated to use 24.5 metric tons per day (MTPD) of hydrogen from the ARCHES marketplace.

Phase 1: For Phase 1, activities at POLA will focus on preliminary planning work supporting future hydrogen fuel cell terminal equipment deployments and implementing Community Benefits Program elements. Related to hydrogen fuel cell terminal equipment planning activities during Phase 1, POLA will coordinate with terminal operators and prepare for future equipment procurement, especially long lead procurements. POLA will confirm the final list of participating terminals, outline their expected projects, and establish subcontracts for each major component of the full project.

This agreement only authorizes activity and budget for Phase 1. Future phases are contingent upon the DOE Go/No-Go process described in Section 1, Term 14, and subsequent amendments to this agreement. These future phases are expected to include:

Phase 2: For Phase 2, POLA and the participating terminal partners will implement the agreed upon subcontracts. Terminal partners will select the exact equipment units to be deployed, select provider (s) for hydrogen fuel, establish final fueling plans at each facility, and begin the process for permitting all on-site activities, and obtain all required permits. POLA will continue implementing Community Benefits Program elements, manage overall project reporting requirements, and invest matching funds into the FCET deployments.

Phase 3: For Phase 3, POLA and the participating terminal partners will continue to implement the agreed upon subcontracts. Terminal partners will procure equipment as finalized in phase 2 and contract hydrogen supply as needed for the delivered equipment. POLA will continue implementing Community Benefits Program elements, manage overall project reporting requirements, and invest matching funds into the FCET deployments.

Phase 4: For Phase 4, POLA and the participating terminal partners will continue to implement the agreed upon subcontracts. Terminal partners will deploy and operate the procured equipment in Phase 3, and expand the project scope with additional procurements once initial deployments have shown viability in use. POLA will continue implementing Community Benefits Program elements, manage overall project reporting requirements, and invest matching funds into the FCET deployments.

ATTACHMENT 4b
Go/No-Go Table

Attachment 4b: Go/No-Go Tables

Phase 1 Gating Criteria for City of Los Angeles Harbor Department

Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable	
					Suggested Date of End Delivery (Periodic updates needed on many products)	
Design/Engineering	Design	1	Are baseline concept and preliminary design complete including production, connective infrastructure, end-uses? <i>GNG not pertinent to procurement of vehicles.</i>	Preliminary Design (~30%) for the project has been established sufficiently to progress permitting, establish pipeline routing (if applicable), establish initial evaluation of the infrastructure integration requirements, develop the performance model, reliability and maintainability strategy, procurement requirements, initial operational plan, and initial safety plan. Preliminary Design documentation typically includes (but is not limited to) a Preliminary Design Report, Block Flow Diagrams, Plot Plans, Process Flow Diagrams, Utility Flow Diagrams, Piping & Instrument Diagrams, Equipment Lists, equipment specifications and datasheets, preliminary load list and electrical one-line drawings, and general equipment arrangement drawings. The design report includes basis of design and design criteria and summarizes systems, major design assumptions, analysis of alternatives completed or under consideration, and any other relevant details to inform a reviewer on the design process prior to submission of the draft deliverable. Carbon management, if applicable to the project (whether in or out of scope of the federal award) has a preliminary (~30%) design developed. Project code of record exists and identifies codes intended to be applied, codes required by the Authority Having Jurisdiction (AHJ), or any codes gaps. The project code of record also includes or discusses provisions intended to be applied, when selecting between multiple references or controlling documents.	Preliminary Design Documentation End of Phase 1	
	Technical Readiness	2	Are the needed critical and enabling technology capabilities identified and maturity readiness achievable and assessment execution demonstrated?	Identified technologies are at technology readiness level (TRL) 6 or above with plans to bring the technology to a TRL 8 by the completion of Phase 4. Critical path milestones have been identified for technology maturation in Phase 2 and ahead of Phase 3. Testing, analysis, and modeling resources have been identified to validate any findings or performance parameters that will need to be distributed and integrated into other models (i.e., techno-economic analysis (TEA), lifecycle assessment (LCA), financial model, system reliability predictions, etc.).	TRL Analysis and Uncertainties End of Phase 1	
	Engineering		3	Is a performance model developed and agreed upon?	Efficiency modeling is complete for the preliminary design to identify the performance for (1) feedstock efficiency (H2 producers only), (2) hydrogen and byproduct production efficiency (H2 producers only), and (3) TEA. Inefficiency in the design or economic deficiencies (i.e., levelized cost of hydrogen (LCOH) higher than willingness to pay of offtakers) has been flagged as a risk and a plan has been developed with necessary design changes. DOE will provide a simplified TEA worksheet that links to the applicant's financial model to allow DOE to calculate key metrics for TEA such as LCOH in a standardized format.	Performance model and modeling results End of Phase 1
			4	Has the LCA been updated?	Updated LCA and assumptions, including criteria air pollutants (CAP), greenhouse gases (GHG), and water impacts for the preliminary design have been provided. For projects that include H2 production, LCA shows that H2 produced is considered clean H2 according to the clean hydrogen production standard (i.e., well-to-gate CI < 4.0 kg CO ₂ e/kg H ₂). Recipients should demonstrate that H2 production meets these emissions targets by utilizing 45V H2 Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET). Optionally, recipients can also provide emissions results by adjusting background data in the latest version of R&D GREET. If the carbon intensity (CI) is significantly higher than that modeled in the preliminary LCA or H2 production does not meet the clean hydrogen production standard, a risk mitigation approach including design changes to meet DOE requirements has been provided.	LCA End of Phase 1
			5	Are the Cybersecurity, Hardware Assurance, Software Assurance, Supply Chain Security, Physical Security, and security resources assigned and framework in place?	Updated cybersecurity plan covering development and known information on construction and operational phases has been developed at a maturity indicator level (MIL) 3 with mitigation approaches included in the design or operational processes.	Security Framework End of Phase 1

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Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable
					Suggested Date of End Delivery (Periodic updates needed on many products)
		6	Is a safety culture in place and safety compliance understood and planned for?	Initial safety plan has been completed regarding the preliminary design and development maturation, and mitigation approaches are included in the design or operational processes. The plan addresses compliance with incident reporting requirements. The plan should encompass all sites, technologies, and end-uses that are known and included in the project. The safety plan addresses site or company-wide safety culture and accompanying training. The safety plan includes plans for regular training and monitoring, and engagement with local first responders has occurred. Hydrogen Safety Panel has reviewed the safety plan and their comments have been adequately addressed.	Initial Safety Plan End of Phase 1
	Sites	7	Have the sites been identified? <i>GNG not pertinent to procurement of vehicles.</i>	Site alternative identification has been completed for all areas within the workstream/project, including production, storage, and pipelines. Community has been engaged from the vicinity of the site(s) considered. Memoranda of Understanding (MoU) with site owner (if applicable) have been executed. Site surveys are scheduled to confirm any brownfield conditions and considerations. Preliminary pipeline routes and potential rights-of-way have been identified. Potential issues with obtaining rights-of-way have been identified with mitigation plans in place. Preliminary freight study has taken place to ensure equipment can be delivered to site.	Provide identified sites in design package. End of Phase 1
Environmental	Permits	8	Are the required permits identified and permitting process started?	An initial list of all state, local, and federal approvals and permits needed prior to construction has been developed. Submittal status report, documenting any permitting processes initiated or activities related to regulatory engagement, has been provided. Initial Permitting Plan includes an understanding of potential issues in obtaining permits within the budget or schedule and any such issues have been developed and incorporated into risk planning. Permits and critical path milestones have been incorporated into the integrated project schedule.	Initial Permitting Plan End of Phase 1
	NEPA	9	Has a completed Environmental Information Volume (EIV) been submitted?	With DOE guidance, preparation of EIV has been completed (or Environmental Considerations Summary (ECS), if determined appropriate by DOE), and alternatives identified. Regulatory plans have been prepared.	EIV (or ECS) End of Phase 1
Technical Management	Risk Register	10	Are risks, opportunities, and issues identified, analyzed, and addressed with appropriate plans and plan execution demonstrated?	Workstream/project risks have been identified. An updated risk register has been provided with initial probability and consequence, handling strategy, risk response plan, residual probability and consequence and residual risk level identified. Any cost and schedule impacts have been determined and factored into the updated register. Risks identified for mitigation for Phase 1 have been addressed and closed.	Risk Register Periodic delivery
	Data Management	11	Are the data requirements defined?	The initial data management plan (DMP) (technical and community benefits) has been developed and identifies data to be collected, methods of collection or estimation, and any restrictions or limitations on the data to be shared (i.e., proprietary data that may be collected but can only be shared when aggregated or protected). Data format has been identified to ensure all data collected can be used by the DOE, DOE associated labs, or made publicly available. Data dictionary has been defined to include any external data sources used in the analysis (i.e., census district data used in mapping estimated emission reductions).	DMP End of Phase 1
	Procurements	12	Are long-lead items identified? Is the design approved to order long-lead items?	Procurement of equipment, including long-lead items, in Phase 2 has been identified and the design and analysis of alternatives (AoA) provides evidence the equipment is acceptable and meets all award requirements. Any equipment related to end-uses has evidence of hydrogen supply, from producers in the hub or an independent source of clean hydrogen.	Project Management Plan (PMP) End of Phase 1
	Staffing	13	Are staffing plans and supporting contracts and labor agreements negotiated and ready to award?	Preliminary staffing criteria for Phase 3 defined for direct employees needed during construction and operations. Community benefit commitments, such as using negotiated agreements, are determined for inclusion in Phase 2 EPC solicitation. Preliminary staffing needs for direct employees are estimated for construction and operations. Phase 3 oversight strategy has been outlined and has been informed by factors such as project contract types, project size and complexity, and Subrecipients'/developers' strengths and weaknesses.	Staffing Plan End of Phase 1

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Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable
					Suggested Date of End Delivery (Periodic updates needed on many products)
Project Management	Total Project Cost Estimates	14	Are the costs understood and updated for Phase 2?	<p>An updated budget justification, inclusive of the Total Project Costs (TPC) to deliver all remaining phases of work, has been provided to incorporate any revised assumptions from the work performed in Phase 1. The Phase 3 budget justification includes updated costs associated with an Association for the Advancement of Cost Engineering (AACE) construction cost estimate (at least Class 4) developed in conjunction with the preliminary design.</p> <p>The general level of maturity for work to be performed in Phase 2 is appropriate for Budget, Authorization, or Control of Phase 2 Work. The Phase 2 TPC aligns with the schedule and work breakdown structure (WBS) and is sufficiently detailed to serve as the earned value management baseline for Phase 2. Contingency for all future phases has been estimated and is appropriate based on the level of definition. The cost estimate includes a basis of cost estimate document outlining the assumptions and basis for all costed items.</p> <p>Estimates of costs for future phases are reasonably substantiated and informed by up-to-date information.</p>	Total Project Cost Estimate End of Phase 1
	Project Schedule	15	Is schedule in place and executable?	The schedule has been decomposed to level 3-4 for Phase 2 tasks, and a critical path has been identified for Phase 3 and 4 tasks. The schedule aligns with the hub-level WBS. The project schedule has been integrated at the hub level.	PMP (native format) End of Phase 1
	Intellectual Property	16	Has all the intellectual property (IP) been identified?	The project has identified required intellectual property and plans for obtaining the required intellectual property rights. If intellectual property will be generated under the project, a plan for managing and protecting that IP has been updated.	IP Management Plan End of Phase 1
	WBS	17	Is there a work breakdown structure?	A work breakdown structure has been developed and is the basis of the schedule and budget estimates. The WBS provides an understanding of all activities within the workstream for Phase 2 to level 3-4 and at least level 2 for Phases 3 and 4.	PMP End of Phase 1
Business Agreements	Financial Model	18	Is the financial model developed for the project lifecycle?	Initial financial model has been provided and aligns with the latest system performance metrics (production volumes, efficiency, etc.), total project cost, feedstock agreements, feedstock forecasts, revenue agreements, revenue forecasts, cost forecasts, and schedule. Model is dynamic, not hard coded, in Excel and includes operating costs, operating revenues, capital expenses, and tax credits/liabilities. The model provides a base case (most likely performance scenario) based on projected operations efficiency, as well as the ability to perform sensitivity analyses around revenue, cost, and financing assumptions. DOE will provide a simplified TEA worksheet that links to the applicant's financial model to allow DOE to calculate key metrics for TEA such as LCOH in a standardized format.	Financial Model End of Phase 1
	Financial Plan	19	Has the financial plan been developed?	The financial plan has been developed and includes (1) capital requirements, (2) funding plan, (3) financing for long-lead procurement, if required prior to full financing in place, (4) long-term Viability Plan, and (5) contingency planning. The plan identifies (a) funding for Phase 2 including financing commitments, (b) funding approach and updates for Phase 3 including medium-term financing for machinery and equipment, and (c) longer-term financing for the site and facility including sources and uses and required funding beyond internal cash flow including working capital financing in Phase 4.	Financial Plan End of Phase 1
	Revenue Assurance	20	Have the end-uses been defined?	Potential offtakers for hydrogen production or hydrogen pipeline/storage capacity have been identified. Letters of commitment or MoUs, if obtained, from these offtakers have been provided, demonstrating demand for the production or system capacity and outlining a path towards offtake or reservation/storage capacity agreements by the end of Phase 2.	PMP or LOC/MoUs End of Phase 1
	Feedstock	21	Are feedstocks identified?	All known feedstocks (biogenic sources, natural gas, electricity, water, etc.) have been identified. Interconnection requirements are identified for the 30% design and have been integrated into the project design, cost, and schedule. For projects not producing hydrogen (e.g., end-user or midstream projects), hydrogen suppliers have been identified. For projects with earlier need dates, agreements are near final or have a path towards being executed.	PMP and feedstock agreement if available End of Phase 1
	Market Analysis	22	Has a project performed an initial hydrogen market analysis?	The project has provided an initial H2 market analysis including, but not limited to price, volume, industry demand and supply dynamics, and other relevant characteristics of the market for hydrogen and, if applicable, hydrogen-derived products and process co-products in the relevant markets where the project's products are expected to be sold.	Initial Market Analysis End of Phase 1

