

THE NORTHWEST SEAPORT ALLIANCE
MEMORANDUM

MANAGING MEMBERS
ACTION ITEM

Item No.: 9D
Meeting Date: October 1, 2024

DATE: September 23, 2024

TO: Managing Members

FROM: John Wolfe, CEO

Sponsor: Jason Jordan, Senior Director, Environmental & Planning
Project Manager: Graham VanderSchelden; Environmental Project
Manager II

SUBJECT: Phase 1 Hydrogen Hub Funding Subaward Agreement

A. ACTION REQUESTED

Request the Managing Members of The Northwest Seaport Alliance (NWSA) authorize the Chief Executive Officer or their delegate to enter into a sub-recipient agreement with the Pacific Northwest Hydrogen Association (PNWH2) to accept funding in the amount of \$45,370, with a match of \$55,170, to support the NWSA's Phase 1 work under the Department of Energy's Regional Clean Hydrogen Hubs Program.

B. SYNOPSIS

The NWSA's participation in the Regional Clean Hydrogen Hubs program directly supports the NWSA's efforts to phase out emissions by 2050 under the Northwest Ports Clean Air Strategy, by providing funding to deploy hydrogen powered trucks and cargo handling equipment. A diverse suite of zero emission technologies will be needed to phase out emissions and hydrogen powered drayage trucks and cargo handling equipment are likely to play an important role, especially for heavier and longer-range applications.

In October of 2023, the Puget Sound Region was selected by the US Department of Energy (DOE) as one of 7 regional clean Hydrogen Hubs, awarding up to \$1 billion to support development of a hydrogen economy in the Pacific Northwest. This funding will support the planning, design, and deployment of hydrogen production and distribution infrastructure, as well as end use technologies (like hydrogen fuel cell trucks and cargo handling equipment).

The hub funding will be awarded in four phases, and each project must demonstrate adequate progress and project readiness to move on to the next phase.

The Pacific Northwest Hydrogen Association is a non-profit organization made up of public and private partners founded to organize the regional effort to secure hydrogen hub funding, administer the grant award, and coordinate the work.

PNWH2 led the project selection process and drafting and submission of the grant application to the DOE. PNWH2 is the prime awardee of DOE funding and is issuing sub-awards to organizations that are leading the hub's projects.

The NWSA was selected as a project partner and sub-awardee in the application. Our proposed project is to facilitate the deployment of hydrogen drayage trucks and cargo handling equipment (CHE) to help create end use and stimulate demand for hydrogen in the region. A total of about \$12 million of federal funding allocated to our project across the four project phases, with most of the funding to be deployed when purchases of hydrogen trucks will be made, currently project to be starting in 2028. We estimate that the funding will enable deployment of 32 hydrogen trucks and 2 top handlers.

The phase 1 work funded under this sub-award agreement is to perform market research and program design tasks foundational to the hydrogen truck and CHE incentive programs. Completing this work will be vital for demonstrating our readiness to accept and deploy funding for phase 2 and beyond and ultimately gain access to the full \$12 million to support deployment of hydrogen drayage trucks and CHE.

C. BACKGROUND

The NWSA has established the aggressive vision to phase out emissions from our seaport related activities by 2050; a challenge that will require deployment of a suite of new technologies. While battery electric vehicles and equipment will be the right solution for many applications, there are others for which hydrogen or other liquid fuels will be more feasible, particularly applications that are too heavy-duty and/or long range for batteries. Examples of use cases that may be a good fit for hydrogen are drayage trucks, especially longer range and heavier haul applications, heavy cargo handling equipment, some harbor vessels, locomotives, and vehicles and/or equipment in locations where electrification is cost prohibitive due to grid constraints. Given the potential for hydrogen to play a significant role in our decarbonization efforts, staff have engaged closely in the DOE's Clean Hydrogen Hubs program since its announcement in 2022.

The \$8 billion DOE Clean Hydrogen Hubs program was created through the Bipartisan Infrastructure Law to establish the foundation for a national clean hydrogen network that will enable decarbonization of multiple sectors of the US economy. Of the \$8 billion, \$7 billion is allocated to funding regional clean hydrogen hubs, which includes deployment of hydrogen production, distribution, and end use technologies. The program also places high focus on ensuring that these investments benefit workforce and local communities by requiring the workplan for each regional hydrogen hub to include a detailed community benefits program.

The remaining \$1 billion has been set aside for a demand side support mechanism, which will provide additional support for end users of hydrogen. The Demand Side Support Mechanism is still under development.

The DOE plans to release hydrogen hub funding in four phases as described below. Between each phase, DOE will analyze each project to determine whether funding will be awarded for the next phase, based on go/no-go criteria and project readiness.

- Phase 1: Detailed Planning [12-18 months]
 - Planning and feasibility assessment.
- Phase 2: Implementation and Development [2-3 years]
 - Permitting, design, and financing.
- Phase 3: Scale up and Deployment [2-4 years]
 - Construction and technology deployment
- Phase 4: Full Operation and Sustainability [2-4 years]
 - Operation at scale

The Pacific Northwest Hydrogen Association¹ was created to lead an application on behalf of the Pacific Northwest region. PNWH2 is a nonprofit organization made up of public and private partners whose charge is to create “a hydrogen network to develop and bring clean hydrogen solutions to the market that leverage the region’s renewable energy sources and help meet the nation’s clean energy goals.” PNWH2 is the prime awardee of the DOE grant, having led the project selection and application processes. NWSA was included in the application as a proposed sub-awardee. Funding will be distributed to individual projects via sub-award agreements.

In fall of 2023, the DOE announced that up to \$1 billion would be awarded to support the proposed Pacific Northwest Hydrogen Hub. As previously noted, the actual funding awards will be dispersed by project phase; \$27.5 million has been awarded to the PNW hub for phase 1.

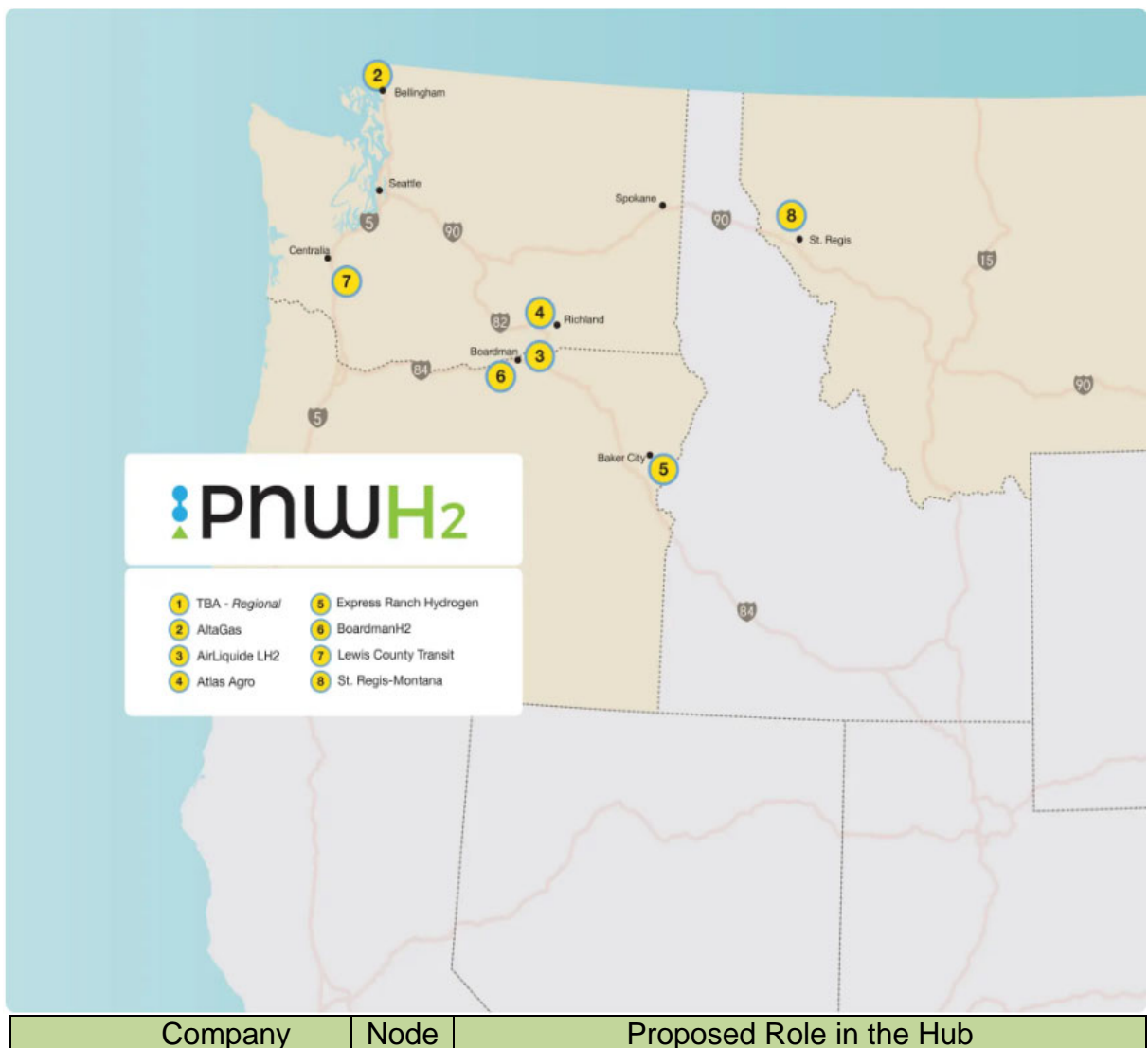
Since the announcement, PNWH2 and the sub awardees have been negotiating the grant award agreement with DOE, which was finalized in July 2024. PNWH2 has also

¹ [PNWH2: An Overview – Pacific Northwest Hydrogen Association](#)

been negotiating sub-award agreements for phase 1 awards with the individual projects.