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Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable
					Suggested Date of End Delivery (Periodic updates needed on many products)
Community Benefits	Project Community Advisory Mechanisms	23A	Has the project governance structure been defined to include a project-level working group that receives input from local community members with outreach efforts aimed at achieving participation that represents diverse host community members?	<p>For projects where the site location is public, the project has a community benefits public engagement working group that is operational. The working groups will be open to all members of the community, with outreach to target broad, representative participation, including fenceline and neighboring disadvantaged communities. The project also has a Community Benefits Working Team (CBWT) composed of ARCHES project liaisons, compensated community-elected local community liaisons, and project-partner community benefits liaisons that is operational.</p> <p>ARCHES and the projects have provided documentation of the following:</p> <ol style="list-style-type: none"> Community member outreach efforts, as well as recruitment process for community liaisons. Information related to the outreach to and participation of community members, including efforts to increase representation of impacted communities/community groups (or attempted outreach). Documents indicating how the project working groups will undertake the following: operate in line with hub-level guidance; influence project-level decisions; be briefed on project scope and social impacts (to include environmental, economic, and health and site maintenance and safety topics); engage with the Project CBP Liaisons, Community Benefits Audit Team (CBAT), or Community Benefits Officer for oversight and progress tracking; and make recommendations that are linked to broader workstream plans. Financial support for the working group where needed to facilitate meeting organization and participation, if applicable, and evidence of active participation of community members (e.g., meeting minutes and voluntary sign-in list). The topics which the working group will be consulted and informed on, which should include site activity topics with the potential to impact the community during both construction and operations. <p>For projects without a public site, the project has provided documentation outlining its plan to initiate its CBWT at latest within 6 months after preferred site selection or within 6 months after the start of Phase 2. The project has identified publicly (e.g., on the project or hub website) how community concerns will be addressed in the interim, including through engagement activities or the hub-level mechanisms (CBAT, Community Benefits Working Group (CBWG)). The project has engaged with the hub as appropriate to support these efforts through the ARCHES project liaison and project-partner community benefits liaison.</p>	<p>Phase 1 PMP Federal Assistance Reporting Checklist (FARC)</p> <p>End of Phase 1 Community Benefits Summary Report</p> <p>Working Group documents detailing working group operating structure and influence on projects.</p>
	Community and Labor Engagement Activities	24	Is the project engaging with community and labor stakeholders, including fenceline, disadvantaged**, underrepresented*, and typically excluded groups, through a timeline that aligns with project planning and allows for meaningful input into project decisions or characteristics in Phase 1?	The project has documented (i) each substantial engagement activity with community and labor stakeholders, including key stakeholders identified in the PMP, (ii) its solicitation and tracking of stakeholder feedback and actions taken in response to such feedback, and (iii) its evaluation of the success of its engagement strategy and any proposed modifications based on stakeholder feedback.	<p>Phase 1 PMP Federal Assistance Reporting Checklist (FARC)</p> <p>End of Phase 1 Community Benefits Summary Report</p>
	Workforce and Community Agreements	25	Has the project committed to pursue negotiated agreements (e.g., Project Labor Agreements (PLA)) to ensure a sufficiently skilled and trained workforce for Phases 3-4?	<p>Either through its own activity or as covered by activities conducted by the hub, the project has progressed towards negotiated agreements to ensure a sufficiently skilled and trained workforce for Phases 3-4, in line with the hub's commitment, and has provided documentation of this progress.</p> <p>If any workers with similar duties related to the project at the project site are covered by an existing collective bargaining agreement, the project has submitted documentation of that agreement to DOE.</p>	<p>Phase 1 PMP End of Phase 1 Community Benefits Summary Report</p> <p>MoUs or other public statement of collaboration with labor organizations to work toward labor standards, apprenticeship utilization, and executing node or project-level PLAs, CWAs, or collective bargaining agreements.</p>

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Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable
					Suggested Date of End Delivery (Periodic updates needed on many products)
					Certification of the dates and parties of applicable collective bargaining agreements.
	Workforce and Community Agreements	26	Has the project committed to pursue negotiated agreements or plans with local communities (e.g., Community Benefits Agreements (CBA) or plans) once the preferred site is identified and if the community desires such arrangements, to ensure local benefits align with local priorities?	<p>Once the preferred site is identified, the project has consulted with the community to make a determination on pursuing CBAs or plans. If determination has been made based on engagement to pursue the negotiated agreements or plans, the project has made the commitment public and has demonstrated progress towards such agreements or plans in the FARC and end of phase community benefits summary report. If negotiated agreements or plans are NOT pursued, the project has provided thorough documentation explaining why, and any alternative strategies being pursued.</p> <p>The hub has publicly committed to negotiate agreements or plans with project adjacent-communities, where appropriate and if the community desires such agreements, to ensure local benefits align with local priorities.</p>	Phase 1 PMP Federal Assistance Reporting Checklist (FARC) End of Phase 1 Community Benefits Summary MoUs with community groups
	Tribal Engagement Plan and Activities	27	Can the project demonstrate that it has engaged with all federally recognized tribes who have sought outreach?	<p>The project has engaged with all federally recognized tribes who have expressed interest. Documentation of the project's engagements with all tribes who have sought outreach includes summaries of any correspondence and meeting notes or key points for non-written communication.</p> <p>The project is supporting DOE's government-to-government consultation with affected federally recognized tribes as requested.</p>	Phase 1 PMP End of Phase 1 Community Benefits Summary Report
	Quality Jobs, Local Hiring and Workforce Development	28	Are the initial training plans identified? Has the project developed a comprehensive approach to ensure workforce continuity? Has the project established quantitative and qualitative job goals? Have any negative impacts on workers been initially identified, captured, and incorporated into workforce planning?	<p>Where training planning needs are not covered by hub-level activities, an initial training plan has been identified for implementation and update in Phase 2. The plan adheres to hub-level requirements as well as project and site-specific training requirements. In conjunction with the hub-level plan(s), the project has demonstrated how it will access a sufficiently skilled and trained workforce for Phases 3-4. The Project has developed preliminary qualitative and quantitative goals for quality job creation, workforce development (e.g., pre-apprenticeship programs, Registered Apprenticeship programs), equal access to employment for local residents and hiring of workers from disadvantaged communities and populations, and recruitment, training, and retention plans to support these goals (can be fulfilled by Project Labor Agreement or Collective Bargaining Agreement). The project has also outlined plans to engage workers in design, implementation, and execution of workplace safety and health plans.</p> <p>The plans should also initially document any anticipated negative impacts on the existing workforce at any project sites and any proposed plans to mitigate these impacts (e.g., retention and transition opportunities for incumbent workers, pathway to retirement).</p>	Phase 1 PMP Initial Staffing and Training Plan End of Phase 1 Community Benefits Summary Report

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Readiness Focus	Topics	Question Identifier	Gating Questions	Success Criteria/Metrics	Deliverable
					Suggested Date of End Delivery (Periodic updates needed on many products)
	Equitable Impacts	29	<p>Have benefits and negative impacts, mitigation strategies, and measurement/monitoring protocols been initially identified, including for disadvantaged communities?</p> <p>Has the project demonstrated progress towards any project-level diversity, equity, inclusion, and accessibility (DEIA) assessments or strategies outlined in the PMP?</p>	<p>Preliminary J40 Assessment of anticipated impacts (positive and negative, including but not limited to Justice40 priorities) has been completed for the project and provided to hub level for tracking. Proposed J40 Implementation strategy is completed and includes a description of potential monitoring and mitigation approaches and their rationale, including associated milestones, responsibilities, and timelines. These assessments will be further refined and developed in future phases.</p> <p>The project has provided any necessary data to the hub for the public data reporting platform (see hub-level go/no-go criteria), per the Subrecipient agreement. The project has committed to adhering to hub-level goals for contracting or collaboration with underrepresented businesses, and, if relevant, partnerships with MSIs.</p> <p>The project has made progress towards supporting both hub-level and project-level DEIA efforts.</p>	<p>Preliminary J40 Assessment and Implementation Strategy</p> <p>End of Phase 1 Community Benefits Summary Report</p>
	Equitable Impacts: Air quality monitoring	30A	<p>Has the project developed a plan to conduct baseline air quality monitoring?</p>	<p>The project has developed a proposed plan to conduct baseline air quality monitoring (e.g., criteria air pollutants) with results shared in a publicly accessible format. This plan may include use of pre-existing monitoring stations but should demonstrate feasibility of fence-line monitoring as well as monitoring in populated areas in census tracts where facilities are proposed to be sited. The measurement plan must prioritize establishing a representative baseline against which changes in air pollutant concentrations can be directly assessed in later project phases, recognizing that if the preferred site changes, the monitoring plan would need to be adapted accordingly. The project has discussed this plan with the CBAT and/or the relevant project-level working group/working team for input and DOE. Note: This monitoring plan should not require duplication of, or addition to, any activities performed as part of the permitting process, but it should summarize those activities where relevant.</p>	<p>Phase 1 PMP</p> <p>Federal Assistance Reporting Checklist (FARC)</p> <p>End of Phase 1 Community Benefits Summary Report</p> <p>Proposed monitoring plan</p>
	Equitable Impacts: Air quality monitoring	30C	<p>Has the project determined if baseline air quality monitoring is necessary to support hub-level commitments?</p>	<p>The project has engaged the hub on proposed contributions towards air quality monitoring in future phases to support hub-level commitments and has made an initial determination as to whether air quality monitoring will be proposed in future phases and shared that with the DOE. Note: This should not require duplication of, or addition to, any activities performed as part of the permitting process, but it should summarize those activities where relevant.</p>	<p>End of Phase 1 Community Benefits Summary Report</p>
Executable	Project Success to Hydrogen Lift-Off	31	<p>Is the project producing results that are projected to support the objectives of the program?</p>	<p>Plans are in place to complete the necessary technical activities to progress toward the next milestone review. Execution is demonstrated through workstream's contribution to meeting the hub's Statement of Objectives. This workstream will successfully provide lift-off for clean hydrogen.</p>	<p>Lesson learned from Phase 1 and agreement from the DOE to proceed to Phase 2.</p>

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- * “ Disadvantaged communities means the census tracts that are defined and identified by the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool (CEJST) and all Federally Recognized Tribes and Tribal entities. For additional information about the Justice40 Initiative and the CEJST, please reference DOE’s Justice40 General Guidance. The Justice40 Initiative directs that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution. For information about whether a particular DOE program is covered under the Justice40 Initiative, see the White House’s Justice40 Initiative webpage and DOE’s Justice40 Initiative list of covered programs. Pursuant to Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad and Justice40 Initiative interim guidance by the White House Office of Management and Budget, White House Council on Environmental Quality, and White House Office of Domestic Climate Policy, M-21-28 and M-23-09.”
- *** Underrepresented refers to populations sharing a particular characteristic, as well as geographic communities, that are shown to have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by communities that have been denied fair, just, and impartial treatment, which may include Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; persons otherwise adversely affected by persistent poverty or inequality; women; immigrants; veterans; individuals without a college degree; individuals with or recovering from substance use disorder; and justice-involved individuals.

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ATTACHMENT 4c
RESERVED

ATTACHMENT 4d
Out-of-Scope Details

ATTACHMENT 4d Out-of-Scope Details

Attachment 4d is not applicable to this subproject.

ATTACHMENT 4e
Data Needs



Attachment 4e

Data Needs

Data Management Plan Basis (Data Expectations and Initial Data List for H2 Hubs)

Overview: Collecting commercial and operational data and key developmental learnings is foundational to the success of the H2 Hubs and liftoff of the hydrogen economy. The Data Management Plan documents the metrics and data products that U.S. DOE expects from H2 Hub awardees. The goal is not to gather company proprietary R&D information, but rather to develop actionable metrics that assess the status of the hub and where future investments and best practices can be developed.

Data security: Protecting sensitive data of the hub and project partners is of the utmost importance to the U.S. DOE. OCED will work with all parties to make sure that data is properly secured. The Phase 1 data management plan will enumerate how each article of data will be shared: format, reporting schedule (quarterly, etc.), data acquisition frequency (hourly, etc.), data security, and custody (retained by DOE, retained by third party, or viewed and retained at originator). Originators will mark all sensitive data and information appropriately.

Composite data products: In furtherance of OCED's mission, and to support the further private investment in, and deployment of clean energy technologies, as well as to support clean energy markets, OCED expects to negotiate modified data provisions that will enable OCED to publish aggregated and anonymized data derived from awardee data sets provided to the Department. The goal is to appropriately share aggregated and anonymized data, from all hubs, for the benefit of the nation's broader clean energy ecosystem while ensuring robust protection of any underlying protected/proprietary information or data. Before publication, the Hub and the applicable Subrecipients, as needed, will be able to review any composite data product and can provide comments prior to OCED publishing.

The following is an initial list of data including operating data (production, distribution, and end use), technical data, cost data, and community benefits data. This list will continue to be matured and finalized with the Hub and the applicable Subrecipients, in Phase 1 and Phase 2 and should be the basis of the Data Management Plan developed.