The Pacific Northwest Hydrogen Hub itself consists of a network of hydrogen production, distribution, and end use in Washington, Oregon, and Montana. The renewable energy resources available in the Pacific Northwest are a key advantage for the PNW hub, enabling all of the hydrogen production to be “green” or, in other words, generated via electrolysis (i.e. using electricity to split water molecules apart) utilizing renewable energy.

Not all of the selected hubs share this quality. The map and table below from the PNWH2 website provide a high-level summary of the proposed project locations and partners in the PNW Hub.



Air Liquide Hydrogen Energy US LLC	3	Hydrogen liquefaction, distribution, and market activation
ALA Renewable Energy LLC, and Alta Gas Company	2	Clean hydrogen production to decarbonize heavy transportation, refineries, and power generation
Amazon.com, Inc	TBA	Decarbonize Amazon operations
Atlas Agro	4	Hydrogen production, agricultural end uses
Centralia College	TBA	Leading career training and energy education
MHI Hydrogen Infrastructure LLC	6	Hydrogen production, storage, delivery, and peak power
Northwest Seaport Alliance	3	Deploy hydrogen port trucks and cargo handling equipment
Express Ranch Hydrogen	5	Hydrogen production, heavy-duty industrial transportation
PACCAR Inc	3	Truck original equipment manufacturer (OEM) developing zero emission hydrogen vehicles
Portland General Electric Company	6	Clean hydrogen electricity generation project
Puget Sound Energy (PSE)	TBA	Hydrogen-powered peak generation
St. Regis Solar, LLC	8	Hydrogen production, transportation, and off-grid
Lewis County Transit	7	Hydrogen production and fueling, public transit
Williams Field Services Group, LLC	6	Hydrogen transmission and storage services

D. NWSA'S PROJECT

The NWSA's role in the PNW hydrogen hub is to stimulate port-related hydrogen end use by incentivizing the purchase of hydrogen drayage trucks and cargo-handling equipment. Approximately \$12 million has been allocated to NWSA's work across the four phases, most of which will be used for these purchase incentives during phase 3, synchronizing with the timing of hydrogen fueling availability. Our preliminary estimate is that the funding will incentivize purchase of 32 hydrogen trucks and 2 top handlers, though the numbers are subject to change based on the market research planned for project phase 1. As shown in the table below, the NWSA's work across the four phases includes market research and program design in phase 1, program launch and securing of partners in phase 2, purchase of hydrogen trucks and CHE in phase 3, and operation in phase 4.

The NWSA's project is part of "Node 3" in the PNW hydrogen hub, which is focused on hydrogen production and liquefaction facilities near Boardman, OR. Liquefaction is the process of transforming gas-phase hydrogen into a liquid, which is important for storing hydrogen at higher density and for transporting it long distances.

Air Liquide is the NWSA’s primary partner and will be developing the liquefaction facility as well as fueling stations in the Puget Sound Region (locations TBD).

Mitsubishi Power is leading development of the Boardman hydrogen production facility. PACCAR is also receiving funding to develop their hydrogen fuel cell class 8 truck product.

During phase 1, the NWSA will be using consulting support to perform market research and program design work, summarized briefly below. NWSA staff will also be supporting the hub’s Community Benefits Program as needed.

Market research:

- Assess demand for hydrogen trucks and CHE in port applications in the PNW
 - Assess costs of hydrogen trucks and CHE in port applications in the PNW
- Incentive program design:
- Assess necessary incentive levels and structures
 - Procurement/solicitation process that is compliant with all DOE program requirements
 - Program management structure; synchronize/incorporate into NWSA ZE truck and CHE incentive programs

The NWSA will not be directly involved in the construction of hydrogen production, storage, or fueling infrastructure. The only such asset that may be located on port property would be mobile fuelers for hydrogen cargo-handling equipment.

Summary of Node 3 Work by Phase:

	Phase 1 (July 2024 - Dec. 2025)	Phase 2 (est. Jan 2026 - Dec. 2027)	Phase 3 (est. Jan 2028 - Dec. 2030)	Phase 4 (est. Jan 2030+)
Partners	Air Liquide: Planning PACCAR: Product RD&D	Air Liquide: Design/construction PACCAR: Product RD&D	Air Liquide: Complete construction PACCAR: H2 truck commercially available	Air Liquide: Facilities operating
NWSA	Federal Funding: \$45k Market research and incentive program design	Federal Funding: \$151k Solicit and secure program participants	Federal Funding: \$11.5M Truck and CHE purchases/deployment	Federal Funding: \$154k Trucks and CHE in operation

E. FINANCIAL IMPLICATIONS

Project Cost Details

The federal funds received under the sub-award agreement for phase 1 will cover the consulting support needed to conduct the market research and program design tasks. NWSA's match is equivalent to the staff time and overhead costs (overhead is simply reported to the granting agency as 10% of all other costs). Accepting phase 1 funding does not commit the NWSA to future phases of the project. A summary of phase 1 costs is shown below.

Summary of Phase 1 Costs:

Activity	Cost
Consulting Support	\$45,000
Staff time	\$46,400
Overhead (10%)	\$9,140
Federal Share	\$45,370
Match	\$55,170



Subrecipient Agreement
Effective Date:

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PACIFIC NORTHWEST HYDROGEN ASSOCIATION

SUBRECIPIENT AGREEMENT FOR Northwest Seaport Alliance

THIS SUBRECIPIENT AGREEMENT (this “Agreement”) is entered into as of [SRA Execution DATE] by and between the Pacific Northwest Hydrogen Association, a Washington Nonprofit Corporation (“Recipient”) and Northwest Seaport Alliance (the “Subrecipient”, and the Subrecipient and Recipient, each a “Party” and collectively, the “Parties”). Capitalized terms used and not otherwise defined herein shall have the meanings ascribed thereto in the Cooperative Agreement (defined below) or the Statement of Work (“SOW”), attached hereto as Attachment 1 (as may be modified and amended for future phases of the Award), for the Project.

1.0 Recitals

WHEREAS, Recipient submitted an application (the “Application”) for the Pacific Northwest Hydrogen Hub (the “Hub”) to the United States Department of Energy (the “DOE”) pursuant to that certain Funding Opportunity Announcement DE-FOA-0002779, Bipartisan Infrastructure Law: Additional Clean Hydrogen Programs (Section 40314): Regional Clean Hydrogen Hubs Funding Opportunity Announcement;

WHEREAS, in response to the Application, the Department of Energy (the “DOE”) Office of Clean Energy Demonstrations awarded certain funds to Recipient (the “Federal Award”) pursuant to that certain Cooperative Agreement No. DE-CD0000040, dated July 19, 2024 by and between DOE and Recipient (the “Cooperative Agreement”);

WHEREAS, Recipient has legal authority, and has obtained all necessary approvals from its governing board (“Board”), to execute the Cooperative Agreement and accept all rights and responsibilities under the Cooperative Agreement;

WHEREAS, Recipient wishes to engage the Subrecipient to assist Recipient to carry out a part of the Federal Award pursuant to the terms of this Agreement, and has received all necessary approvals from its Board to execute this Agreement;

WHEREAS, the work to be performed hereunder by Subrecipient and the accompanying timelines therefor shall be specified in one of more SOWs, each of which upon execution by both Parties shall be deemed to be incorporated in this Agreement;

WHEREAS, the funds made available for use by the Subrecipient under this Agreement and each SOW (the “Subaward Funds”) constitute a subaward of the Federal Award, the use of which must be in accordance with requirements imposed by Federal statutes, regulations, and the flow down terms and conditions of the Cooperative Agreement (the “Flow-Down Obligations,” as set forth in Attachment 2 hereto);

WHEREAS, the Subrecipient has legal authority to enter this Agreement, and the Subrecipient’s governing body has duly accepted the requirements contained in this Agreement, including the Flow-Down Obligations, and has authorized the Subrecipient to enter this Agreement; and

WHEREAS, in connection with the performance by the Parties of this Agreement, the Parties have executed and shall comply with the provisions of that certain Mutual Confidentiality Agreement previously entered into by the Parties (the “Mutual Confidentiality Agreement”).

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

2.0 General Award Information

The subaward from Recipient to the Subrecipient, which is described below (this “Subaward”), is for the purpose of carrying out a portion of a Federal Award and creates a Federal assistance relationship with the Subrecipient. In connection with the foregoing, the Parties acknowledge and agree that (a) each Party will implement this Agreement (including its rights and obligations herein) in good faith, and in conformance with the provisions and requirements of the Cooperative Agreement, (b) any approval required herein from Recipient shall not be unreasonably conditioned, withheld or delayed, and, to the extent applicable or required under the Cooperative Agreement, shall be made in consultation with DOE, and (c) as necessary and appropriate, or as otherwise required by DOE under the Cooperative Agreement, the Parties will promptly negotiate in good faith and upon reaching an agreement shall thereafter amend this Agreement, as set forth in Section 9.1 herein.

The Parties agree as to the following information for the Primary Contact for each Party:

RECIPIENT:	SUBRECIPIENT:
Name: Chris Green	Name: _____
Title: PNWH2 Board President	Title: _____
Address: 4935 N Defiance St	Address: _____
Phone: Tacoma, WA 98407	Phone: _____
Email: chris.green@pnwh2.com	Email: _____

Federal Award Identification Number: DE-CD0000040

Federal Award Date: July 19, 2024

Subrecipient Project description: NSW, Port Conversion Program will design and implement a program to encourage and subsidize owners of private fleets to purchase hydrogen-powered drayage trucks and cargo handling equipment used at the ports of Tacoma and Seattle, as further described in Attachment 1 (the “Project”).

Subrecipient’s Unique Entity Identifier: NEUCLK4D4PE7

Indirect cost rate applicable to the Subaward to the Subrecipient: 10% de minimis indirect rate

3.0 Recipient Vision and Objectives

The Subrecipient, will seek to implement the Project under this Agreement in a good faith, commercially reasonable manner, and in recognition that DOE in issuing the Cooperative Agreement is seeking to achieve the Programmatic Goals, and Project Vision and Objectives Statement, set forth in Attachment 4 and Attachment 2 of the Cooperative Agreement, respectfully.

4.0 Scope of Service

4.1 Eligible Use of Subaward Funds

As a condition of receiving the Subaward and entering into this Agreement, the Subrecipient shall seek to develop, construct, operate, and maintain (or, to the extent applicable, assist with the development, construction, operation and/or maintenance of) the Project, which includes performing all of the work described in this Section and in each SOW. The Subrecipient shall seek to complete the Project in a good and workmanlike manner in accordance with prudent industry standards, and consistent with the terms of conditions of this Agreement, the SOWs, the Flow-Down Obligations, and applicable Federal statutes and regulations.

In addition to complying with the terms and conditions of this Agreement, the Subrecipient further agrees to impose, through binding agreements, the applicable terms and conditions of this Agreement (including the Flow-Down Obligations, as applicable) upon its lower-tier contractors (if applicable) and subrecipients (as defined in 2 CFR 200.1 and further set forth in 2 CFR 200.331), if any, and to require their compliance therewith; provided, however, that Subrecipient and DOE may agree to establish (upon prior written notice to Recipient and PMO) a cost threshold amount below which such Flow-Down Obligations shall not apply. If Subrecipient desires to employ the use of lower-tier contractors or subrecipients for any portion of the Project that are required to be but are not reflected in the then-applicable, agreed-upon SOW (or its applicable Budget (as defined in Section 7.0)), Subrecipient must inform Recipient and obtain any written modification or amendment to the applicable SOW (or its applicable Budget) as may be required by DOE. Unless otherwise agreed by Recipient or not prohibited under applicable law, the lower-tier contracts and subawards shall be issued on a time & material, cost reimbursement or fixed price basis and shall contain the applicable Flow-Down Obligations (as defined in Section 10.0).

Subrecipient's material failure to comply with the terms and conditions of this Agreement may result in the imposition of additional conditions on the Subaward to the Subrecipient, which are consistent with 2 C.F.R. §§ 200.332(c) and 200.208. If material noncompliance cannot be remedied by imposing additional conditions, then Recipient may (after consultation with DOE) temporarily withhold or disallow reimbursement of costs, suspend or terminate the Subaward, and/or seek other available remedies under 2 C.F.R. § 200.339 or applicable law.

The terms defined in 2 C.F.R. Part 200, as supplemented or amended by 2 C.F.R. Part 910, apply to this Subaward.

The following are incorporated into this Agreement, as applicable, by reference, and the Subrecipient agrees to comply with same:

- DOE Assistance Regulations, 2 CFR Part 200, as supplemented or amended by 2 CFR Part 910 at <http://www.eCFR.gov>.
- DOE National Policy Requirements (November 12, 2020) at: <https://www.energy.gov/sites/default/files/2023-07/OCED%20National%20Policy%20Requirements%20Matrix.pdf>

4.1.1 Prohibited Activities

The Subrecipient is prohibited from charging to this Project the costs of ineligible, unallowable or prohibited activities and from using funds provided hereunder or personnel employed in the administration of activities under this Agreement for political activities, inherently religious activities, or lobbying.

4.1.2 Program Delivery (Eligible Activities)

These eligible activities, including any products to be produced or services to be performed, where they are to be provided, for whom they are to be provided, and how they are to be provided, along with all services, labor, materials, supplies and equipment that the Parties anticipate will be required to complete them, are described in more detail in the SOWs attached hereto and incorporated herein by reference. The initial SOW(s) and any subsequent SOWs mutually agreed in a signed writing by the Parties form part of this Agreement and are subject to the terms and conditions hereof.

4.2 Key Performance Indicators – Performance Goals and Timelines

The Subrecipient shall use good faith, commercially reasonable efforts to complete the activities required under this Agreement and in any SOW in accordance with the terms hereof and the “Go/No-Go” criteria applicable to Subrecipient in Attachment 4b of the Cooperative Agreement, and within the timeframes and performance goals associated with each of the activities, as further described in the applicable SOW.

4.3 Staffing & Facilities

The Subrecipient shall supervise and direct the completion of all activities under this Agreement and any SOW. To the extent specified in the Cooperative Agreement or applicable SOW, any changes in the Key Personnel are subject to the prior written approval of Recipient.

5.0 Performance Monitoring & Reporting

5.1 Monitoring

Recipient shall monitor the performance of the Subrecipient as required by the regulations on Subrecipient Monitoring and Management, 2 CFR § 200.332, to ensure Subrecipient compliance with all of the requirements of this Agreement or the applicable SOW, including the timeframes and performance goals associated with the Project and related activities. Material failure to comply with the requirements of this Agreement or any SOW, as reasonably determined by Recipient after consultation with DOE, will constitute noncompliance with this Agreement. If action to correct such noncompliance is not taken by the Subrecipient within 30 calendar days after being notified by Recipient (or such longer period of time as may be required under the circumstances and agreed upon by the Parties), Recipient (after consultation with DOE) may impose additional conditions on the Subrecipient and the Subaward consistent with 2 CFR § 200.208, suspend or terminate this Agreement, and/or Recipient may initiate other remedies for noncompliance as appropriate and permitted under 2 CFR § 200.339 or other applicable law, in each case subject to Subrecipient's right of dispute and appeal to Recipient and/or DOE (as applicable).

5.2 Reporting

The Subrecipient shall submit reports to Recipient as described in the applicable SOW and the Flow-Down Obligations, which reports shall be in form and substance compliant with the SOW, the Mutual Confidentiality Agreement and Recipient's applicable Policies and Procedures to ensure that data is collected in a manner consistent with the requirements of Attachment 6 (Federal Assistance Reporting Checklist) to the Cooperative Agreement.

5.3 Subrecipient Monitoring; PMO

The Subrecipient will be responsible for all day-to-day Project management activities, including without limitation implementing all means and methods associated with the Project management activities, as well as compliance with all applicable Recipient Policies and Procedures (as defined below). The Project and the Subrecipient's performance under this Agreement is subject to monitoring by Recipient and Recipient's Project Management Organization (the "PMO"), which will act as an agent of Recipient. Such monitoring is intended to, among other things, ensure that Recipient's obligations under the Cooperative Agreement (including, without limitation, Cooperative Agreement Standard Term 13, Award-Specific Term 3, and 2 CFR 200.332) and the Subrecipient's Flow-Down Obligations are met.

The Subrecipient will provide information on the Project and the Subrecipient's performance under this Agreement to the PMO and Recipient as required under this Agreement, the SOW or Recipient's Policies and Procedures so that the PMO may track and report on the integrated projects at the Hub (Recipient) level, including routine risk management assessments. The Subrecipient will report to the PMO (on behalf of Recipient) regularly and as required under the

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Attachment 6 (Federal Assistance Reporting Checklist) to the Cooperative Agreement, unless otherwise determined by the PMO. The PMO will consolidate all data from the Subrecipient, as well as from all other subrecipient projects, to document Recipient's performance under the Cooperative Agreement. The PMO's Project evaluation, monitoring and reporting activities will be based on DOE project management guidelines and the Policies and Procedures (as defined in Section 10.5.1). The PMO, on behalf of Recipient, will monitor the Subrecipient's compliance with the terms and conditions of this Agreement (including SOWs issued thereunder) in written reports provided to Recipient, and will notify Recipient and Subrecipient of any noncompliance identified and recommend corrective actions.

The PMO, in cooperation with the Subrecipient, will be responsible for requiring the Subrecipient (on an annual basis) to have audits conducted for allowable costs, and such other routine financial audits of the Subrecipient as are necessary, in accordance with 2 C.F.R. Part 500, the Cooperative Agreement and this Agreement, and as set forth in further detail in Section 12. This may be accomplished by requiring the Subrecipient to contract for and provide audit reports from independent third-party auditors in compliance with 2 C.F.R. Part 500. The Subrecipient shall cooperate with Recipient's and the PMO's requests for information related to such third-party audits as necessary to monitor Subrecipient's compliance with this Section 5.3 and otherwise under this Agreement.

Subrecipient monitoring by the PMO or Recipient shall not relieve the Subrecipient of any responsibilities under this Agreement.

Prior to accessing the Project site, the PMO and/or Recipient, as applicable, will enter into a reasonably acceptable site access agreement with Subrecipient which requires compliance with reasonable site health and safety requirements established by Subrecipient.

6.0 Term

Each SOW shall set forth the Period of Performance for the applicable Budget Period/Phase, unless otherwise modified or terminated pursuant to the Federal Award or in accordance with the provisions of this Agreement. This Agreement shall remain in effect until Subrecipient has received final payment under each SOW.

7.0 Budget

The Subrecipient shall utilize commercially reasonable efforts to complete all activities under this Agreement substantially in accordance with the budget set forth in the applicable SOW (the "Budget"), as the same may be updated or amended from time to time with mutual consent of the Parties. The Subrecipient acknowledges and agrees that Recipient is not obligated to reimburse the Subrecipient for any expenditure of amounts in excess of the Total Cost Reimbursement Amount or Cost Reimbursement Percentage for the applicable Phase or Budget Period (as defined in the applicable SOW), as set forth in the then-applicable SOW regardless of whether or not the Budget is met or exceeded. Recipient's obligation to provide the Subrecipient with Subaward Funds under the SOW shall be subject to the availability of such Subaward Funds available to Recipient pursuant to the Cooperative Agreement.