A. Cost

1. As listed covered under Project Cost, Financing, and Economic Data

B. Production

1. Electrolytic pathways
 - a. What manufacturer, model, and capacity electrolyzer is in use (MW, kg/hr), as well as total installation size?
 - b. What is the hourly, daily, and annual electrical and water usage of each electrolysis unit?
 - i. If treating water, what is the energy consumption of the treatment unit?
 - ii. What is the source of the electricity?
 - c. What is the hourly H2 production rate of each unit?
 - d. What is the overall system energy efficiency over the life of the units (reported quarterly)?
 - e. What does the use profile look like daily, seasonally, and annually?
 - i. Operating strategy/duty cycle (e.g., steady-state operation, number of cycles/day)
 - f. What are key maintenance items and typical service intervals?
 - g. What electrolytic production associated parameters drive total delivered cost of hydrogen?
 - h. What sensitivities or optimization areas are noted?
 - i. What were the unplanned outages: cause, duration, equipment repair time, etc.?
 - j. What was the actual maintenance year by year (i.e., planned outages)?
 - k. What was the total plant downtime (planned + unplanned)?
2. Thermal pathways
 - a. What are the feedstock rates and corresponding carbon intensities (estimated or measured)?
 - b. What is the hourly production rate of each unit?
 - c. What is the overall system energy efficiency?
 - d. What does the use profile look like daily and annually?
 - e. What are key maintenance items and typical service intervals?
 - f. What is the carbon capture technology?
 - g. What is the carbon capture efficiency?
 - h. What are the solvent consumptions and/or degradation rates?
 - i. What thermal production associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?
 - j. What were the unplanned outages: cause, duration, equipment repair time, etc.?
 - k. What was the actual maintenance year by year (i.e., planned outages)?
 - l. What was the total plant downtime (planned + unplanned)?

C. Distribution

1. Pipelines
 - a. What is the daily input, off-take, and loss (estimated or measured) of H2?
 - b. What is the average daily pipeline capacity usage?
 - c. What is the average daily energy consumption associated with H2 flow?
 - d. What pipeline associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?
2. Liquefaction
 - a. What is the daily and annual liquid hydrogen production?
 - b. What is the daily, seasonal, and annual energy consumption?
 - c. What does the use profile look like daily, seasonally, and annually?
 - d. What is the on-site liquid hydrogen storage capacity (per vessel and number of vessels)?
 - e. What is the annual loss of H2 to boil-off and transfer?
 - f. What are key maintenance items and typical service intervals?
 - g. What liquefaction associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?
3. Trucking
 - a. By approximate route (source to off-taker):
 - i. What is the daily truck delivery volume in aggregate?
 - ii. What is the distance traveled?
 - iii. Is gaseous or liquid H2 transported?
 - iv. Are there any measurable losses in transit, and if so, at what loss rate?
 - b. What is the average route delivery distance?
 - c. What is the private vs. public access split in MTPD?
 - d. What are the key maintenance items and typical service intervals?
 - e. What is the average cost to deliver, per mile-ton driven, of H2?
 - f. What trucking associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?
4. Stations
 - a. Please submit station reliability data to DOE's Hydrogen Component Reliability Database (HyCReD).
 - b. What is the daily H2 dispensing rate?
 - c. What is the yearly dispensing rate?
 - d. If LH2 stored onsite, what is the annual loss of H2 to boil-off and transfer?
 - e. What is the average number of H2 deliveries per day to the station?
 - f. How many refilling events occur per day?
 - g. What is the time between filling events: average time, minimum time, and number of back-to-back fills.
 - h. What is the average dispensing amount?
 - i. What are key maintenance items and typical service intervals?
 - j. What station associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?

D. End Use

1. By Vehicles Class:
 - a. What is the estimated number of vehicles fueled per year?
 - b. What is the aggregate fleet miles driven in the hub per year?
 - c. What is the aggregate ton-mile in the hub per year?
 - d. How much H₂ is consumed daily and annually by vehicles?
 - e. What are the total number of refueling events per year?

2. Ammonia (NH₃)
 - a. What are the daily and annual H₂ consumption rates?
 - b. What are the daily and annual NH₃ production rates?
 - c. What is the overall process energy efficiency?
 - d. What ammonia conversion parameters drive total delivered cost of NH₃?
 - i. What sensitivities or optimization areas are noted?

3. Other Industrial Gases/Products
 - a. What is the other product, and non-H₂ daily and annual feedstock consumption rates?
 - b. What are the daily and annual H₂ consumption rates for a given industrial process?
 - c. What are the daily and annual product production rates?
 - d. What is the overall process energy efficiency?
 - e. What other industrial product associated parameters drive total delivered cost of hydrogen?
 - i. What sensitivities or optimization areas are noted?

E. Other Technical Data Requirements

1. Geolocation
 - a. All data collected should be georeferenced. Complex geometry or geospatial data must be provided with a shapefile.

2. Safety (Safety reporting details in the FARC)
 - a. Submit safety events to the public lessons learned database at H2Tools.org.
 - b. Safety-related data such as component failure.

3. Emission Abatement: Assessing Sub-Project level and hub-wide emissions of greenhouse gases, criteria air pollutants, and emerging air pollutants is critical for assessing program success. Air quality data is also needed to identify the corresponding air quality impacts of these projects. Relevant data sources for this aim include:
 - a. Operational emissions data from continuous emissions monitoring systems, where applicable.
 - b. Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model files showing well-to-gate emissions estimates for each project.
 - c. Ambient air quality monitoring data from site development through operations.

F. Project Cost, Financing, and Economic Data

1. Project Cash Flow data to include but not limited to:
 - a. Breakdown of capital expenditures (CapEx) including estimated and actual cost for key equipment, components, installation costs, and capital spend schedules.
 - b. Breakdown of operating expenses (OpEx) including maintenance schedules, fixed and variable expenses.
 - c. Anticipated off-take structures, memoranda, and contracts.
 - d. Level of contingency associated with the project cost estimates.
2. Management Discussion and Analysis (MD&A) reports (frequency TBD, monthly/quarterly)
 - a. Tracking of key financial and system performance metrics including production volume, revenue, operational expenses, and capital expenses actuals versus forecasted/budgeted.
 - b. Identification of off-trends and discrepancies between forecasts vs. actuals and discussion of underlying root causes.
 - c. Update of ongoing system performance and financial forecasts for life of the asset and impact on asset return metrics.

G. Community Benefits, Labor, and J40 Data

1. Including, but not limited to, jobs and community benefits data including Justice40 reporting and any monitoring data), as identified in the FARC and associated reporting templates, and GNG table verification mechanisms (reported quarterly).
 - a. DOE may request supporting data to validate Justice40 calculations and engagement evaluation strategies (without any Personally Identifiable Information). This could include methodological information and monitoring data for Justice40 estimates and qualitative data related to engagement activities.

ATTACHMENT 5
Intellectual Property Provisions



THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS

Attachment # 5 Intellectual Property Provisions (CDLB-821-US) Cooperative Agreement – Special Data Statute Research, Development, or Demonstration Domestic Small Business and Nonprofit – U.S. Competitiveness

- | | | |
|----|--------------------------------------|--|
| 1. | 2 CFR 910.362(g)(2) | Authorization and Consent |
| 2. | 2 CFR 910.362(g)(3) | Notice and Assistance Regarding Patent and Copyright Infringement |
| 3. | 2 CFR 910
Appendix A of Subpart D | Rights in Data – Programs Covered under Special Data Statutes |
| 4. | 37 CFR 401.14

Exhibit A | Modified Patent Rights Clause (U.S. Competitiveness*)

Terms and Conditions of W(C) 2022-003 Class Patent Waiver |

*The Recipient and any Subrecipients and contractors are subject to the policy of the Determination of Exceptional Circumstances (DEC) under the Bayh-Dole Act to Further Promote Domestic Manufacture of DOE Science and Energy Technologies executed by DOE on June 7, 2021. A copy of the DEC is available at <https://www.energy.gov/gc/determination-exceptional-circumstances-decs>.

01. 2 CFR 910.362(g)(2) Authorization and Consent

(a) The Government authorizes and consents to all use and manufacture of any invention described in and covered by a United States patent in the performance of this award or any subaward/subcontract at any tier.

(b) The Recipient shall include the substance of this clause, including this paragraph in all subawards/subcontracts. However, omission of this clause from any subaward/subcontract does not affect this authorization and consent.

(End of clause)

02. 2 CFR 910.463(g)(3) Notice and Assistance Regarding Patent and Copyright Infringement

(a) The Recipient shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this award of which the Recipient has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this award or out of the use of any supplies furnished or work or services performed under this award, the Recipient shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in the Recipient's possession pertaining to such claim or suit. Such evidence and information shall be furnished at the expense of the Government except where the Recipient has agreed to indemnify the Government.

(c) The Recipient shall include the substance of this clause, including this paragraph, in all subawards/subcontracts.

(End of clause)

03. 2 CFR 910, Appendix A of Subpart D, Rights in Data – Programs Covered Under Special Data Statutes

(a) Definitions

Computer Data Bases, as used in this clause, means a collection of data in a form capable of, and for the purpose of, being stored in, processed, and operated on by a computer. The term does not include computer software.

Computer software, as used in this clause, means

(i) computer programs which are data comprising a series of instructions, rules, routines, or statements, regardless of the media in which recorded, that allow or cause a computer to perform a specific operation or series of operations, and

(ii) data comprising source code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the computer program to be produced, created or compiled. The term does not include computer data bases.

Data, as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to administration, such as financial, administrative, cost or pricing, or management information.

Form, fit, and function data, as used in this clause, means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability as well as data identifying source, size, configuration, mating and attachment characteristics, functional characteristics, and performance requirements except that for computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software.

Limited rights data, as used in this clause, means data (other than computer software) developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged.

Protected data, as used in this clause, means technical data or commercial or financial data first produced in the performance of the award which, if they had been obtained from and first produced by a non-federal party, would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. 552(b)(4) and which data are marked as being protected data by a party to the award.

Protected rights, as used in this clause, mean the rights in protected data set forth in the Protected Rights Notice of paragraph (g) of this clause.

Restricted computer software, as used in this clause, means computer software developed at private expense and that is a trade secret; is commercial or financial and confidential or privileged; or is published copyrighted computer software; including modifications of such computer software.

Technical data, as used in this clause, means data which are of a scientific or technical nature. Technical data do not include computer software but do include manuals and instructional materials and technical data formatted as a computer data base.

Unlimited rights, as used in this clause, means the right of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose whatsoever, and to have or permit others to do so.

(b) Allocation of Rights

(1) Except as provided in paragraph (c) of this clause regarding copyright, the Government shall have unlimited rights in:

(i) Data specifically identified in this agreement as data to be delivered without restriction;

(ii) Form, fit, and function data delivered under this agreement;

(iii) Data delivered under this agreement (except for restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under this agreement; and

(iv) All other data delivered under this agreement unless provided otherwise for protected data in accordance with paragraph (g) of this clause or for limited rights data or restricted computer software in accordance with paragraph (h) of this clause.

(2) The Recipient shall have the right to:

(i) Protect rights in protected data delivered under this agreement in the manner and to the extent provided in paragraph (g) of this clause;

(ii) Withhold from delivery those data which are limited rights data or restricted computer software to the extent provided in paragraph (h) of this clause;

(iii) Substantiate use of, add, or correct protected rights or copyrights notices and to take other appropriate action, in accordance with paragraph (e) of this clause; and

(iv) Establish claim to copyright subsisting in data first produced in the performance of this agreement to the extent provided in paragraph (c)(1) of this clause.

(c) Copyright

(1) Data first produced in the performance of this agreement. Except as otherwise specifically provided in this agreement, the Recipient may establish, without the prior approval of the Contracting Officer, claim to copyright subsisting in any data first produced in the performance of this agreement. If claim to copyright is made, the Recipient shall affix the applicable copyright notice of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including agreement number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For such copyrighted data, including computer software, the Recipient grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government, for all such data.

(2) Data not first produced in the performance of this agreement. The Recipient shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this agreement any data that are not first produced in the performance of this agreement and that contain the copyright notice of 17 U.S.C. 401 or 402, unless the Recipient identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in paragraph (c)(1) of this clause; provided, however, that if such data are computer software, the Government shall acquire a copyright license as set forth in paragraph (h)(3) of this clause if included in this agreement or as otherwise may be provided in a collateral agreement incorporated or made a part of this agreement.

(3) Removal of copyright notices. The Government agrees not to remove any copyright notices placed on data pursuant to this paragraph (c), and to include such notices on all reproductions of the data.

(d) Release, Publication, and Use of Data

(1) The Recipient shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Recipient in the performance of this contract, except to the extent such data may be subject to the Federal export control or national security laws or regulations, or unless otherwise provided in this paragraph of this clause or expressly set forth in this contract.

(2) The Recipient agrees that to the extent it receives or is given access to data necessary for the performance of this agreement which contain restrictive markings, the Recipient shall treat the data in accordance with such markings unless otherwise specifically authorized in writing by the Contracting Officer.

(e) Unauthorized Marking of Data

(1) Notwithstanding any other provisions of this agreement concerning inspection or acceptance, if any data delivered under this agreement are marked with notices or any other restrictive or limiting markings not authorized by this agreement, the Contracting Officer may at any time either return the data to the Recipient or cancel or ignore the markings. However, the following procedures shall apply prior to canceling or ignoring the markings.

(i) The Contracting Officer shall make written inquiry to the Recipient affording the Recipient 30 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;

(ii) If the Recipient fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 30-day period (or a longer time not exceeding 90 days approved in writing by the Contracting Officer for good cause shown), the Government shall have the right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.

(iii) If the Recipient provides written justification to substantiate the propriety of the markings within the period set in subdivision (e)(1)(i) of this clause, the Contracting Officer shall consider such written justification and determine whether or not the markings are to be cancelled or ignored. If the Contracting Officer determines that the markings are authorized, the Recipient shall be so notified in writing. If the Contracting Officer determines, with concurrence of the head of the contracting activity, that the markings are not authorized, the Contracting Officer shall furnish the Recipient a written determination, which determination shall become the final agency decision regarding the appropriateness of the markings unless the Recipient files suit in a court of competent jurisdiction within 90 days of receipt of the Contracting Officer's decision. The Government shall continue to abide by the markings under this subdivision (e)(1)(iii) until final resolution of the matter either by the Contracting Officer's determination becoming final (in which instance the Government shall thereafter have the right to cancel or ignore the markings at any time and the data will no longer be made subject to any disclosure prohibitions), or by final disposition of the matter by court decision if suit is filed.