The Subrecipient agrees and acknowledges that it will not be eligible to be reimbursed for costs and expenses incurred in connection with the Project following the expiration or termination of this Agreement, except as explicitly provided for herein. The Subrecipient also agrees and acknowledges that any Subaward Funds payable by Recipient to the Subrecipient hereunder will be received by Recipient from the DOE pursuant to the Cooperative Agreement, and in the event the DOE does not provide funding under the Cooperative Agreement to reimburse the Subrecipient hereunder, Recipient shall have no liability to the Subrecipient.

7.1 Indirect Costs

If the Subrecipient is a not-for-profit entity, indirect costs may be charged to this Subaward under a cost allocation plan prepared in accordance with 2 CFR Part 200, Subpart E. If the Subrecipient is a for-profit organization, as defined by 2 CFR 910.122, indirect costs may be charged to this Subaward in accordance with the cost principles contained in 48 CFR 31.2.

7.2 Program Income

The Subrecipient shall comply with all provisions in the Cooperative Agreement that are applicable to the realization and use of Program Income (as defined in 2 CFR 200, as modified by Cooperative Agreement, Attachment 4).

8.0 Payment; Invoicing

All requests for payment made by the Subrecipient under this Agreement shall be submitted no more frequently than monthly and by the fifteenth (15th) day of the month, shall be made on a cost reimbursement basis, shall request reimbursement only with respect to eligible and allowable costs incurred in connection with the Budget and the SOW, and shall be consistent with the terms of this Agreement.

The Subrecipient shall submit to Recipient requests for reimbursements under this Agreement and consistent with the Budget (each, a “Request for Payment”). Each Request for Payment shall be broken down into requested draws against the Budget line items/cost categories specified in the applicable SOW.

Recipient shall pay to the Subrecipient Subaward Funds available under this Agreement based upon information submitted by the Subrecipient for allowable costs permitted under this Agreement and consistent with the Budget, subject to the terms and conditions hereof. Cost reimbursement payments will only be made for eligible expenses actually incurred by the Subrecipient, not to exceed the cost sharing requirements and Budget amounts set forth in the SOW. Payments will be adjusted by Recipient as required by DOE in accordance with the Cooperative Agreement and Program Income balances available in Subrecipient accounts.

Subrecipient hereby waives any and all rights it may have under 2 CFR 200.305(b)(3) to receive payment of any Subaward Funds within thirty (30) calendar days after any billing by Subrecipient. The Recipient will use commercially reasonable efforts to pay to Subrecipient any cost-reimbursement payments allowable under this Agreement within fifteen (15) days after the date on which the Recipient or PMO (as applicable) receives such funds from the DOE.

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In connection with each Request for Payment submitted by the Subrecipient, the Subrecipient may be required to provide Recipient copies of all supporting and applicable invoices, bills, time sheets, and other documents as reasonably requested by Recipient to support the incurred costs and requested reimbursement.

Unless otherwise specified, the Subrecipient will be required to provide the following items with each Request for Payment:

- Summary of costs by cost categories;
- Timesheets or personnel hours report;
- Proof of compliance with Davis-Bacon and electronic submittals of certified payroll reports (unless otherwise waived);
- Disclosure of any citations related to NLRA, FLSA, OSHA, DBA, or Title VII;
- Invoices/receipts for all travel, equipment, supplies, contractual, and other costs;
- UCC filing proof for equipment acquired with Subaward Funds by Subrecipient, if Subrecipient is a for-profit entity and such filing is required pursuant to the Cooperative Agreement;
- Explanation/summary of cost share for the invoicing period;
- Cost Share amount as a percentage of the total Project costs for the invoicing period; and
- Such other items related to the Request for Payment as may be required by DOE.

9.0 Amendment and Termination

9.1 Amendments

Except as expressly provided herein, Recipient and Subrecipient may amend this Agreement at any time provided that such amendments make specific reference to this Agreement, are approved by Recipient's Board (or equivalent body) (after giving effect to any applicable Policies and Procedures regarding the implementation of ethical walls and compliance with antitrust considerations) and (to the extent applicable) the DOE, and are signed in writing by a duly authorized representative of Recipient and the Subrecipient. Such amendments shall not invalidate this Agreement.

Recipient may, in its reasonable discretion, unilaterally amend this Agreement to conform with modifications or amendments to the Federal Award or Cooperative Agreement, or as required by the DOE or applicable law; provided, however, that no amendment to this Agreement may be made without the Subrecipient's prior written consent if such amendment would result in a change in the funding, the scope of services, the Project costs, the schedule of the activities to be undertaken as part of this Agreement, or the provisions in Section 20.4 and 20.8 herein, and provided further that if after good faith discussion such consent cannot be obtained, Recipient may unilaterally and immediately terminate this Agreement for convenience. Recipient shall promptly provide Subrecipient with copies of proposed modifications to the Cooperative Agreement and final signed modifications to the Cooperative Agreement that relate, or may relate, to this Agreement or any SOW.

9.2 Suspension or Termination

Recipient may terminate this Agreement for default by the Subrecipient, in whole or in part, upon 30 days' notice, in accordance with Section 22.5 and subject to Subrecipient's right to cure (if applicable), or dispute or appeal to Recipient and/or DOE, whenever it determines that the Subrecipient has failed to comply with any material term, condition, requirement, or provision of this Agreement or a SOW. Such defaults may include, without limitation:

1. The Subrecipient's material failure to comply with any of the rules, regulations or provisions referred to herein, or such statutes, regulations, executive orders, and DOE guidelines, policies or directives as may become applicable at any time;
2. Failure, for any reason, of the Subrecipient to fulfill in a timely manner its material obligations under this Agreement or a SOW;
3. The Subrecipient's use of Subaward Funds in noncompliance with this Agreement;
or
4. Submission by the Subrecipient to Recipient of reports that are misleading, incorrect or incomplete in any material respect.

Recipient will review all cases in which there may be a breach by the Subrecipient of this Agreement and advise Subrecipient of Recipient's determination as promptly as practicable following the 30 days' written notice from Recipient to the Subrecipient of such breach. Thereafter, in the event Recipient determines to terminate this Agreement, Recipient shall notify the Subrecipient, in writing, of its determination and the reasons for the termination together with the date on which the termination shall take effect and any other notifications required under 2 CFR Part 200, Subpart D; provided, however, that Subrecipient shall have rights with respect to such determination as set forth in 2 C.F.R. 910.128.

Recipient may also terminate this Agreement, in whole or in part, if and to the extent that the Federal Award is correspondingly terminated in whole or in part. Recipient will promptly notify the Subrecipient, in writing, of any such termination and the effective date of such termination.

Upon any expiration or termination of this Agreement, the Subrecipient will commence to close out its obligations under the Award and will notify Recipient of those obligations remaining as of the date of termination as provided in Section 11.0. Termination or expiration of this Agreement will not affect the rights and obligations of the Parties that have accrued prior to the termination date, or those which, by their terms, contemplate performance after termination or expiration of this Agreement (including without limitation any continuing or close-out obligations contained in this Agreement or then-applicable SOW). Upon termination of this Agreement, Recipient (as directed by DOE) retains the right to recover any improper expenditures from the Subrecipient and the Subrecipient shall return to Recipient the amount of any improper expenditures no later than 30 days following written demand therefor from Recipient. Recipient (as directed by DOE) shall allow the Subrecipient to retain or be reimbursed for costs reasonably incurred prior to termination of this Agreement that were not made in anticipation of termination and cannot be canceled, provided that such costs were incurred in accordance with this Agreement and are eligible for reimbursement pursuant to the provisions of this Agreement.

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The Subrecipient shall have the right to terminate this Agreement at any time upon 30 days' prior notice to Recipient in accordance with the Cooperative Agreement and 2 C.F.R. 200.340(a)(4).

10.0 Other Requirements to Comply with Federal Statutes, Regulations and the Terms and Conditions of the Federal Award

The Subaward Funds available to the Subrecipient pursuant to this Agreement constitute a subaward of the Federal Award under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 CFR Part 200. This Agreement includes terms and conditions of the Federal Award set forth in the Cooperative Agreement that are imposed on the Subrecipient in accordance with the terms hereof as more specifically described in Attachment 2 hereto (the "Flow-Down Obligations"), and the Subrecipient agrees to perform its obligations hereunder in compliance with the Flow-Down Obligations and all of the obligations described in this Agreement.

10.1 General Compliance

The Subrecipient shall comply with all applicable provisions of 2 CFR Part 200, 2 CFR Part 910, the Flow-Down Obligations and applicable Federal law and regulations in connection with its performance of the SOW.

10.2 Duplication of Benefits

The Subrecipient shall not carry out any of the activities under this Agreement in a manner that results in a prohibited duplication of benefits, defined as when an entity receives awards from multiple Federal sources for the same purpose.

10.3 Drug-Free Workplace

The Subrecipient must comply with drug-free workplace requirements in Subpart B of Part 2429, which adopts the governmentwide implementation (2 CFR Part 182) of sections 5152-5158 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701-707).

10.4 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

The Subrecipient shall comply with the applicable provisions in 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 CFR 910, and the Federal Acquisition Regulation,

10.4.1 Financial & Program Management

The Subrecipient shall account for all Subaward Funds received under this Agreement in accordance with all applicable Recipient policies and procedures as may be in effect from time to time, as duly approved by Recipient's Board after prior notice to Subrecipient (the "Policies and Procedures"). Recipient and the Subrecipient are subject to the requirements in 2 CFR Part 200, including 2 CFR Part 200, Subpart D, which covers Standards for Financial and Program Management.

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10.4.2 Cost Principles

Costs incurred, whether charged on a direct or an indirect basis, must be in conformance with 2 CFR Part 200, Subpart E or 48 CFR 31.2, as applicable. All items of cost listed in 2 CFR Part 200, Subpart E or 48 CFR 31.2, as applicable, that require prior Federal agency approval are allowable without prior approval of Recipient or DOE to the extent they comply with the general policies and principles stated in 2 CFR Part 200, Subpart E or 41 CFR 31.2, as applicable, and are otherwise eligible under this Agreement (including the Budget).

10.5 Documentation and Record Keeping

10.5.1 Records to be Maintained

The Subrecipient shall establish and maintain records as required hereunder to enable Recipient to (a) determine whether the Subrecipient has complied with this Agreement, applicable Federal statutes and regulations, and the Flow-Down Obligations; (b) satisfy recordkeeping requirements applicable to Recipient under the Cooperative Agreement; and (c) comply with the Policies and Procedures.

10.5.2 Access to Records

The Subrecipient shall permit Recipient, DOE and each of their respective authorized representatives and agents, including auditors, to have access to the Subrecipient's records and financial statements as necessary for Recipient to meet its audit requirements under the Cooperative Agreement and as required by 2 CFR Part 200, the Flow-Down Obligations and applicable law. In such regard, sensitive information that is required under the Data Management Plan to be provided only to DOE shall be transmitted by Subrecipient to DOE directly and in a secure manner. Subrecipient shall inform Recipient of such transmittal.

10.5.3 Record Retention and Transmission of Records to the Grantee

Prior to close-out of this Agreement, the Subrecipient must transmit to Recipient records that were not previously provided that are sufficient, in Recipient's reasonable determination, to demonstrate that all costs under this Agreement met the requirements of the Flow-Down Obligations and the Policies and Procedures.

The Subrecipient is subject to the following records retention requirements, in addition to any other requirements imposed by applicable law:

1. Records for real property and equipment acquired under this Agreement must be retained for 3 years after final termination or expiration of this Agreement.
2. Records for individual activities for which there are outstanding loan balances, other receivables, or contingent liabilities must be retained until such receivables or liabilities have been satisfied.
3. If any litigation, claim, or audit is started before the expiration of the 3-year period, the records must be retained until all litigation, claims, or audit findings involving the records have been resolved and final action taken.

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4. When the Subrecipient is notified in writing by DOE, the cognizant agency for audit as defined in 2 CFR 200.18, the oversight agency for audit as defined in 2 CFR 200.73, the cognizant agency for indirect costs as defined in 2 CFR 200.19, or Recipient, the Subrecipient shall extend the retention period consistent with the notification so provided.
5. When records are transferred to or maintained by DOE or Recipient, the 3-year retention requirement is not applicable to the Subrecipient.
6. The retention period for the records pertaining to the earning of the Program Income starts from the end of Recipient's fiscal year in which the Program Income is earned.
7. For indirect cost rate computations or proposals, cost allocation plans, and any similar accounting computations of the rate at which a particular group of costs is chargeable (such as computer usage chargeback rates or composite fringe benefit rates), and their supporting records:
 - a. *If submitted for negotiation.* If the proposal, plan, or other computation is required to be submitted to the Federal Government (or to Recipient) to form the basis for negotiation of the rate, then the 3-year retention period for its supporting records starts from the date of such submission.
 - b. *If not submitted for negotiation.* If the proposal, plan, or other computation is not required to be submitted to the Federal Government (or to Recipient) for negotiation purposes, then the 3-year retention period for the proposal, plan, or computation and its supporting records starts from the end of Recipient's fiscal year covered by the proposal, plan, or other computation.

10.5.4 Data and Other Sensitive Information

The Subrecipient must comply with 2 CFR §200.303 and take commercially reasonable measures to maintain the confidentiality of and safeguard protected personally identifiable information, and other information DOE or Recipient designates as sensitive or the Subrecipient considers sensitive consistent with applicable Federal, state, local, and tribal laws regarding privacy and obligations of confidentiality and the Policies and Procedures.

10.6 NEPA

The Subrecipient's activities under this Agreement are subject to National Environmental Policy Act ("NEPA") requirements, including any "Categorical Exclusion", "Finding of No Significant Impact", or "Record of Decision" issued by DOE. The Subrecipient shall not engage in any activities pursuant to this Agreement outside of the scope of those described in DOE-issued NEPA documentation.

The Subrecipient shall take commercially reasonable efforts to cooperate with Recipient, DOE, and any third-party contractors engaged for the purpose of assisting DOE in meeting its obligations under NEPA including, without limitation, providing data available to the Subrecipient that is required by DOE in connection therewith.

10.7 Foreign Travel

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Foreign travel costs for which the Subrecipient will seek reimbursement under this Agreement must be expressly approved in advance and in writing by Recipient and DOE.

10.8 Buy-America, Build America

Unless Subrecipient has been granted a waiver or except to the extent the DOE has determined is otherwise not applicable, work performed by Subrecipient under this Agreement is subject to the “Buy America, Build America” provisions of the BIL.

10.9 Davis-Bacon Act

Work performed under this Agreement is subject to the requirements of the Davis-Bacon Act, unless otherwise waived or modified under applicable law. The continuation of this Agreement is conditioned upon the Subrecipient’s continued compliance with the requirements of the Davis-Bacon Act, including without limitation the Subrecipient’s acceptance and implementation of any applicable prevailing wage determination.

10.10 Equal Employment Opportunity

Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR Part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

10.11 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)

If this Agreement involves the employment of mechanics or laborers, the Subrecipient agrees to comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

10.12 Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

The Subrecipient must comply with 2 CFR § 200.216, regarding the prohibition on certain telecommunications and video surveillance services or equipment.

11.0 Close-out

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Upon termination or expiration of this Agreement, the Subrecipient shall closeout its use of the Subaward Funds and its obligations under this Agreement by complying with the closeout procedures in 2 CFR § 200.344.

12.0 Audits, Inspections, and Monitoring

12.1 Single Audit

The Subrecipient must conduct an audit as required by 2 CFR Part 200, Subpart F when it is expected that the Subrecipient's Subaward Funds expended during the respective fiscal year equaled or exceeded the threshold set forth in § 200.501, Audit Requirements. The Subrecipient must comply with 2 CFR Part 200, Subpart F in respect of such audits. A for-profit Subrecipient must be audited as required by 2 CFR Part 910, Subpart F when it is expected that the for-profit subrecipient expended funds equal to or more than the threshold set forth in 2 CFR 910.501.

12.2 Inspections and Monitoring

The Subrecipient shall permit Recipient, and its respective authorized representatives and agents, including auditors, to have access to the Subrecipient's records and financial statements only as is necessary for Recipient to meet its requirements pursuant to 2 CFR Part 200.

The Subrecipient must submit to monitoring of its activities by Recipient as necessary to ensure that the Subaward Funds are used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of this Agreement.

This review must include: (1) reviewing financial and performance reports required by this Agreement; (2) following-up and ensuring that the Subrecipient takes timely and appropriate action on all deficiencies pertaining to the Subaward Funds provided, detected through audits, on-site reviews, and other means; and (3) issuing a management decision for audit findings pertaining to the Subaward Funds as required by 2 CFR §200.521.

12.3 Corrective Actions

Recipient may issue management advice and may (after consultation with DOE) consider taking enforcement action(s) if noncompliance is detected during audits. Recipient may require the Subrecipient to take timely and appropriate action on all deficiencies pertaining to the Subaward Funds detected through audits, on-site reviews, and other means. In response to audit deficiencies or other findings of noncompliance with this Agreement, Recipient may suspend or terminate this Agreement, and/or Recipient may initiate other remedies for noncompliance as appropriate and permitted under 2 CFR § 200.339 or other applicable law, in each case subject to Subrecipient's right of dispute and appeal to Recipient and/or DOE (as applicable).

13.0 Procurement and Contractor Monitoring

The Subrecipient shall comply with the procurement standards in 2 CFR §200.318 - §200.327 when procuring property, equipment and services under this Agreement.

The Subrecipient shall impose the Subrecipient's Flow-Down Obligations as set forth in Section 4.1 herein.

Before the Subrecipient can sign a contract with a proposed entity in connection with the Project, the Subrecipient must ensure that the entity is not debarred, suspended or otherwise excluded from or ineligible for participation in federal programs or activities. To determine if a proposed contractor is debarred, Subrecipients must check the federal System for Award Management ("SAM") database at <https://www.sam.gov>. The Subrecipient shall provide documentation reasonably acceptable to Recipient to document compliance with this Section 13.0.

The Subrecipient shall monitor all activities under this Agreement and shall ensure that for any procured contract or subaward entered into in connection with the Project, its contractors and subrecipients perform according to the terms and conditions of the procured contracts or subawards set forth herein and the applicable Flow-Down Obligations.

In addition to the foregoing, the Subrecipient must also comply with additional requirements on procurements and contractors as may be set forth in the Recipient's applicable Policies and Procedures.

14.0 Omitted

15.0 Federal Funding Accountability and Transparency Act (FFATA)

The Subrecipient shall comply with the requirements of 2 CFR Part 25 Universal Identifier and System for Award Management ("SAM"). The Subrecipient must have an active registration in SAM in accordance with 2 CFR Part 25, Appendix A, and must have a Unique Entity ID ("UEI"). The Subrecipient must also comply with provisions of the Federal Funding Accountability and Transparency Act and in 2 CFR Part 170. Subrecipient agrees to provide any necessary information to Recipient to allow Recipient to file any reports required of it.

16.0 Omitted

17.0 Nondiscrimination

The Subrecipient shall comply with the 2 CFR 200.300 requirement on the prohibition of discrimination. Without limiting any other provision of this Agreement, the Subrecipient shall comply with all applicable state and local nondiscrimination laws.