(2) The time limits in the procedures set forth in paragraph (e)(1) of this clause may be modified in accordance with agency regulations implementing the Freedom of Information Act (5 U.S.C. 552) if necessary to respond to a request thereunder.

(f) Omitted or Incorrect Markings

(1) Data delivered to the Government without either a notice authorized by paragraph (g) of this clause, or the copyright notice required by paragraph (c) of this clause, shall be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use, or reproduction of such data. However, to the extent the data have not been disclosed without restriction outside the Government, the Recipient may request, within 6 months (or a longer time approved by the Contracting Officer for good cause shown) after delivery of such data, permission to have notices placed on qualifying data at the Recipient's expense, and the Contracting Officer may agree to do so if the Recipient:

- (i) Identifies the data to which the omitted notice is to be applied;
- (ii) Demonstrates that the omission of the notice was inadvertent;
- (iii) Establishes that the use of the proposed notice is authorized; and
- (iv) Acknowledges that the Government has no liability with respect to the disclosure, use, or reproduction of any such data made prior to the addition of the notice or resulting from the omission of the notice.

(2) The Contracting Officer may also:

- (i) Permit correction at the Recipient's expense of incorrect notices if the Recipient identifies the data on which correction of the notice is to be made, and demonstrates that the correct notice is authorized; or
- (ii) Correct any incorrect notices.

(g) Rights to Protected Data

(1) The Recipient may, with the concurrence of DOE, claim and mark as protected data, any data first produced in the performance of this award that would have been treated as a trade secret if developed at private expense. Any such claimed “protected data” will be clearly marked with the following Protected Rights Notice, and will be treated in accordance with such Notice, subject to the provisions of paragraphs (e) and (f) of this clause.

Protected Rights Notice

These protected data were produced under agreement no. DE-CD0000041 with the U.S. Department of Energy and may not be published, disseminated, or disclosed to others outside the Government until twenty-five (25) years after the date the data were first produced, unless express written authorization is obtained from the Recipient. Upon expiration of the period of protection set forth in this Notice, the Government shall have unlimited rights in these data. This Notice shall be marked on any reproduction of these data, in whole or in part.

(End of notice)

(2) Any such marked Protected Data may be disclosed under obligations of confidentiality for the following purposes:

(a) For evaluation purposes; or

(b) To Government support services contactors, management and operating contractors, and any subcontractors thereto for internal Government use or activities, provided the release is not for commercial purposes or manufacture.

(3) The obligations of confidentiality and restrictions on publication and dissemination shall end for any Protected Data:

(a) At the end of the protected period;

(b) If the data become publicly known or available from other sources without a breach of the obligation of confidentiality with respect to the Protected Data;

(c) If the same data are independently developed by someone who did not have access to the Protected Data and such data are made available without obligations of confidentiality; or

(d) If the Recipient disseminates or authorizes another to disseminate such data without obligations of confidentiality.

(4) However, the Recipient agrees that the following types of data are not considered to be protected and shall be provided to the Government when required by this agreement without any claim that the data are Protected Data: (a) general test or performance results demonstrating technical breakthroughs, milestones, or achievements; (b) general data

demonstrating progress toward meeting DOE’s technical targets; and (c) any research data contained in publications resulting from the work under the agreement. The parties agree that notwithstanding the foregoing list of types of data, nothing precludes the Government from seeking delivery of additional data in accordance with this agreement, or from making publicly available additional non-protected data, nor does the foregoing list constitute any admission by the Government that technical data not on the list are Protected Data.

(5) The Government's sole obligation with respect to any protected data shall be as set forth in this paragraph (g).

(h) Protection of Limited Rights Data

(1) When data other than those listed in paragraphs (b)(1)(i), (ii), and (iii) of this clause are specified to be delivered under this agreement and such data qualify as either limited rights data or restricted computer software, the Recipient, if the Recipient desires to continue protection of such data, shall withhold such data and not furnish them to the Government under this agreement. As a condition to this withholding, the Recipient shall identify the data being withheld and furnish form, fit, and function data in lieu thereof.

(2) Notwithstanding paragraph (h)(1) of this clause, the agreement may identify and specify the delivery of limited rights data, or the Contracting Officer may require by written request the delivery of limited rights data that have been withheld or would otherwise be withholdable. If delivery of such data is so required, the Recipient may affix the following “Limited Rights Notice” to the data and the Government will thereafter treat the data in accordance with such Notice:

Limited Rights Notice

(a) These data are submitted with limited rights under Government agreement No. DE-CD0000041 (and subaward/contract number, if appropriate). These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Recipient, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any, provided that the Government makes such disclosure subject to prohibition against further use and disclosure:

(1) To Government support services contractors in the performance of a Government support services contract; and

(2) To other Government contractors for evaluation purposes only.

(b) This Notice shall be marked on any reproduction of these data, in whole or in part.

(End of notice)

(i) Subaward/Contract

The Recipient has the responsibility to obtain from its Subrecipients/contractors all data and rights therein necessary to fulfill the Recipient's obligations to the Government under this agreement. If a Subrecipient/contractor refuses to accept terms affording the Government such rights, the Recipient shall promptly bring such refusal to the attention of the Contracting Officer and not proceed with subaward/contract award without further authorization.

(j) Additional Data Requirements

In addition to the data specified elsewhere in this agreement to be delivered, the Contracting Officer may, at any time during agreement performance or within a period of 3 years after acceptance of all items to be delivered under this agreement, order any data first produced or specifically used in the performance of this agreement. This clause is applicable to all data ordered under this subparagraph. Nothing contained in this subparagraph shall require the Recipient to deliver any data the withholding of which is authorized by this clause or data which are specifically identified in this agreement as not subject to this clause. When data are to be delivered under this subparagraph, the Recipient will be compensated for converting the data into the prescribed form for reproduction and delivery.

(k) The Recipient agrees, except as may be otherwise specified in this agreement for specific data items listed as not subject to this paragraph, that the Contracting Officer or an authorized representative may, up to three years after acceptance of all items to be delivered under this contract, inspect at the Recipient's facility any data withheld pursuant to paragraph (h) of this clause, for purposes of verifying the Recipient's assertion pertaining to the limited rights or restricted rights status of the data or for evaluating work performance. Where the Recipient whose data are to be inspected demonstrates to the Contracting Officer that there would be a possible conflict of interest if the inspection were made by a particular representative, the Contracting Officer shall designate an alternate inspector.

(End of clause)

04. 37 CFR 401.14 DOE Modified Patent Rights Clause*

**the standard patent rights clause at 37 CFR 401.14 has been modified to (1) reflect DOE required subcontracting instructions pursuant to 37 CFR 401.5(a) as well as the deletion of the definition of contractor that does not apply based on the subcontracting instructions; (2) change acquisition terms of contractor, contract, and subcontract to financial assistance terms of Recipient, award, subaward, or agreement pursuant to 37 CFR 401.5(c); and (3) include paragraph (m) U.S. competitiveness provision pursuant to the Determination of Exceptional Circumstances under the Bayh-Dole Act to Further Promote Domestic Manufacture of DOE Science and Energy Technologies executed by DOE on June 7, 2021.*

(a) Definitions

(1) Invention means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).

(2) Subject invention means any invention of the Recipient conceived or first actually reduced to practice in the performance of work under this agreement, provided that in the case of a variety of

plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of agreement performance.

(3) Practical Application means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.

(4) Made when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) Small Business Firm means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

(6) Nonprofit Organization means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

(7) The term statutory period means the one-year period before the effective filing date of a claimed invention during which exceptions to prior art exist per 35 U.S.C. 102(b) as amended by the Leahy-Smith America Invents Act, Public Law 112-29.

(b) Allocation of Principal Rights

The Recipient may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Recipient retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention Disclosure, Election of Title, and Filing of Patent Application by Recipient

(1) The Recipient will disclose each subject invention to the Federal Agency within two months after the inventor discloses it in writing to Recipient personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the agreement under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological, or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the agency, the Recipient will promptly notify the agency of the

acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Recipient.

(2) The Recipient will elect in writing whether or not to retain title to any such invention by notifying the Federal agency within two years of disclosure to the Federal agency. However, in any case where a patent, a printed publication, public use, sale, or other availability to the public has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Recipient will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. If the Recipient files a provisional application as its initial patent application, it shall file a non-provisional application within 10 months of the filing of the provisional application. The Recipient will file patent applications in additional countries or international patent offices within either ten months of the first filed patent application or six months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) For any subject invention with Federal agency and Recipient co-inventors, where the Federal agency employing such co-inventor determines that it would be in the interest of the government, pursuant to 35 U.S.C. 207(a)(3), to file an initial patent application on the subject invention, the Federal agency employing such co-inventor, at its discretion and in consultation with the Recipient, may file such application at its own expense, provided that the Recipient retains the ability to elect title pursuant to 35 U.S.C. 202(a).

(5) Requests for extension of the time for disclosure, election, and filing under paragraphs (1), (2), and (3) of this clause may, at the discretion of the Federal agency, be granted. When a Recipient has requested an extension for filing a non-provisional application after filing a provisional application, a one-year extension will be granted unless the Federal agency notifies the Recipient within 60 days of receiving the request.

(d) Conditions When the Government May Obtain Title

The Recipient will convey to the Federal agency, upon written request, title to any subject invention:

(1) If the Recipient fails to disclose or elect title to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain title.

(2) In those countries in which the Recipient fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Recipient has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the Federal agency, the Recipient shall continue to retain title in that country.

(3) In any country in which the Recipient decides not to continue the prosecution of any non-provisional patent application for, to pay a maintenance, annuity, or renewal fee on, or to

defend in a reexamination or opposition proceeding on, a patent on a subject invention.

(4) Upon breach of paragraph (m) U.S. Competitiveness on of this Patent Rights clause.

(e) Minimum Rights to Recipient and Protection of the Recipient Right to File

(1) The Recipient will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the Recipient fails to disclose the invention within the times specified in (c), above. The Recipient's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Recipient is a party and includes the right to grant sublicenses of the same scope to the extent the Recipient was legally obligated to do so at the time the agreement was awarded. The license is transferable only with the approval of the Federal agency except when transferred to the successor of that party of the Recipient's business to which the invention pertains.

(2) The Recipient's domestic license may be revoked or modified by the funding Federal agency to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the Recipient has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal agency to the extent the Recipient, its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the funding Federal agency will furnish the Recipient a written notice of its intention to revoke or modify the license, and the Recipient will be allowed thirty days (or such other time as may be authorized by the funding Federal agency for good cause shown by the Recipient) after the notice to show cause why the license should not be revoked or modified. The Recipient has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and agency regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

(f) Recipient Action to Protect the Government's Interest

(1) The Recipient agrees to execute or to have executed and promptly deliver to the Federal agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Recipient elects to retain title, and (ii) convey title to the Federal agency when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

(2) The Recipient agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Recipient each subject invention made under agreement in order that the Recipient can comply with the disclosure provisions of paragraph (c) of this clause, to assign to the Recipient the entire right, title, and

interest in and to each subject invention made under agreement, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Recipient shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) For each subject invention, the Recipient will, no less than 60 days prior to the expiration of the statutory deadline, notify the Federal agency of any decision: Not to continue the prosecution of a non-provisional patent application; not to pay a maintenance, annuity, or renewal fee; not to defend in a reexamination or opposition proceeding on a patent, in any country; to request, be a party to, or take action in a trial proceeding before the Patent Trial and Appeals Board of the U.S. Patent and Trademark Office, including but not limited to post-grant review, review of a business method patent, inter partes review, and derivation proceeding; or to request, be a party to, or take action in a non-trial submission of art or information at the U.S. Patent and Trademark Office, including but not limited to a pre-issuance submission, a post-issuance submission, and supplemental examination.

(4) The Recipient agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under DE-CD0000041 awarded by the U.S. Department of Energy. The government has certain rights in the invention."

(g) Subaward/Contract

(1) The Recipient will include this clause, suitably modified to identify the parties, in all subawards/contracts, regardless of tier, for research, development, or demonstration work to be performed by a domestic small business firm or nonprofit organization. The Subrecipient/contractor will retain all rights provided for the Recipient in this clause, and the Recipient will not, as part of the consideration for awarding the subaward/contract, obtain rights in the Subrecipient's/subcontractor's subject inventions.

(2) The Recipient will include the attached Terms and Conditions of W(C) 2022-003 Class Patent Waiver, suitably modified to identify the parties, as the patent rights flow-down clause in all subawards/contracts, regardless of tier, for research, development or demonstration work to be performed by a domestic large business. For the purposes of this clause, only a domestic large business is any for-profit entity that does not qualify as a "small business firm" under Bayh-Dole (35 USC § 201(h)) and is incorporated or otherwise formed under the laws of a particular State or territory of the United States and complies with the eligibility requirements of the applicable funding opportunity announcement including eligibility requirements that may make certain entities subject to foreign ownership, interest, or control ineligible.

(3) The Recipient will include in all other subawards/contracts, regardless of tier, for research, development, or demonstration work the patent rights clause directed by the DOE Contracting Officer.

(4) Notwithstanding the above, for any agreement with a DOE laboratory, the Recipient and the DOE laboratory shall use a technology transfer agreement (e.g., Strategic Partnership Project (SPP), Cooperative Research and Development Agreement (CRADA)) that is executed by the Recipient and the DOE laboratory and approved by DOE. The technology transfer agreement will provide the applicable patent rights clause for the work to be performed by the DOE laboratory.

(h) Reporting on Utilization of Subject Inventions

The Recipient agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Recipient or its licensees or assignees. Such reports shall 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 the agency may reasonably specify. The Recipient also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the agency agrees it will not disclose such information to persons outside the government without permission of the Recipient.