17.1 Title VI of the Civil Rights Act of 1964

17.1.1 General Compliance:

The Subrecipient shall comply with the requirements of Title VI of the Civil Rights Act of 1964 (P. L. 88-352). No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity funded by this Agreement.

17.2 Affirmative Action

17.2.1 Approved Plan

The Subrecipient agrees that it shall carry out, as applicable, an Affirmative Action Program in compliance with the President's Executive Order 11246 of September 24, 1966, as amended, and implementing regulations at 41 CFR Chapter 60.

17.2.2 Women- and Minority-Owned Businesses (W/MBE)

The Subrecipient shall take the affirmative steps listed in 2 CFR 200.321(b)(1) through (5) to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible when the Subrecipient procures property or services under this Agreement.

17.2.3 Notifications

In connection with the Project, the Subrecipient shall to the extent applicable (a) send such notifications to third parties as may be required under the Flow-Down Obligations, and (b) in all solicitations or advertisements for employees placed by or on behalf of the Subrecipient, state that it is an Equal Opportunity or Affirmative Action employer.

18.0 Labor and Employment

18.1 Labor Standards

As required by the Flow-Down Obligations, the Subrecipient shall ensure that all laborers and mechanics employed by contractors or subcontractors in the performance of construction work financed in whole or in part with Subaward Funds shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 3141, *et seq.*).

As required by the Flow-Down Obligations, the Subrecipient agrees to comply with the Copeland Anti-Kick Back Act (18 U.S.C. 874) and its implementing regulations of the U.S. Department of Labor at 29 CFR Part 3 and Part 5. The Subrecipient shall maintain documentation that demonstrates compliance with applicable hour and wage requirements. Such documentation shall be made available to Recipient for review upon request.

19.0 Conduct

19.1 Conflict of Interest

In the procurement of supplies, equipment, construction, and services pursuant to this Agreement, the Subrecipient shall comply with the conflict-of-interest provisions in 2 CFR 200.112.

19.2 Lobbying Certification

The Subrecipient hereby certifies that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of it, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal Award or this Subaward, it will complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;
3. It shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly; and
4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is required by section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

19.3 Responsibility Certification

The Subrecipient hereby certifies that it is not listed on the government-wide exclusions in the SAM, in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1986 Comp., p. 189) and 12689 (3 CFR Part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. The Subrecipient acknowledges that neither Recipient nor the Subrecipient may make a subaward to parties so excluded.

20.0 Other Requirements Imposed By Recipient

20.1 Attachments

The following attachments hereto are expressly incorporated by reference as if fully set forth herein, and shall form part of this Agreement:

Attachment 1: Each SOW

Attachment 2: Flow-Down Obligations

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20.2 Order of Precedence

In the event of a conflict, the Parties agree that the order of precedence is as follows: (1) all applicable law; (2) the Cooperative Agreement; (3) this Agreement (excluding Attachment 1), and (4) the applicable SOW (as set forth in Attachment 1).

20.3 Omitted

20.4 Indemnification

To the maximum extent allowable by applicable law, the Subrecipient shall indemnify, defend and hold harmless Recipient and its managers, members, officers, agents, employees and affiliates (each, an “Indemnified Party”, and collectively, the “Indemnified Parties”) from any liability, loss or damage they may suffer as the result of third-party claims, actions, causes of action, demands, lawsuits, arbitrations, inquiries, audits, notices of violation, proceedings, litigation, citations, summons, subpoenas, or investigations of any nature, whether at law or in equity (each, an “Action”, and collectively, “Actions”) arising from (a) the Subrecipient’s performance of the Project pursuant to this Agreement, either directly or through its agents, Affiliates (defined below), contractors or subcontractors, or (b) any breach or non-fulfillment of any covenant, agreement, or obligation to be performed by the Subrecipient pursuant to this Agreement, but in each case only to the extent that any such liability, loss, or damage is not caused by the negligence or willful misconduct by Recipient, or its managers, officers, agents, or employees as finally determined by a court of law. Recipient agrees to notify the Subrecipient promptly after it becomes aware of any such Action.

As used herein, “Affiliate” shall mean, with respect to any specified person or entity, any other person or entity that directly or indirectly controls, is controlled by or is under common control with such specified person or entity. For purposes of this definition, “control” (including, with correlative meanings, the terms “controlling,” “controlled by” and “under common control with”) means the possession, directly or indirectly, or as trustee or executor, of the power to direct or cause the direction of the management and policies of a person or entity, whether through the ownership of voting securities, as trustee or executor, by contract or credit arrangement or otherwise.

In connection with any Action giving rise to indemnity hereunder resulting from or arising out of any Action by a person or entity who is not a party to this Agreement, the Subrecipient, at its sole cost and expense and upon written notice to the Indemnified Party, may assume the defense of any such Action with counsel reasonably satisfactory to the Indemnified Party. The Indemnified Party shall be entitled to participate in the defense of any such Action, with its counsel and at its own cost and expense. If the Subrecipient does not assume the defense of any such Action, the Indemnified Party may, but shall not be obligated to, defend against such Action in such manner as the Indemnified Party may deem appropriate, including settling such Action, after giving notice of it to the Subrecipient, on such terms as the Indemnified Party may deem appropriate and no action taken by the Indemnified Party in accordance with such defense and settlement shall relieve the Subrecipient of its indemnification obligations herein. The Subrecipient shall not settle any

Action without the Indemnified Party's prior written consent (which consent shall not be unreasonably withheld or delayed).

20.5 Notices

All notices, requests, consents, claims, demands, waivers and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by e-mail (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next business day if sent after normal business hours of the recipient; or (d) on the third (3rd) day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the appropriate contacts listed in Section 2.0.

20.6 No Use of Names or Logos

Except as required by the Cooperative Agreement, neither Party is permitted to use the names, logos, or other identifiers associated with the other Party without such Party's express prior written consent, not to be unreasonably conditioned, withheld or delayed.

20.7 Interactions with Government Representatives

The Subrecipient may engage in direct contact with the DOE in connection with the Project as authorized by DOE. The Subrecipient must inform Recipient of all direct contacts and correspondence with the DOE concerning the Project.

Unless required by the Data Management Plan, no deliverables required under this Agreement shall be transmitted directly by the Subrecipient to the DOE, and all deliverables shall be submitted to Recipient for submission to the DOE.

20.8 LIMITATION OF LIABILITY

Neither Party shall be liable to the other Party for any consequential, indirect, incidental, special, exemplary or punitive damages or lost profits of any kind, including loss of the Award, or under any circumstances, or legal theory, whether in contract or tort, relating in any way to this Agreement, regardless of whether the Party has been advised of the possibility of any such loss and regardless of the course of dealing which develops or has developed between the Parties.

20.9 Press Releases

Except as required by law, the Cooperative Agreement, or as otherwise mutually agreed, neither Party will issue any press release or other public statements about this Agreement without the other Party's prior written consent, not to be unreasonably conditioned, withheld or delayed.

20.10 Disputes

The Parties shall attempt to resolve all disputes in good faith through informal means in the first instance. Each Party agrees that, prior to resorting to litigation to resolve any dispute, it will confer

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with the other Party to determine whether other procedures that are less expensive or less time consuming can be adopted to resolve the dispute. In the event of a dispute, the Subrecipient shall have the rights and remedies available under 2 CFR 910.128.

20.11 Governing Law, Jurisdiction, Venue

This Agreement shall be governed by and construed in accordance with the laws of the State of Washington. Each of the Parties hereto agrees to venue in and submits to the exclusive personal jurisdiction of the state and/or federal courts located within the State of Washington for any suit, hearing or other legal proceeding of every nature, kind and description whatsoever in the event of any dispute or controversy arising hereunder or relating hereto, or in the event any ruling, finding or other legal determination is required or desired hereunder.

TO THE MAXIMUM EXTENT ALLOWABLE BY APPLICABLE LAW, EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES AND, THEREFORE, EACH SUCH PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LEGAL ACTION ARISING OUT OF OR RELATING TO THIS AGREEMENT. EACH PARTY TO THIS AGREEMENT CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT SEEK TO ENFORCE THE FOREGOING WAIVER IN THE EVENT OF A LEGAL ACTION, (B) SUCH PARTY HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

20.12 Non-Assignment/Non-Transfer

This Agreement may not be assigned or transferred (either directly or indirectly, by operation of law or otherwise, including by way of a merger, acquisition or other sale event) without the prior written consent of Recipient and (to the extent applicable) DOE. This Agreement is binding upon and will inure to the Subrecipient's permitted assignees or successors in interest.

20.13 Export Regulations

The Subrecipient shall comply with all applicable export control laws and economic sanctions programs. Applicable export control or economic sanctions programs may include U.S. export control laws such as the Export Administration Regulations and the International Traffic in Arms Regulations, and U.S. economic sanctions programs that are or may be maintained by the U.S. Government. The Subrecipient will comply with U.S. export control and U.S. economic sanctions laws with respect to the export (including a deemed export) or re-export of U.S. origin goods, software, services and/or technical data, or the direct product thereof.

20.14 Intellectual Property

Except as may be otherwise set forth in the Cooperative Agreement or Attachment 5 to the Award Specific Terms and Conditions of the Cooperative Agreement, as between the Parties all work product and other intellectual property rights (including rights in patents, trade secrets, copyrights, and trademarks) in all inventions, designs, models, drawings, prints, samples, transparencies, specifications, reports, manuscripts, working notes, documentation, manuals, photographs, negatives, tapes, discs, software, computer files or other items arising from or otherwise conceived, created or developed by the Subrecipient or an affiliate of the Subrecipient in connection with this Agreement or the Project (“Subrecipient IP”) shall be owned entirely by the Subrecipient or its applicable Affiliate, and Recipient shall not own any such Subrecipient IP, or have any rights to use such Subrecipient IP other than as provided herein and pursuant to the Cooperative Agreement. For the avoidance of doubt, as between the Parties, the Subrecipient, or its applicable Affiliate, shall retain title to all of its intellectual property that existed prior to or was developed outside of this Agreement or the Project.