(i) Preference for United States Industry

Notwithstanding any other provision of this clause, the Recipient agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency upon a showing by the Recipient or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in Rights

The Recipient agrees that with respect to any subject invention in which it has acquired title, the Federal agency has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency to require the Recipient, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Recipient, assignee, or exclusive licensee refuses such a request, the Federal agency has the right to grant such a license itself if the Federal agency determines that:

(1) Such action is necessary because the Recipient or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Recipient, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations

and such requirements are not reasonably satisfied by the Recipient, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Special Provisions for Agreements with Nonprofit Organizations

If the Recipient is a nonprofit organization, it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the Recipient;

(2) The Recipient will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) The balance of any royalties or income earned by the Recipient with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and

(4) It will make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the Recipient determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the Recipient is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Recipient. However, the Recipient agrees that the Federal agency may review the Recipient's licensing program and decisions regarding small business applicants, and the Recipient will negotiate changes to its licensing policies, procedures, or practices with the Federal agency when the Federal agency's review discloses that the Recipient could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4). In accordance with 37 CFR 401.7, the Federal agency or the Recipient may request that the Secretary review the Recipient's licensing program and decisions regarding small business applicants.

(l) Communication

Unless otherwise directed by DOE Patent Counsel, all reports and notifications required by this clause shall be submitted in accordance with the instructions provided in the Federal Assistance Reporting Checklist (FARC) of this agreement.

(m) U.S. Competitiveness

The Recipient agrees 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 Recipient can show to the satisfaction of DOE that it is not commercially feasible. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, e.g., alternative binding commitments to provide an overall net benefit to the U.S. economy. The Recipient agrees that it will not license, assign, or otherwise transfer any subject invention to any entity, at any tier, unless that entity agrees to these same requirements. In the event that the Recipient or other such entity receiving rights in the Subject Invention undergoes a change in ownership amounting to a controlling interest, the Recipient or other such entity receiving rights shall ensure continual compliance with the requirements of this paragraph (m) and shall inform DOE, in writing, of the change in ownership within six months of the change. The Recipient and any successor assignee will convey to DOE, upon written request from DOE, title to any subject invention, upon a breach of this paragraph (m). The Recipient will include this paragraph (m) in all subawards/contracts, regardless of tier, for experimental, developmental, or research work.

(n) The requirements, rights and administration of paragraph (m) are further clarified as follows:

1. **Waivers.** The Recipient (or any entity subject to paragraph (m)) may request a waiver or modification of paragraph (m). Such waivers or modifications may be granted when DOE determines that (1) the Recipient (or any entity subject to paragraph (m)) has demonstrated, with quantifiable data, that manufacturing in the United States is not commercially feasible, and (2) a waiver or modification would best serve the interests of the United States and the general public.
2. **Final determination of breach of paragraph (m).** If DOE determines the Recipient is in breach of paragraph (m), the Department may issue a final written determination of such breach. If such determination includes a demand for title to the subject inventions under the award, the demand for title will cause an immediate conveyance and assignment of all rights to all subject inventions under the award to the United States Government, including all pending U.S. and foreign patent applications and all U.S. and foreign patents that cover any subject invention, without compensation. Any such final determination shall be signed by the cognizant DOE Contracting Officer with the concurrence of the Assistant General Counsel for Technology Transfer & Intellectual Property. Advanced notice will be provided for comment to the Recipient before any final written determination by DOE is issued.
3. Pursuant to Recipient's agreement in paragraph (m) to not license, assign, or otherwise transfer rights to subject inventions at any tier unless the entity agrees to paragraph (m): any such license, assignment, or other transfer of right to any subject invention developed under the award shall contain paragraph (m) suitably modified to properly identify the parties. If a licensee, assignee, or other transferee of rights to any subject invention is finally determined by DOE in writing to be in breach of paragraph (m), the applicable license, assignment, or other transfer shall be deemed null and void. Advanced notice will be provided for comment to the non-complying party before any final written determination by DOE is made.
4. For clarity, if the forfeiture of title to any subject invention is due to a breach of paragraph (m), the Recipient shall not be entitled to any compensation, or to a license

to the subject invention including the reserved license in section (e)(1), unless DOE grants a license through a separately agreed upon licensing agreement.

5. Authority. The requirements and administration of paragraph (m) is in accordance with the Determination of Exceptional Circumstances (DEC) under the Bayh-Dole Act to Further Promote Domestic Manufacture of DOE Science and Energy Technologies executed by DOE on June 7, 2021. A copy of the DEC is available at <https://www.energy.gov/gc/determination-exceptional-circumstances-decs>. By accepting or acknowledging the award, the Recipient is also acknowledging that it has received a copy of the DEC through the foregoing link. As set forth in 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 the imposition of the DEC within thirty (30) working days from the Recipient's acceptance or acknowledgement of this award.

(End of Clause)

Exhibit A

Patent Rights – Waiver (10 C.F.R. 784, DOE Patent Waiver Regulations) – Terms and Conditions of W(C) 2022-03 Class Patent Waiver for Inventions Made Under Science, Innovation, and Infrastructure Financial Assistance Agreements by Domestic Large Businesses (5/11/2023)

(a) Definitions.

As used in this clause:

Background patent means a domestic patent covering an invention or discovery which is not a subject invention and which is owned or controlled by the Recipient at any time through the completion of this contract:

- (i) Which the Recipient, but not the Government, has the right to license to others without obligation to pay royalties thereon, and
- (ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture, or composition of matter (including relatively minor modifications thereof), which is a subject of the research, development, or demonstration work performed under this contract.

Contract means any contract, grant, agreement, understanding, or other arrangement, which includes research, development, or demonstration work, and includes any assignment or substitution of parties.

DOE patent waiver regulations means the Department of Energy patent waiver regulations at 10 CFR Part 784.

Invention as used in this clause, means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code or any novel variety of plant that is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 *et seq.*).

Made when used in relation to any invention means the conception or first actual reduction to practice of such invention.

Nonprofit organization means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

Patent Counsel means the Department of Energy Patent Counsel assisting the procuring activity.

Practical application means to manufacture, in the case of a composition or product; to practice, in the case of a process or method; or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

Secretary means the Secretary of Energy.

Small business firm means a small business concern as defined at Section 2 of the Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121 will be used.

Subject invention means any invention of the Recipient conceived or first actually reduced to practice in the course of or under this contract, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act (7 U.S.C. 2401(d)) must also occur during the period of contract performance.

(b) Allocation of principal rights.

Whereas DOE has granted a waiver of rights to subject inventions to the Recipient, the Recipient may elect to retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause. With respect to any subject invention in which the Recipient elects to retain title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention disclosure, election of title, and filing of patent applications by Recipient.

(1) The Recipient shall disclose each subject invention to the Patent Counsel within six months after conception or first actual reduction to practice, whichever occurs first in the course of or under this contract, but in any event, prior to any sale, public use, or public disclosure of such invention known to the Recipient. The disclosure to the Patent Counsel shall be in the form of a written report and shall identify the inventors and the contract under which the invention was made. It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and physical, chemical, biological, or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale, or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Patent Counsel, the Recipient shall promptly notify the Patent Counsel of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Recipient.

(2) The Recipient shall elect in writing whether or not to retain title to any such invention by notifying the Patent Counsel at the time of disclosure or within eight (8) months of disclosure, as to those countries (including the United States) in which the Recipient will retain title; provided, that in any case where publication, on sale, or public use has initiated the one (1) year statutory period wherein valid patent protection can still be obtained in the United States, the period of election of title may be shortened by DOE to a date that is no more than 60 days prior to the end of the statutory period. The Recipient shall notify the Patent Counsel as to those countries (including the United States) in which the Recipient will retain title not later than 60 days prior to the end of the statutory period.

(3) The Recipient will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, at least 60 days prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. If the Recipient files a provisional application as its initial patent application, it shall file a non-provisional application within 10 months of the filing of the provisional application. The Recipient will file patent applications in additional countries or international patent offices within either ten months of the first filed patent application or six months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure to the Patent Counsel, election, and filing may, at the discretion of DOE, be granted, and will normally be granted unless the Patent Counsel has reason to believe that a particular extension would prejudice the Government's interest.

(d) Conditions when the Government may obtain title notwithstanding an existing waiver.

The Recipient shall assign and hereby assigns to DOE, title to any subject invention:

(1) If the Recipient elects not to retain title to a subject invention;

(2) If the Recipient fails to disclose or elect the subject invention within the times specified in paragraph (c) of this clause;

(3) In those countries in which the Recipient fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Recipient has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of DOE, the Recipient shall continue to retain title in that country;

(4) In any country in which the Recipient decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention;

(5) If the waiver authorizing the use of this clause is terminated as provided in paragraph (p) of this clause; or

(6) Upon a breach of paragraph (h) or paragraph (t) of this clause.

(e) Minimum rights to Recipient when the Government retains title.

(1) The Recipient shall retain a nonexclusive, royalty-free license throughout the world in each subject invention to which the Government obtains title under paragraph (d) of this clause except if the Recipient fails to disclose the subject invention within the times specified in paragraph (c) of this clause or breaches paragraph (h) or paragraph (t). The Recipient's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Recipient is a part and includes the right to grant sublicenses of the same scope to the extent the Recipient was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of DOE except when transferred to the successor of that part of the Recipient's business to which the invention pertains.

(2) The Recipient's domestic license may be revoked or modified by DOE to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions in 37 CFR part 404 and DOE licensing regulations. This license shall not be revoked in that field of use or the geographical areas in which the Recipient has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of DOE to the extent the Recipient, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, DOE shall furnish the Recipient a written notice of its intention to revoke or modify the license, and the Recipient shall be allowed 30 days (or such other time as may be authorized by DOE for good cause shown by the Recipient) after the notice to show cause why the license should not be revoked or modified. The Recipient has the right to appeal, in accordance with applicable agency licensing regulations and 37 CFR part 404 concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

(f) Recipient action to protect the Government's interest.

(1) The Recipient agrees to execute or to have executed and promptly deliver to DOE all instruments necessary to:

(i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Recipient elects to retain title, and

(ii) convey or confirm the transfer of title to DOE in subject inventions when DOE obtains title (e.g., pursuant to paragraphs (d), (n)(2), and (p)) of this clause, and to enable the Government to obtain patent protection throughout the world in that subject invention.

(2) The Recipient agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Recipient each subject invention made under contract in order that the Recipient can comply with the disclosure provisions of paragraph (c) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Recipient shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) Not less than sixty (60) days before the expiration of any period required by the relevant patent office (including all extension requests available as a matter of right by the relevant patent office), the Recipient shall notify Patent Counsel of any decision not to:

- (i) continue the prosecution of a patent application;
- (ii) file a U.S. non-provisional patent application within the statutory period for claiming priority to the initial patent application; and
- (iii) pay maintenance fees or defend in a reexamination or opposition proceeding on a patent,

in any country.

(4) The Recipient agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement: "This invention was made with Government support under (identify the contract) awarded by DOE. The Government has certain rights in this invention."

(5) The Recipient shall establish and maintain active and effective procedures to assure that subject inventions are promptly identified and disclosed to Recipient personnel responsible for patent matters within six (6) months of conception or first actual reduction to practice, whichever occurs first in the course of or under this contract. These procedures shall include the maintenance of laboratory notebooks or equivalent records and other records as are reasonably necessary to document the conception and/or the first actual reduction to practice of subject inventions, and records that show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Recipient shall furnish the Patent Counsel a description of such procedures for evaluation and for determination as to their effectiveness.

(6) The Recipient agrees, when licensing a subject invention, to arrange to avoid royalty charges on acquisitions involving Government funds, including funds derived through Military Assistance Program of the Government or otherwise derived through the Government; to refund any amounts received as royalty charges on the subject invention in acquisitions for, or on behalf of, the Government; and to provide for such refund in any instrument transferring rights in the invention to any party.

(7) The Recipient shall furnish the Patent Counsel the following:

(i) Interim reports every twelve (12) months (or such longer period as may be specified by the Patent Counsel) from the date of the contract, listing subject inventions during that period and certifying that all subject inventions have been disclosed or that there are no such inventions.

(ii) A final report, within three (3) months after completion of the contracted work, listing all subject inventions or certifying that there were no such inventions, and listing all subcontracts at any tier containing a patent rights clause or certifying that there were no such subcontracts.

(8) The Recipient shall promptly notify DOE in writing upon the award of any subcontract at any tier containing a patent rights clause by identifying the Subrecipient, the applicable patent rights clause, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of DOE, the Recipient shall furnish a copy of such subcontract, and no more frequently than annually, a listing of the subcontracts that have been awarded.

(9) The Recipient shall provide the filing date, serial number and title, a copy of the patent application (including an English-language version if filed in a language other than English), and patent number and issue date for any subject invention for which the Recipient has retained title.

(10) Upon request, the Recipient shall furnish the Government an irrevocable power to inspect and make copies of the patent application file.

(g) Subcontracts.

(1) The Recipient will include in all subawards, regardless of tier, for experimental, developmental, or research work the patent rights clause directed by the Contracting Officer.

(2) The Recipient shall not, as part of the consideration for awarding the subcontract, obtain rights in the Subrecipient's subject inventions.

(3) In the case of Subrecipients at any tier, DOE, the Subrecipient, and Recipient agree that the mutual obligations of the parties created by this clause constitute a contract between the Subrecipient and DOE with respect to those matters covered by this clause.

(h) Reporting on utilization of subject inventions.

(1) The Recipient agrees to submit annual reports on the utilization of each waived subject invention or on efforts at obtaining such utilization that are being made by the Recipient and any of its licensees or assignees including compliance with paragraph (t) of this clause. Each report shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Recipient, products that embody or are made through the use of the waived subject invention, manufacturing locations of such products and such other data and information as DOE may reasonably specify.