20.15 Severability

If any provision of this Agreement is held void or unenforceable, the remaining provisions will nevertheless be effective, the intent being to effectuate this Agreement to the fullest extent possible.

20.16 Independent Contractors

The Parties are independent contractors (and not agents of each other) and may not bind the other, except as provided for herein or authorized in writing by the other Party.

20.17 Counterparts

This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement. A signed copy of this Agreement delivered by facsimile, e-mail or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.

20.18 Federal Conflict of Interest

As a recipient of Subaward Funds through Recipient, the Subrecipient is subject to Federal Conflict of Interest flow down regulations (42 C.F.R Part 50, Subpart F). Without limiting any other provision of this Agreement, Recipient may terminate this Agreement if Subrecipient or any of its employees significantly involved in performing this Agreement violate applicable Federal regulations referenced above.

The Subrecipient shall report any known financial conflict of interest to Recipient prior to the expenditure of any funds obligated under this Agreement. Any subsequently identified financial conflict of interest will be reported to Recipient by the Subrecipient within thirty (30) days of identification.

20.19 Entire Agreement; Modifications

*For Pacific Northwest Hydrogen Association members only. Not for external distribution.
Contains Trade Secrets, Confidential, Proprietary, or Privileged Information / Internal Use Only / Exempt from Public Disclosure*

This Agreement embodies the entire understanding of the Parties and supersedes any other agreement or understanding between the Parties relating to the subject matter hereof. There are no additional or supplemental agreements related to the subject matter hereof. No waiver, amendment or modification of this Agreement will be valid or binding unless written and signed by the Parties except as otherwise expressly provided herein. Waiver by either Party of any breach or default of any clause of this Agreement by the other Party will not operate as a waiver of any previous or future default or breach of the same or different clause of this Agreement.

20.20 No Third Party Beneficiaries

Other than as provided in Section 20.4, this Agreement benefits solely the Parties and their respective successors and permitted assigns and nothing in this Agreement, express or implied, confers on any third party any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Agreement.

[Remainder of page left blank.]

THE UNDERSIGNED, as authorized officials on behalf of the Parties, have duly executed this Agreement, which shall be effective as of the date of execution hereof on behalf of Recipient.

RECIPIENT:

PACIFIC NORTHWEST HYDROGEN ASSOCIATION

By: _____
(signature)

Name: Chris Green

Title: President

Date: _____

SUBRECIPIENT:

[SUBRECIPIENT]

By: _____
(signature)

Name: _____

Title: _____
(Chief Elected Official/Executive Officer with Authority to Sign)

Date: _____

Attachment 1

Statement of Work

Provided as a separate attachment.

Attachment 2

Flow-Down Obligations

The Subrecipient hereby agrees and acknowledges that its activities subject to this Agreement are in support of the Federal Award and the Cooperative Agreement, including without limitation the Standard Terms and Conditions (“STCs”), the Award Specific Terms and Conditions (“ASTCs”), and the Intellectual Property Terms and Conditions (IPTCs) contained therein. The intent of this Attachment is to impose the Flow-Down Obligations from the Cooperative Agreement to the Subrecipient.

In the Cooperative Agreement (including the STCs, ASTCs, IPTCs, cross-referenced or otherwise incorporated provisions, regulations, Executive Orders, and other United States Federal Government requirements), wherever the provision states or otherwise indicates “Government” or “DOE” or any individual Office or other subdivision of DOE, insert “Recipient,” and wherever the provision states or otherwise indicates “Grantee,” insert “Subrecipient,” unless the context dictates otherwise, and such provisions, as so modified, shall be the Flow-Down Obligations. Exceptions to and clarifications of the Flow-Down Obligations are set forth in Exhibit A to this Attachment 2.

Notwithstanding the foregoing, references to DOE or the Government shall remain references to DOE or the U.S. Government, respectfully, when referring to intellectual property rights and audit rights, equipment rights, and in Terms 33 and 34 (addressing liability and indemnity, respectively) in Attachment 3 to the Cooperative Agreement.

The Parties explicitly agree that, in the event an applicable Federal regulation incorporated by reference in the Cooperative Agreement is amended, updated, or otherwise modified during the term of this Agreement, that the most recent version of the Federal regulation shall automatically be flowed down to the Subrecipient as a Flow-Down Obligation without requirement for any further amendment, modification, or other change to this Agreement.

The Subrecipient understands and acknowledges that nothing in this Agreement creates any contractual or other privity between the Subrecipient and DOE.

The Subrecipient understands and acknowledges that the Flow-Down Obligations are material terms of this Agreement.

The Subrecipient represents and warrants that it will comply with all applicable Flow-Down Obligations.

The Subrecipient agrees to include a provision substantially identical to this Attachment 2 in all of its subawards and contracts issued in direct support of its performance of this Agreement to the extent required by Section 4.1 herein and under applicable law.

Exhibit A to Attachment 2

**CLARIFICATIONS AND EXCEPTIONS
TO THE
FLOW-DOWN OBLIGATIONS**

Award Attachment 3: Standard Terms and Conditions		
Number	Description	Notes
1	Legal Authority and Effect	Not applicable to Subrecipient
4	Resolution of Conflicts	Requests for clarification should be directed to Recipient
7	Key Personnel	Applicable only to Key Personnel of Subrecipient as identified in SOW. <i>See also</i> ASTC 21.1 for additional requirements.
8	Project Management Plan	Follow applicable Recipient Policy and Procedure
9	Community Benefits Plan	Implement as specified in SOW
10	Cybersecurity Plan	Follow applicable Recipient Policy and Procedure
13	Subawards	Not applicable to Subrecipient
14	Go/No-Go Reviews and Continuation	Follow GNG criteria applicable to Subrecipient in Attachment 4b, with Continuation Application to be submitted by Subrecipient to PMO
18	Program Income	<i>See</i> ASTC 21.2 for modified requirement
27	Modifications	Unilateral modification of Award by Grants and Agreement Officer will result in unilateral modification of Subaward by Recipient
30	Cooperative Agreement Termination	<i>See</i> ASTC 21.3 for modified requirement
42	Changes to Board of Directors	Not applicable to Subrecipient

Award Attachment 4: Award Specific Terms and Conditions		
Number	Description	Notes
1	Approved Budget	Approved Budget, Total Award Cost, Cost Share and applicability of Exception for Subrecipient specified in Subaward Agreement
2	Period of Performance and Budget Periods	Approved Budget and Period of Performance for Subrecipient specified in Subaward Agreement and applicable SOWs
3	Sub-Projects	Applicable only to the extent Subrecipient is specifically identified
4	Critical Project Activities for the Current Budget Period	See Attachment 4b to identify the extent to which applicable to Subrecipient
5	Specific and Special Award Conditions	All Items except for Items 1, 2.A, 2.D, 4.B, 4.F, and 4.M
6	Go/No-Go Reviews and Continuation	Continuation Application to be submitted to Recipient/PMO
8	Subawards	Not applicable to Subrecipient
10	Payment Procedures	Items 10.A and 10.C are not applicable to Subrecipient
11	Indirect and Fringe Costs	Items 11.A, 11.B and 11.C applicable only as specified in the Subrecipient Agreement
15	Security Framework/Coordinator	15.A.3 applicable to Subrecipient. In addition, Subrecipient to comply with Recipient Hub-Level Framework
18	Subawards to DOE National Labs	Not applicable to Subrecipient (unless DOE National Lab)
19	Build America, Buy America Requirements for Infrastructure Projects	Applicable, unless Subrecipient has been granted a waiver or except to the extent the DOE has determined is otherwise not applicable
21.1	Modifications to STC 7	Applicable only as stated in Subrecipient Agreement (Subrecipient to notify PMO of any changes to primary point of contact for DOE)

Additional Award Attachments

For Pacific Northwest Hydrogen Association members only. Not for external distribution.
Contains Trade Secrets, Confidential, Proprietary, or Privileged Information / Internal Use Only / Exempt from Public Disclosure

Number	Description	Notes
4a	Hub Statement of Work	As identified for Subrecipient
4b	Go/No Go Tables	As identified for Sub-Projects
4c	Governance	Applicable only as to governance of Hub
4d	Out-of-Scope Details	As identified for Subrecipient
4e	Data Needs	As applicable to Subrecipient's project and/or otherwise specified in SOW or applicable Policies and Procedures
5	Intellectual Property	Applicable to Subrecipient
6	Reporting Checklist	As applicable to Subrecipient and as identified in Policies and Procedures

This Exhibit A is intended only to satisfy Recipient's obligations to flow-down the requirements of the Cooperative Agreement and is not intended to impose extra or otherwise non-applicable obligations on the Subrecipient beyond what is specifically required by the Cooperative Agreement or by applicable law or regulation.

Item No.: 9D
Meeting Date: October 1, 2024

Phase 1 Hydrogen Hub Funding Subaward Agreement




THE NORTHWEST
SEAPORT ALLIANCE
SEATTLE + TACOMA

Graham VanderSchelden
Environmental Project Manager II

1

ACTION REQUESTED

Request the Managing Members of The Northwest Seaport Alliance authorize the Chief Executive Officer or their delegate to enter into a sub-recipient agreement with the Pacific Northwest Hydrogen Association (PNWH2) to accept funding in the amount of \$45,370, with a match of \$55,170, to support the NWSA's Phase 1 work under the Department of Energy's Regional Clean Hydrogen Hubs Program.



THE NORTHWEST
SEAPORT ALLIANCE
SEATTLE + TACOMA

2

2

Northwest Ports Clean Air Strategy

“Phase out emissions from seaport activities by 2050”

Hydrogen is likely to play a role in phasing out emissions

- Heavy/long range truck, CHE, locomotive, harbor vessel applications
- Locations where grid constraints make electrification cost prohibitive.
- Hydrogen derived low carbon marine fuels (like e-methanol)

Hydrogen hub is an opportunity to fund ZE technology deployments in port applications and support availability of green hydrogen fuel in our region

- ~\$12 million to support NWSA led program to deploy hydrogen fuel cell trucks and CHE



3

NORTHWEST PORTS
CLEAN AIR STRATEGY

NORTHWEST PORTS CLEAN AIR STRATEGY 2020



3

Hydrogen Overview

What is hydrogen (H₂)?

- Naturally occurring substance that is gas at ambient temperature and pressure

What can hydrogen be used for?

- Industrial processes (like petroleum refining, fertilizer production)
- Electricity production via fuel cell
 - Transportation fuel (fuel cell powered vehicles)
- e-Fuels production (like SAF and e-methanol)
- Direct combustion for energy and mobility applications

How is hydrogen made?

- Reformation [natural gas + water → CO₂ + hydrogen]
- Electrolysis [electricity + water → oxygen + hydrogen]

Is hydrogen low carbon (or “green”)?

- If (and only if) the inputs are low carbon; for example, electrolysis using renewable electricity

Is hydrogen safe?

- Non-toxic and quick to disperse, but compression and/or cooling is required and is flammable at high concentrations
- Engineering safety protocols enable safe use (such as ventilation, leak detection & material selection for storage and distribution infrastructure)



4

4

DOE Clean Hydrogen Hubs Program



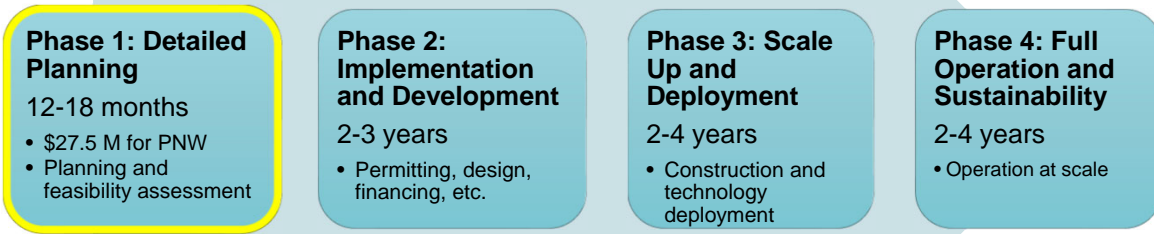
\$7B nation-wide to kickstart national hydrogen economy:

- **Hydrogen Production**
 - Electrolysis
 - Biomass & Natural gas reformation
- **Hydrogen Distribution**
 - Liquefaction
 - Storage
 - Fueling stations
 - H₂ delivery trucks
 - Pipelines
- **Hydrogen End Use**
 - **Transportation (incl. ports)**
 - Refining
 - Manufacturing (like chemical and steel production)
- **Community Benefits**

\$1B demand side support mechanism also in development



DOE Implementation Timeline



* Between each phase, DOE and each hub will do a detailed assessment of go/no go criteria to determine which hubs/sub-projects will be awarded funding for the next phase, based on progress in the preceding phase and project readiness.



Pacific Northwest Hydrogen Association (PNWH2)

Multi-state nonprofit made up of public and private partners in the PNW.
 Kickstarted by state investment through the Department of Commerce to lead the regional bid for Clean Hydrogen Hub funding.



Vision: "Create a clean hydrogen ecosystem across the Pacific Northwest to improve the lives and futures of people throughout the region"

Led the process to select hub projects and writing and submission of the application.

- NWSA hydrogen and drayage truck and CHE incentive project was selected
- ~\$12M in federal funding

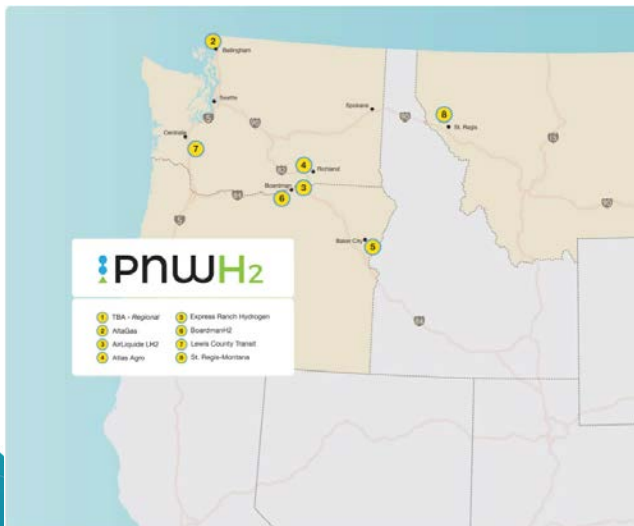
PNWH2 is the direct awardee of the \$1B in federal H₂ hub funding:

- Administering federal grant award with DOE
- Providing sub-award to hub project leads
- Coordinating the hub-wide community benefits program

Partners



Pacific Northwest Hydrogen Hub



PNW Hydrogen Hub Coordinated by PNWH2

- \$1B DOE award
- Renewable energy based electrolytic hydrogen production ("green hydrogen")
- End use in hard to decarbonize industries, like heavy-duty transport, transit, agriculture, and refining
- Community benefits program, led by PNWH2 and WSU

Company	Node	Proposed Role in the Hub
Air Liquide Hydrogen Energy US LLC	3	Hydrogen liquefaction, distribution, and market activation
ALA Renewable Energy LLC, and Alta Gas Company	2	Clean hydrogen production to decarbonize heavy transportation, refineries, and power generation
Amazon.com, Inc	TBA	Decarbonize Amazon operations
Atlas Agro	4	Hydrogen production, agricultural end uses
Centralia College	TBA	Leading career training and energy education
MHI Hydrogen Infrastructure LLC	6	Hydrogen production, storage, delivery, and peak power
Northwest Seaport Alliance	3	Deploy hydrogen port trucks and cargo handling equipment
Express Ranch Hydrogen	5	Hydrogen production, heavy-duty industrial transportation
PACCAR Inc	3	Truck original equipment manufacturer (OEM) developing zero emission hydrogen vehicles
Portland General Electric Company	6	Clean hydrogen electricity generation project
Puget Sound Energy (PSE)	TBA	Hydrogen-powered peak generation
St. Regis Solar, LLC	8	Hydrogen production, transportation, and off-grid
Lewis County Transit	7	Hydrogen production and fueling, public transit
Williams Field Services Group, LLC	6	Hydrogen transmission and storage services



Community Benefits Program

- PNWH2 leads and coordinates the CBP in partnership with WSU

Through the CBP and projects, the PNW hub will benefit communities by:

- Creating and supporting more than 10,000 high-quality local jobs
- Supporting meaningful community and labor engagement
- Enabling pathways for new STEM-based education programs
- Advancing diversity, equity, inclusion and accessibility in the workplace
- Ensuring benefits flow to tribal communities through consultation and partnerships

NWSA will play a support role in implementing the CBP, leading engagement associated with our incentive programs

- Our engagement will ramp up through phases 2 and 3 of the program, aligning with the purchase and deployment of H₂ trucks and CHE.



NWSA Project

Mitsubishi: H₂ production facility near Boardman, OR

Air Liquide: H₂ liquefaction facility in Boardman & deploy distribution infrastructure, including fueling stations in Puget Sound Region (locations TBD)

PACCAR: Develop market ready hydrogen class 8 truck

NWSA: Run an incentive program to build end use/demand for node 3 hydrogen in port applications; trucks and CHE

- Do not expect any hydrogen production or fueling infrastructure to be built on port property as part of this project (mobile fuelers for CHE may be needed)
- Funding for est. 32 trucks and 2 top picks (subject to change based on market research/program design process)



	Phase 1 (July 2024 - Dec. 2025)	Phase 2 (est. Jan 2026 - Dec. 2027)	Phase 3 (est. Jan 2028 - Dec. 2030)	Phase 4 (est. Jan 2030+)
Partners	AL: Planning PACCAR: Product RD&D	AL: Design/construction PACCAR: Product RD&D	AL: Complete construction PACCAR: H ₂ truck commercially available	AL: Facilities operating
NWSA	Federal Funding: \$45k Market research and incentive program design	Federal Funding: \$151k Solicit and secure program participants	Federal Funding: \$11.5M Truck and CHE purchases/deployment	Federal Funding: \$154k Trucks and CHE in operation



NWSA Phase 1 Work and Financials

Phase 1 Tasks:

- Market research: Assess demand for hydrogen trucks and CHE in port applications in the PNW
- Incentive program design:
 - Assess necessary incentive levels and structures
 - Procurement/solicitation process that is compliant with all DOE program requirements
 - Program management structure; synchronize/incorporate into NWSA ZE truck and CHE incentive programs
- Support Community Benefits Program and other hub activities as needed

Financial Breakdown

Activity	Cost
Consulting Support	\$45,000
Staff Time	\$46,400
Overhead (10%)	\$9,140
Federal Share	\$45,370
Match	\$55,170



ACTION REQUESTED

Request the Managing Members of The Northwest Seaport Alliance authorize the Chief Executive Officer or their delegate to enter into a sub-recipient agreement with the Pacific Northwest Hydrogen Association (PNWH2) to accept funding in the amount of \$45,370, with a match of \$55,170, to support the NWSA's Phase 1 work under the Department of Energy's Regional Clean Hydrogen Hubs Program.