(2) The Recipient also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceedings undertaken by DOE in accordance with paragraph (j) of this clause.

(3) To the extent data or information supplied under this paragraph is considered by the Recipient, its licensee, or assignee to be privileged and confidential and is so marked, DOE agrees that, to the extent permitted by law, it shall not disclose such information to persons outside the Government.

(i) Preference for United States industry.

Notwithstanding any other provision of this clause, the Recipient agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by DOE upon a showing by the Recipient or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in rights.

The Recipient agrees that with respect to any subject invention in which it has acquired title, DOE has the right in accordance with the procedures in 48 CFR 27.304-1(g) to require the Recipient, an assignee, or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Recipient, assignee, or exclusive licensee refuses such

a request, DOE has the right to grant such a license itself if DOE determines that:

(1) Such action is necessary because the Recipient or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Recipient, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Recipient, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Background Patents [reserved]

(l) Communications.

Unless otherwise directed by DOE Patent Counsel, all reports and notifications required by this clause shall be submitted in accordance with the instructions provided in the Federal Assistance Reporting Checklist (FARC) for this contract.

(m) Other inventions.

Nothing contained in this clause shall be deemed to grant to the Government any rights with respect to any invention other than a subject invention.

(n) Examination of records relating to inventions.

(1) DOE shall, until three (3) years after final payment under this contract, have the right to examine any books (including laboratory notebooks), records, and documents of the Recipient relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this contract to determine whether:

(i) Any such inventions are subject inventions;

(ii) the Recipient has established and maintains the procedures required by paragraphs(f)(2) and (f)(5) of this clause; and

(iii) the Recipient and its inventor have complied with the procedures.

(2) If DOE learns of an unreported invention of the Recipient which DOE believes may be a subject invention, the Recipient may be required to disclose the invention to DOE for a determination of ownership rights.

(3) Any examination of records under this paragraph shall be conducted in such a manner

as to protect the confidentiality of the information involved.

(o) Withholding of payment.

NOTE: This paragraph does not apply to subcontracts or grants.

(1) Any time before final payment under this contract, the Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of the contract, whichever is less, shall have been set aside if, in the Contracting Officer's opinion, the Recipient fails to:

(i) Establish, maintain, and follow effective procedures for identifying and disclosing subject inventions pursuant to paragraph (f)(5) of this clause;

(ii) Disclose any subject invention pursuant to paragraph (c)(1) of this clause;

(iii) Deliver acceptable interim reports pursuant to paragraph (f)(7)(i) of this clause;

(iv) Provide the information regarding subcontracts pursuant to paragraph (f)(6) of this clause; or

(v) Convey to the Government, using a DOE-approved form, the title and/or rights of the Government in each subject invention as required by this clause.

(2) Such reserve or balance shall be withheld until the Contracting Officer has determined that the Recipient has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(3) Final payment under this contract shall not be made before the Recipient delivers to the Patent Counsel all disclosures of subject inventions required by paragraph (c)(1) of this clause, an acceptable final report pursuant to paragraph (f)(7)(ii) of this clause, and all past-due confirmatory instruments, and the Patent Counsel has issued a patent clearance certification to the Contracting Officer.

(4) The Contracting Officer may decrease or increase the sums withheld up to the maximum authorized above. If the maximum amount authorized above is already being withheld under other provisions of the contract, no additional amount shall be withheld under this paragraph. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(p) Waiver Terminations.

Any waiver granted to the Recipient authorizing the use of this clause (including any retention of rights pursuant thereto by the Recipient under paragraph (b) of this clause) may be terminated at the discretion of the Secretary or his designee in whole or in part, if the request for waiver by the Recipient is found to contain false material statements or nondisclosure of material facts, and such were specifically relied upon by DOE in reaching the waiver determination or the cost share requirement as set forth in the applicable statement of considerations is not met. Prior to any such termination, the Recipient will be given written notice stating the extent of such proposed termination and the reasons therefor, and a period of 30 days, or such longer period as the Secretary or his designee shall determine for good cause shown in writing, to show cause why the waiver of rights should not be so terminated. Any waiver termination may be subject to the

Recipient's minimum license as provided in paragraph (e) of this clause.

(q) Atomic Energy.

No claim for pecuniary award or compensation under the provisions of the Atomic Energy Act of 1954, as amended, shall be asserted by the Recipient or its employees with respect to any invention or discovery made or conceived in the course of or under this contract.

(r) Publication.

It is recognized that during the course of work under this contract, the Recipient or its employees may from time to time desire to release or publish information regarding scientific or technical developments conceived or first actually reduced to practice in the course of or under this contract. In order that public disclosure of such information will not adversely affect the patent interests of DOE or the Recipient, approval for release of publication shall be secured from Patent Counsel prior to any such release or publication. In appropriate circumstances, and after consultation with the Recipient, Patent Counsel may waive the right of prepublication review.

(s) Forfeiture of rights in patents and patent applications on unreported subject inventions.

(1) As noted above in paragraph (d), the Recipient shall assign and hereby assigns to the Government, all rights in any subject invention which the Recipient fails to disclose a subject invention as required by this patent rights clause.

(2) The Recipient acknowledges and agrees the assignment of the unreported subject invention of the Recipient includes all rights in any and all patent applications and patents worldwide on the undisclosed subject invention.

(3) Pending written assignment of the patent application and patents on a subject invention determined by Patent Counsel to be forfeited (such determination to be a Final Decision under the Disputes clause of this contract; in the absence of a Disputes clause, 2 CFR 910.128, Disputes and appeals, is hereby incorporated by reference), the Recipient shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph shall be in addition to and shall not supersede any other rights and remedies which the Government may have with respect to subject inventions.

(t) U.S. Competitiveness

The Recipient agrees 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 Recipient can show to the satisfaction of DOE that it is not commercially feasible. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, e.g., alternative binding commitments to provide an overall net benefit to the U.S. economy. The Recipient agrees that it will not license, assign, or otherwise transfer any subject invention to any entity, at any tier, unless that entity agrees to these same requirements. Should the Recipient or other such entity receiving rights in the invention(s): (1) undergo a change in ownership amounting to a controlling interest, or (2) sell, assign, or otherwise transfer title or exclusive rights in the invention(s), then the assignment, license, or other transfer of rights in the subject invention(s) is/are suspended until approved in

writing by DOE. The Recipient and any successor assignee will convey to DOE, upon written request from DOE, title to any subject invention, upon a breach of this paragraph. The Recipient will include this paragraph in all subawards/contracts, regardless of tier, for experimental, developmental, or research work.

(u) The requirements, rights, and administration of paragraph (t) are further clarified as follows:

1. Waivers. The Recipient (or any entity subject to paragraph (t)) may request a waiver or modification of paragraph (t). Such waivers or modifications may be granted when DOE determines that (1) the Recipient (or any entity subject to paragraph (t)) has demonstrated, with quantifiable data, that manufacturing in the United States is not commercially feasible and (2) a waiver or modification would best serve the interests of the United States and the general public.
2. Final determination of breach of paragraph (t). If DOE determines the Recipient is in breach of paragraph (t), the Department may issue a final written determination of such breach. If such determination includes a demand for title to the subject inventions under the award, the demand for title will cause an immediate conveyance and assignment of all rights to all subject inventions under the award to the United States Government, including all pending patent applications and all patents that cover any subject invention, without compensation. Any such final determination shall be signed by the cognizant DOE Contracting Officer with the concurrence of the Assistant General Counsel for Technology Transfer & Intellectual Property. Advanced notice will be provided for comment to the Recipient before any final written determination by DOE is issued.
3. For clarity, if DOE determines that the Recipient is in breach of paragraph (t), the Recipient shall not be entitled to any compensation, or to the license to the subject invention including the reserved license in section (e)(1), unless DOE re-grants a license through a separately agreed upon licensing agreement.

(End of clause)

ATTACHMENT 6
Federal Assistance Reporting Checklist (FARC)



FEDERAL ASSISTANCE REPORTING CHECKLIST

1. Award Number: DE-CD0000041

2. Project Title: ARCHES DOE H2 Hub

3. Recipient Name: ARCHES H2 LLC

4. Reporting Requirements (see also the Special Instructions):

I. PROJECT MANAGEMENT REPORTING	Frequency	Submission Location
<input checked="" type="checkbox"/> A. Performance Report Narrative (PRN)	Q	The PRN template is available at: Templates-for-OCED-Recipients . Upload each PRN to the "2. Post-Award Reporting/1. Project Management" folder in your project's Box folder set.
<input checked="" type="checkbox"/> B. Performance Report Quantitative (PRQ)	Q	The PRQ template is available at: Templates-for-OCED-Recipients , along with the Instructions for Phase 1 Performance Report Quantitative . Upload each PRQ to the "2. Post-Award Reporting/1. Project Management" folder in your project's Box folder set.
<input checked="" type="checkbox"/> C. Special Status Reports	O	See instructions I. C. on submission.
<input checked="" type="checkbox"/> D. Federal Financial Report (SF-425)	Q, F	Template available at: Grants.gov post-award forms . Upload completed form to the "2. Post-Award Reporting/1. Project Management" folder in your project's Box folder set.
II. AWARD MANAGEMENT REPORTING	Frequency	Submission Location
<input checked="" type="checkbox"/> A. Current and Pending Support Disclosures	O	Upload Current and Pending Support disclosures to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input type="checkbox"/> B. Tangible Personal Property Report – Annual Property Report (SF-428 & SF-428A)	Y	Template available at: Grants.gov post-award forms . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> C. Tangible Personal Property Report – Disposition Request/Report (SF- 428 & SF-428C)	O, F	Template available at: Grants.gov post-award forms . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> D. Uniform Commercial Code Financing Statements	O	File the financing statement(s) with the Secretary of State where the Recipient is located. Upload a copy of this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> E. Reporting Subaward and Executive Compensation Information	O	Report subaward information at the Federal Funding Accountability and Transparency Act Subaward Reporting System . Report executive compensation as part of your registration profile at sam.gov .
<input checked="" type="checkbox"/> F. Annual Incurred Cost Proposal	O	Email the Annual Incurred Cost Proposal to oced_indirectrates@hq.doe.gov
<input type="checkbox"/> G. For-Profit Compliance Audit	O	Email this audit to OCED_RecipientAudits@hq.doe.gov and the Grants and Agreements Officer.
<input checked="" type="checkbox"/> H. Single Audit: States, Local Governments, Tribal Governments, Institutions of Higher Education, or Non-Profit Organizations	O	upload this file to the Federal Audit Clearinghouse .
<input checked="" type="checkbox"/> I. Participants and Collaborating Organizations	O	Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.

III. INFRASTRUCTURE INVESTMENT AND JOBS ACT/BIPARTISAN INFRASTRUCTURE LAW REPORTING	Frequency	Submission Location
<input type="checkbox"/> A. Boosting Domestic Manufacturing	E	Template available at: Templates-for-OCED-Recipients . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
B. Quality Job Creation		
<input type="checkbox"/> 1. Direct Jobs	O	Submit weekly certified payrolls to LPC Tracker once the construction phase begins for this award.
<input checked="" type="checkbox"/> 2. Training Outcomes	E	Template available at: Templates-for-OCED-Recipients . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> 3. Good Jobs Outcomes	E	Template available at: Templates-for-OCED-Recipients . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> C. Equity and Justice	Q	Template available at: Templates-for-OCED-Recipients . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> D. Locations of Work	Q	Template available at: Templates-for-OCED-Recipients . Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.
<input checked="" type="checkbox"/> E. Davis Bacon Act Semi-Annual Labor Compliance Report	O	Submit the Semi-Annual DBA Enforcement Report , to DBAenforcementreports@hq.doe.gov.
IV. SCIENTIFIC AND TECHNICAL REPORTING	Frequency	Submission Location
A. Science and Technical Information		
<input checked="" type="checkbox"/> 1. Accepted Manuscript of Journal Article(s)	O	Report to the DOE STI Management System .
<input checked="" type="checkbox"/> 2. Conference Product(s)	O	Report to the DOE STI Management System .
<input checked="" type="checkbox"/> 3. Technical Report(s)	O, F	Report to the DOE STI Management System .
<input checked="" type="checkbox"/> 4. Software & Manual(s)	O	Report to the DOE STI Management System .
<input checked="" type="checkbox"/> 5. Dataset(s)	O	Report to the DOE STI Management System .
B. Intellectual Property		
<input checked="" type="checkbox"/> 1. Intellectual Property Reporting	O	Report to iEdison
<input checked="" type="checkbox"/> 2. Invention Utilization Report	O	Report to iEdison
V. CLOSEOUT REPORTING	Frequency	Submission Location
<input checked="" type="checkbox"/> A. Invention Certification, DOE Form F.2050.11	F	Template available at: Templates-for-OCED-Recipients Upload this file to the "2. Post-Award Reporting" folder in your project's Box folder set.

FREQUENCY CODES AND DUE DATES:

E - At the end of the phase/budget period.

F - Final; within 120 calendar days after expiration or termination of the award.

M - Monthly; within 5 calendar days after the end of the month.

O - Other: See submission location link and written description below.

Q - Quarterly; within 30 calendar days after the end of the Federal fiscal year quarter. (Jan-Mar, Apr-Jun, Jul-Sept, Oct-Dec)

Y - Yearly; no later than December 1 of each year.

General Instructions

The Recipient is required to submit reports for the items where the checkbox in the checklist above is marked “x” consistent with the requirements and instructions included in this Federal Assistance Reporting Checklist (FARC). This version of the FARC focuses on reporting requirements for Phase 1, and the reporting requirements and/or frequencies may be updated in subsequent Phases and/or Budget Periods. DOE may also update the form and manner for submissions and, if so, will inform the Recipient regarding updated instructions.

I. Project Management Reporting

A. Performance Report Narrative

The Performance Report Narrative (PRN) provides a summary description of the work performed; the project progress, issues, and concerns; and the project schedule and deliverables status. The PRN template is available at the link provided in the table located at the beginning of this document. Although use of the template is optional, the template clarifies all elements that are required to be included as part of this submission.

B. Performance Report Quantitative

The Performance Report Quantitative (PRQ) provides the data and captures quantitative information on the project progress which supports the PRN. The PRQ template is available at the link provided in the table located at the beginning of this document. Although use of the template is optional, the template clarifies all elements that are required to be included as part of this submission. Instructions for Phase 1 PRQ are included to provide guidance on the PRQ submission.

C. Special Status Reports

This section sets forth the special status reporting requirements regarding problems, delays, or adverse conditions that materially impair or impact the Recipient's ability to meet the objectives of the award or may require DOE to respond to questions relating to such events from the public. The Recipient must report any of the following incidents to DOE, including immediate impacts of the incident and responses, as applicable. Within 60 days of the incident, the Recipient must submit a preliminary report that includes the impact of the incident (or potential impacts for near-misses), causes of the incident, remedial action(s) to be taken to correct the problem/condition and/or prevent similar incidents from occurring in the future, as applicable. A final report should be submitted once analysis is complete.

The Recipient is required to report the following to DOE by notifying the Federal Project Manager by email or phone:

The Recipient must report any of the following events, within forty-eight (48) hours:

1. Any incident involving an employee or member of the public on the facility grounds for any fatality or injury required to be reported under Occupational Safety and Health Administration or state regulations.
2. Any event of imminent or actual environmental contamination or the need for environmental cleanup that is required to be reported to state or federal regulatory agencies.
3. Any event of actual physical property damage in excess of \$50,000.

4. Any cybersecurity incident or breach that may cause financial harm or loss of intellectual property created or supported in performance of the award, including malware and ransomware attacks; affecting operations or the security of, or access to, data, including disruption of both physical operations and business operations for a duration greater than one (1) hour; or any cybersecurity incidents that have national security implications.
5. Any event that could lead to sabotage, insider threat, violence, theft, property damage, or any other significant factors.

The Recipient must report any of the following events, within five (5) business days:

1. Any notices or claims of patent or copyright infringement arising out of or relating to the performance of the award.
2. Refusal of a Subrecipient or contractor or subcontractor, when applicable, to accept flow-down requirements of the award.
3. Potential or actual violations of federal, state, and municipal laws arising out of or relating to work under the award.
4. Any improper claims or excess payments arising out of or relating to work under the award.
5. Potential or actual noncompliance with the reporting requirements under the award.
6. Potential or actual violations of the lobbying restrictions applicable to the award.
7. Potential or actual bankruptcy/insolvency of the Recipient or Subrecipients.
8. Near-misses or actual violations of environmental, health, or safety laws and regulations, any significant environmental permit violation, and any incident that causes a significant process or hazard control system failure.
9. Any event that is anticipated to cause a significant schedule slippage or cost increase.
10. Any developments that have a significant favorable impact on the project and any incident arising out of or relating to work under the award that has the potential for high visibility in the media.

The Recipient must report any of the following events, within ten (10) business days:

1. **Potentially Duplicative Funding:** If the Recipient or any of its Subrecipients have or receive any other Federal funds for activities that potentially overlap with the activities funded under this award, and any potentially duplicate identical cost items, the Recipient must notify the Grants and Agreements Officer in writing within ten (10) calendar days of identifying the potential

overlap or duplication of costs. The Recipient must state whether project funds (Federal and cost share funds) from any of those other Federal awards have been, are being, or are to be used (in whole or in part) for one or more of the identical cost items under this award.

D. Federal Financial Report (SF-425)

The Recipient is required to submit a completed [SF-425](#) for the project to DOE, covering the entirety of work performed by the Recipient, Subrecipients, and contractors. The instructions for this item are stated in the table at the beginning of this document.

II. Award Management Reporting

A. Current and Pending Support Disclosures

The Recipient must submit current and pending support disclosure statements and a Curriculum Vitae or resume for any new senior/key personnel at the Recipient and Subrecipient level added to the project funded under this award, within thirty (30) calendar days of the individual joining the project. In addition, if there are any changes to current and pending support disclosure statements previously submitted, the Recipient must submit updated current and pending disclosure statements within thirty (30) calendar days of the change.

The Recipient must report current and pending support disclosures either using the approved template or any format if it includes at least the information requested in the template.

B. Tangible Personal Property Report – Annual Property Report (SF-428 & SF-428A)

The Recipient must submit an annual inventory of Federally owned property (government-furnished) where the award specifies that title to the property vests with the Federal government, whether it is in the possession of the Recipient or any Subrecipient(s). The SF-428 and SF-428A forms are available at <https://www.grants.gov/forms/forms-repository/post-award-reporting-forms>.

C. Tangible Personal Property Report – Disposition Request/Report (SF-428 & SF-428C)

The Recipient must request disposition instructions or report disposition of Federally owned property or equipment acquired with project funds, whether the property or equipment is/was in the possession of the Recipient or any Subrecipient(s). The Recipient may also be required to provide compensation to DOE when acquired equipment is sold or retained for use on activities not sponsored by the Federal government. Any equipment with an acquisition cost above \$5,000 must be included in the inventory.

If disposition occurs at any time other than award closeout (i.e., at any time throughout the life of the project or after project completion and closeout if the Federal government retains an interest in the item), the Recipient must complete an SF-428 and SF-428C. The SF-428 and SF-428C forms are available at <https://www.grants.gov/forms/forms-repository/post-award-reporting-forms>.

At award closeout, the Recipient must submit a final inventory of and request disposition instructions for any Federally owned property and/or property or equipment acquired with project funds with an acquisition cost above \$5,000, whether the property is/was in the possession of the Recipient or Subrecipients. Only the Grants and Agreements Officer has authority to approve disposition requests and issue disposition instructions.

D. Uniform Commercial Code Financing Statements

Consistent with 2 CFR § 910.360(b)(4), for an award where the Federal share is more than \$1 million, and the entity purchasing the equipment is a for-profit Recipient or for-profit Subrecipient, a Uniform Commercial Code (UCC) financing statement(s) for equipment must be filed within five (5) business days after the award is made, or prior to the equipment purchase if at a later date, and proof of filing provided to DOE.

This financing statement provides public notice that the Federal government has an undivided reversionary interest in the equipment, and as such the equipment cannot be sold or used as collateral for a loan (encumbered) without prior written approval.

The Recipient must file, and require any Subrecipient that intends to purchase equipment under this award to file, a UCC financing statement(s) with the Secretary of State where the Recipient or Subrecipient (as applicable, depending on the entity that is or will be the owner of the equipment) is located and must pay any associated costs for such filings, which are allowable project costs.

A UCC financing statement must be filed at least once every five years.

At a minimum, the financing statement(s) must state and include:

- “Title to all equipment (not real property) purchased with Federal funds under this financial assistance agreement is conditional pursuant to the terms of 2 CFR § 910.360, and the Federal government retains an undivided reversionary interest in the equipment at the Federal cost-share proportion specified in the Award terms and conditions.”
- Federal Award Identification Number (e.g., DE-CD00XXXX).

E. Reporting Subaward and Executive Compensation Information

As stated in 2 CFR Part 170 Appendix A:

1. Reporting of First-tier Subawards

a. Applicability.

The Recipient must report each action that equals or exceeds \$30,000 or more in Federal funds for a subaward to a non-Federal entity or Federal agency (see definitions in paragraph 5. of this section), unless the Recipient is exempt as provided in paragraph

4. of this section.

b. Where and when to report

- i. The Recipient must report each obligating action described in paragraph 1.a. of this section to the Federal Subaward Reporting System at <http://www.fsr.gov>.
- ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.

c. What to report. The Recipient must report the information about each obligating action that the submission instructions posted at <https://www.fsr.gov/>, specify.

2. Reporting Total Compensation of Recipient Executives for Non-Federal Entities

a. Applicability and what to report.

The Recipient must report total compensation for each of the Recipient's five most highly compensated executives for the preceding completed fiscal year, if:

- i. The total Federal funding authorized to date under this award equals or exceeds \$30,000 as defined in 2 CFR § 170.320;
- ii. In the preceding fiscal year, the Recipient received:
 - 80 percent or more of the Recipient's annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and
 - \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and
- iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 USC 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. To determine if the public has access to the compensation information, see the U.S. Securities and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>.

b. Where and when to report.

The Recipient must report executive total compensation described in paragraph 2.a. of this section:

- i. As part of the Recipient's registration profile at <http://www.sam.gov/>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

3. Reporting of Total Compensation of Subrecipient Executives

a. Applicability and what to report.

Unless you are exempt as provided in paragraph 4. of this section, for each first-tier non-Federal entity Subrecipient under this award, the Recipient shall report the names and total compensation of each of the Subrecipient's five most highly compensated executives for the Subrecipient's preceding completed fiscal year, if:

- i. in the Subrecipient's preceding fiscal year, the Subrecipient received:
 - 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards) and,
 - \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and
- ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 ([15 U.S.C. 78m\(a\), 78o\(d\)](#)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

b. Where and when to report.

The Recipient must report Subrecipient executive total compensation described in paragraph 3.a. of this section:

- i. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), the Recipient must report any required compensation information of the Subrecipient by November 30 of that year.

4. Exemptions

- a. If, in the previous tax year, the Recipient had gross income, from all sources, under \$300,000, the Recipient is exempt from the requirements to report:
 - i. Subawards, and
 - ii. The total compensation of the five most highly compensated executives of any Subrecipient.

5. Definitions

For purposes of this requirement:

- a. Federal Agency means a Federal Agency as defined at 5 USC § 551(1) and further clarified by 5 USC § 552(f).
- b. Non-Federal entity means all the following, as defined in 2 CFR Part 25:
 - i. A Governmental organization, which is a state, local government, or Indian tribe;
 - ii. A foreign public entity;
 - iii. A domestic or foreign non-profit organization; and,
 - iv. A domestic or foreign for-profit organization
- c. Executive means officers, managing partners, or any other employees in management positions.
- d. Subaward:
 - i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which the Recipient received this award or that the Recipient awards to an eligible Subrecipient.
 - ii. The term does not include the Recipient's procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR 200.331).
 - iii. A subaward may be provided through any legal agreement, including an agreement that the Recipient or a Subrecipient considers a contract.

e. Subrecipient means an entity that:

- i. Receives a subaward from the Recipient under this award; and
- ii. Is accountable to the Recipient for the use of the Federal funds provided by the subaward.

Total compensation means the cash and noncash dollar value earned by the executive during the Recipient's or Subrecipient's preceding fiscal year and includes the information found in 17 CFR § 229.402(c)(2)).

F. Annual Incurred Cost Proposal

The Recipient must submit a certified annual Incurred Cost Proposal, reconciled to its financial records, to finalize and reconcile billing rates incurred and billed to the Federal Government unless one of the following applies:

1. The Recipient elected to apply the de minimis rate as allowed under 2 CFR § 200.414(f) and opted out of any additional fringe costs/rates; or
2. The Recipient has a pre-determined Negotiated Indirect Cost Rate Agreement.

If OCED is not the Recipient's Cognizant Federal Agency, the Recipient should instead refer to its Cognizant Federal Agency for reporting instructions. Within 180 calendar days after the close of the Recipient's fiscal year. This requirement applies at the end of the award even if the award ends prior to the close of the Recipient's fiscal year.

G. DOE For-Profit Compliance Audit (For-Profit Entities)

As required by 2 CFR Part 910 Subpart F, a For-Profit Entity that expends \$750,000 or more during its fiscal year in DOE awards must have a Compliance Audit conducted for that year.

The Compliance Audit must be conducted in accordance with the regulations at 2 CFR §§ 910.500-521 and must refer to the appropriate regulations used by the auditor in their examination.

The Compliance Audit must be submitted along with audited financial statements if those statements are required and available. The deadline for this submission is within the earlier of thirty (30) calendar days after receipt of the auditor's report(s) or nine (9) months after the end of the audit period (Recipient's fiscal year-end). This requirement applies at the end of the award even if the award ends prior to the close of the Recipient's fiscal year.

Single Audit: States, Local Governments, Tribal Governments, Institutions of Higher Education, or Non-Profit Organizations

As required by 2 CFR Part 200 Subpart F, non-Federal entities (states, local governments, tribal governments, institutions of higher education, or non-profit organizations) that expend \$750,000 or more during the non-Federal entity's fiscal year in Federal awards must have a single or program-specific audit conducted. The single audit must be conducted in accordance with 2 CFR Part § 200.514 Scope of audit, except when it elects to have a program-specific audit conducted.

For most Recipients the requirement is for annual single audits. However, there are occasions where a single audit is not required annually. Per 2 CFR § 200.504 - Frequency of audits, a state, local government, or Indian tribe that is required by constitution or statute to undergo its audits less frequently than annually, is permitted to undergo its audits biennially. Also, any non-profit organization that had biennial audits for all biennial periods ending between July 1, 1992, and January 1, 1995, is permitted to undergo its single audits biennially.

For a program-specific audit, when a Recipient expends Federal award funds under only one Federal program (excluding research and development) and the Federal program's statutes, regulations, or the terms and conditions of the Federal award do not require a financial statement audit of the auditee, the auditee may elect to have a program-specific audit conducted. A program-specific audit may not be elected for research and development unless all the Federal awards expended were received from the same Federal agency, or the same Federal agency and the same pass-through entity, and that Federal agency, or pass-through entity in the case of a Subrecipient, approves in advance a program-specific audit.

The single audit report shall include audited financial statements. Within the earlier of thirty (30) calendar days after receipt of the auditor's report(s) or nine (9) months after the end of the audit period (Recipient's fiscal year-end). This requirement applies at the end of the award even if the award ends prior to the close of the Recipient's fiscal year.

H. Participants and Collaborating Organizations

The Recipient is required to submit the following information upon request by DOE. If there are any changes or updates to this information, the Recipient must submit updated information within thirty (30) calendar days of the change consistent with the instructions below:

1. What Individuals Have Worked on the Project
 - a. List each Non-Federal Project Manager and other senior/key personnel listed in the Assistance Agreement for the Recipient and the senior/key personnel at the Subrecipient level who have worked or are expected to work on the project, regardless of the source of compensation. For each individual, the Recipient must include the following:

- i. Name and role the person played in the project,
- ii. How the person contributed to the project, and
- iii. The person's state, U.S. territory, and/or country of residence. Include the location from which the person collaborated (international or U.S.-based). Include whether this person collaborated internationally with an individual located in a foreign country and whether the person traveled to the foreign country as part of that collaboration, and, if so, where and what was the duration of the stay. If the participant was not U.S.- based, include whether this person traveled to the U.S. or another country as part of a collaboration, and, if so, where and what the duration of stay.

2. Other Organizations Involved in the Project

Include organizations such as academic institutions, other non-profits, industrial or commercial firms, consultants, state or local governments, schools or school systems, or other organizations (foreign or domestic) that have been involved with the project and how they contribute to the project.

3. Other Collaborators or Contacts Involved

Include significant collaborators or contacts within the Recipient's organization that may not be covered under other sections of this term and include the state(s), U.S. territory(ies), or country(ies) of each collaborator or contact.

III. Infrastructure Investment and Jobs Act / Bipartisan Infrastructure Law Reporting

A. Boosting Domestic Manufacturing

The Recipients must provide the following information and reports.

1. Domestic Manufacturing and Critical Materials and Rare Earth Element Mining, Processing, Production and Recycling Capacity

This reporting requirement applies to projects that support (i.e., construct, establish, retool, re-equip, or retrofit) manufacturing capacity as well as projects that support the mining, processing, production, or recycling of critical minerals or rare earth materials and elements. The Recipient is required to report on direct domestic manufacturing capacity as well as critical materials and rare earth element mining, processing, production, or recycling capacity.

2. Greenhouse Gas Emissions and Air Pollutants

This report documents the increases and decreases in pollutants across the effective useful life of the project as well as Greenhouse Gas emissions created through mining, processing, production, or recycling operations projects and indirect changes in GHG emissions resulting from projects.

3. Equipment

The Recipient must provide a list of all equipment in mining, processing, production, or recycling facilities projects that emit pollutants or greenhouse gases onsite in facilities listed in the mining processing and production or recycling tab.

The Recipient must submit this report using the III.A. Boosting Domestic Manufacturing Report excel form available at the link stated in the checklist above.

B. Quality Job Creation

1. Direct Jobs

This report is only required during the construction phase of the project. Refer to the DOE [Davis-Bacon Act Requirements for Recipients](#) webpage for information.

This award is funded under Division D of the Bipartisan Infrastructure Law. All laborers and mechanics employed by the Recipient, Subrecipients, contractors or subcontractors in the performance of construction, alteration, or repair work in excess of \$2000 on an award funded directly by or assisted in whole or in part by funds made available under this award 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”.

The Recipient must ensure the timely electronic submission of weekly certified payrolls to the [LCPtracker](#) unless a waiver is granted to a particular contractor or subcontractor because they are unable or limited in their ability to use or access the software.

2. Training Outcomes

This report is required if the award requires Davis-Bacon Act compliance, if the authorizing statute applicable to the award refers to workforce development or training in the authorizing statute, or the Recipient utilizes a portion of the award funding on workforce development. Only career-track training that focuses on skill development should be tracked in this report. Career-track training leads to an appropriate industry-recognized credential, professional qualification, or license. It teaches broad occupational knowledge and skills that can be applied across a range of technologies, leading to a number of different career paths.

Continuing education allowing incumbent workers to keep up with the latest technology and practices, and to advance in their careers, is another important element of career-track training. This report will also track the number of workforce partnerships involving employers, community-based organizations, or labor unions, including partnerships specified in community benefits agreements and project labor agreements, or similar.

For training performed by the Recipient, data should be tracked for each trainee including trade, classification or trainee level, and zip code of residence. For awards with Subrecipients, the above data should be collected to the maximum extent feasible, recognizing this may not be possible for all projects.

The Recipient must submit this report using the III.B. Quality Jobs Creation Training Outcomes Report excel form available at the link in the checklist above.

3. Good Jobs Outcomes

This report is required of all Recipients of BIL funding. To assess activities contributing to growing American jobs, improving the quality of energy jobs, and facilitating equitable access to good jobs and training opportunities, all BIL Recipients must report annually on good jobs outcomes.

The Recipient must submit this report using the III.C. Quality Jobs Creation Good Jobs Outcomes Report excel form available at the link stated in the checklist above.

C. Equity and Justice

1. Community Engagement

The Recipient is required to submit this report on community and stakeholder engagement if its project includes building, expanding, or retrofitting a facility. The Recipient is required to report the estimated number of community members and stakeholders engaged during siting and design and the communities of interest to which they belong, if any. For projects engaging with the community as part of deployment and evaluation, Recipients should report any examples of planning, open forums, citizen advisory committees, participatory research and budgeting, memorandums of understanding, letters of support or any other indications of engagement.

2. Technical Assistance

The Recipient is required to submit this information if the Recipient provides technical assistance to other organizations related to the award. Examples of technical assistance include technical analysis, financial analysis, training, program assistance, policy and planning assistance, capacity building, and stakeholder engagement and coordination.

For each instance of technical assistance, the Recipient must provide information on the organization providing the technical assistance, communities served by this technical assistance, the location where the technical assistance was provided, and a link to find more information about the technical assistance if available.

3. Community Ownership

The Recipient is required to submit this information if its project includes building or installing new clean energy or climate assets. The Recipient should report whether any or all these assets will be community owned, as well as the compensation the community will receive.

The Recipient must submit this report in the excel form available at the link stated in the checklist above.

D. Locations of Work

Prior to award, the Recipient was required to identify each known location being served directly as a primary project site work location or a location impacted by the project. This includes the location(s) of construction or alteration activity as well as any communities geographically near the proposed project site and/or communities that may be a part of the proposed project's supply or waste life cycle (e.g., where raw materials come from, where waste is being sent). The Location(s) of Work report is required to be validated by the Recipient on a quarterly basis. If there are any changes to the Location(s) of Work, the Recipient must submit the updated information to DOE.

E. Davis Bacon Act Semi-Annual Labor Compliance Report

This award is funded under Division D of the Bipartisan Infrastructure Law. All laborers and mechanics employed by the Recipient, Subrecipients, contractors or subcontractors in the performance of construction, alteration, or repair work in excess of \$2,000 on an award funded directly by or assisted in whole or in part by funds made available under this award 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”.

Calendar year semi-annual reports are required on compliance with and enforcement of the labor standards provisions of the Davis-Bacon Act and its related acts covering the periods of October 1st through March 31st, and April 1st through September 30th, respectively. Submit your [SEMI-ANNUAL DAVIS-BACON ENFORCEMENT REPORT](#) to DOE three weeks after the end of semi-annual reporting period by April 21st and October 21st for the applicable performance period. The Davis Bacon Act Semi-Annual Labor Compliance Report may be accessed at <https://www.energy.gov/infrastructure/semiannual-davis-bacon-reporting>.

IV. Scientific and Technical Reporting

A. Science and Technical Information Reporting

The dissemination of scientific and technical information ensures public access to the results of Federally funded research, development, and demonstration programs. The report requires information products in any medium or format used to convey results, findings, or technical innovations from research and development or other scientific and technological work that are prepared with the intention of being preserved and disseminated in the broadest sense applicable (i.e., to the public or, in the case of controlled unclassified information or classified information, disseminated among authorized individuals). By submitting this report to the DOE Energy Link System (E-Link), the information will be made available to the public through OSTI.GOV.

The Recipient is responsible for ensuring the suitability of the reporting content for public release. Submissions must not contain any Protected Personally Identifiable Information, limited rights data (proprietary data), classified information, information subject to export control classification, or other information not subject to release.

1. Accepted Manuscript of Journal Article

Public access to scholarly publications is enabled by providing the Accepted Manuscript of the Journal Article to DOE OSTI and is consistent with the U.S. Government's retained license to published results of Federally funded research. If the Recipient has a journal article accepted for publication which includes information/data produced under the award, then the Recipient must submit using the DOE F 241.3 form, as described below, no later than the published online date of the article.

The Recipient is to provide the final peer-reviewed manuscripts, i.e., the version of a journal article that has been peer reviewed and accepted for publication in a journal. Do NOT submit the journal's published version of the article, i.e., do NOT submit a copyrighted reprint.

The Recipient must self-certify at the time of submission to DOE via E-Link that the content is appropriate and that it is not a copyrighted reprint, i.e., the final version of the published article. The Journal is to include an acknowledgement of Federal support and a legal disclaimer consistent with the Publications, Public Relations Activities, and Design Elements Standard Term and Condition.

2. Conference Product(s)

The Recipient must submit a copy of any scientific/technical conference papers, proceedings, or presentations. Within (30) thirty calendar days after the conference, or as specified.

The content should include a copy of the paper, presentation, or proceeding and: (1) name of conference; (2) location of conference; (3) date of conference; and (4) conference sponsor. The Recipient is also to include an acknowledgement of Federal support and a legal disclaimer consistent with the Publications, Public Relations Activities, and Design Elements Standard Terms and Condition.

3. Technical Report(s)

The Recipient must submit a copy of any scientific/technical reports designed for public consumption. Within (30) thirty calendar days after the conference, or as specified.

The content should include a copy of the report as well as an acknowledgement of Federal support and a legal disclaimer consistent with the Publications, Public Relations Activities, and Design Elements Standard Terms and Condition.

4. Software and Manual(s)

The Recipient must submit all software deliverables created under the award, as well as any accompanying documentation or manuals. This submission must be within (30) thirty calendar days after the product is completed.

DOE CODE is DOE's software services platform for submitting and searching for software resulting from DOE-funded research. Through submission to DOE CODE, users have the option to obtain a Digital Object Identifier for the code, making it more easily discoverable, citable, and shared. When a Recipient submits software to OSTI through DOE CODE, a set of required metadata elements and a link to the software repository must be provided.

5. Dataset(s)

Scientific/technical datasets (data-streams, data files, etc.) support the technical reports and published literature resulting from DOE-funded research. They are also recognized as valuable information entities that, now and in the future, need to be available for citation, discovery, retrieval, and reuse. The assignment and registration of a Digital Object Identifier is a free service for DOE-funded researchers which is provided by OSTI to enhance access to this important resource. To obtain an identifier, provide to OSTI the specific data elements relevant to the dataset, as specified in DOE AN 241.6. Such datasets must be submitted within five calendar day after the product is completed.

If the Recipient generates publicly available datasets resulting from work funded by DOE, it may announce these datasets to OSTI and have them registered with DataCite to obtain an identifier, which ensures long-term linkage between the dataset's location. To register and publicly announce a dataset, the Recipient must provide an [Announcement Notice \(AN\) 241.6](#), including the required data elements needed for describing the dataset.

Note: Do NOT submit the dataset itself, only the metadata for registering the dataset, obtaining an identifier, and announcing its availability.

B. Intellectual Property Reporting

1. Intellectual Property Reporting

In reporting to iEdison a login and password are required. If the Recipient does not already have an iEdison administrator account, the Recipient may register for one at [iEdison](#).

In accordance with the patent rights clause of the award, the Recipient and Subrecipient(s), if any, must complete the following intellectual property reports in iEdison when applicable:

- Disclosing a subject invention, including anticipated uses and sales (use iEdison’s Invention Report).
- Reporting publications, manuscript submissions, or other public disclosures concerning a subject invention (add documents to the Invention Report).
- If authorized by the award agreement, electing (or declining) to retain title to a subject invention (modify the Invention Report and input “Title Election Date” or “Not Elect Title Reason”).
- Disclosing the filing or termination of patent applications on a subject invention (i.e., patent applications disclosing or claiming a subject invention). Patent disclosures must be made (using iEdison’s Patent Report) for filing the following patent applications:
 - An initial domestic patent application (including provisional or non-provisional)
 - A domestic divisional or continuation patent application
 - A domestic continuation-in-part application; and
- A foreign patent application.
- Discontinuing prosecution of a patent application, maintenance of a patent, or defense in a patent reexamination or opposition proceeding, regardless of jurisdiction (modify the Patent Report); and requesting an extension of time to:
 - Elect (or decline) to retain title to a subject invention (modify the Invention Report); and
 - File an initial domestic or foreign patent application (modify the Invention Report).
- Failure to submit Intellectual Property Reporting Forms in a timely manner may result in forfeiture of the Recipient’s or Subrecipient’s rights in the subject inventions and related patent applications.

2. Invention Utilization Report

The Recipient and Subrecipient(s) must provide Invention Utilization Reports for each subject invention that the Recipient or Subrecipient retains ownership. These reports are due annually starting one year after the Recipient or Subrecipient elects to take title and must

continue to be provided for ten (10) years thereafter or until the Recipient or Subrecipient informs DOE in writing that it no longer wants to retain title in the subject invention. Failure to submit Invention Utilization Reports in a timely manner may result in forfeiture of the Recipient's or Subrecipient's rights in the subject inventions.

V. Closeout Reporting

A. Invention Certification (DOE F 2050.11)

The Recipient is required to submit an Invention Certification on DOE Form F 2050.11. Within 120 calendar days after expiration or termination of the award.

The Invention Certification must include a list of all subawards/contracts at any tier containing a patent rights clause (or state that there were none).

ATTACHMENT 7
Budget Details

Attachment 7 – Budget Information

City of Los Angeles Harbor Department

Budget Period / Phase	Anticipated Start	Anticipated End	Estimated Total Cost	Estimated Federal Funding
1	07/17/2024	03/31/2026	\$1,149,372	\$0
Total			\$1,149,372	\$0