

**CUSTOMER CONTRACT REQUIREMENTS
Multidisciplinary Topology Optimization
CUSTOMER CONTRACT DE-AR0001477****CUSTOMER CONTRACT REQUIREMENTS**

The following customer contract requirements apply to this Contract to the extent indicated below. Please note, the requirements below are developed in accordance with Buyer's prime contract and are not modified by Buyer for each individual Seller or statement of work. Seller will remain at all times responsible for providing to any government agency, Buyer, or Buyer's customer, evidence of compliance with the requirements herein or that such requirements are not applicable to the extent satisfactory to the requesting party.

1. FAR Clauses The following contract clauses are incorporated by reference from the Federal Acquisition Regulation and apply to the extent indicated. In all of the following clauses, "Contractor" and "Offeror" mean Seller.

52.227-1 Authorization and Consent Alternate I (APR 1984).

52.227-2 Notice and Assistance Regarding Patent and Copyright Infringement (DEC 2007). A copy of each notice sent to the Government shall be sent to Buyer.

2. Prime Contract Special Provisions The following prime contract special provisions apply to this purchase order

1. FEDERAL STEWARDSHIP

Buyer's Customer will exercise Federal stewardship in overseeing the project activities performed under this contract. Stewardship activities include, but are not limited to, conducting site visits; reviewing performance and financial reports; providing technical assistance and/or temporary intervention in unusual circumstances to correct deficiencies which develop during the project; assuring compliance with terms and conditions of the contract; and reviewing technical performance during and after project completion to ensure that the contract objectives are being/have been accomplished.

a. Review Meetings

Seller may be required to participate in periodic review meetings with Buyer's Customer. Review meetings enable Buyer's Customer to assess the work performed under the contract and determine whether Buyer and Seller timely achieved the technical milestones and deliverables in the contract. Buyer's Customer shall determine the frequency of review meetings and select the day, time, and location of each review meeting.

For each review meeting, Seller may be required to provide a comprehensive overview of the project, including:

- Seller's technical progress compared to the schedule of technical milestones and deliverables as stated in the contract
- Seller's actual expenditures compared to the approved budget as stated in the contract
- Other subject matter specified by Buyer's Customer Program Director.

b. Project Meetings

Seller is required to notify Buyer in advance of scheduled project meetings and tests. Upon request by Buyer, Seller is required to provide Buyer and Buyer's Customer with reasonable access (by telephone, webinar, or otherwise) to the project meetings and tests. Seller is not expected to delay any work under this contract for the purpose of government insight.

c. Site Visits

Buyer's and Buyer's Customer's authorized representatives have the right to make site visits at

reasonable times to review project accomplishments and management control systems; inspect property and records relating to this contract; and to provide technical assistance, if required. Seller must provide, and must require its subrecipients/subcontractors to provide, reasonable access to facilities, office space, resources, and assistance for the safety and convenience of Buyer and Buyer's Customer's representatives in the performance of their duties. To the maximum extent practicable, Buyer and Buyer's Customer will perform site visits and evaluations in a manner that does not unduly interfere with or delay project work.

2. FOREIGN WORK AND TRAVEL

a. Performance of Work in United States

All work under this contract must be performed in the United States (i.e., Seller must expend 100% of the total project cost in the United States), unless Seller receives advance written authorization from the Buyer's Customer (obtained through Buyer) to perform certain work overseas.

b. Travel Outside the United States

Seller is required to obtain written authorization from Buyer's Customer (obtained through Buyer) before incurring any costs related to foreign travel. In seeking prior approval for costs related to foreign travel, Seller is required to provide a submittal to the Buyer's Customer (through Buyer) which explains: (i) where Seller will travel, (ii) the purpose of the trip, (iii) what Seller will do, and (iv) how the travel relates to this contract.

3. PURCHASES

a. Sense of Congress

It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under this contract should be made in the United States.

b. Purchase of Equipment/Supplies

Any new equipment acquired under this contract must be made or manufactured in the United States, to the maximum extent practicable. This requirement does not apply to used or leased equipment. Any supplies acquired under this contract must be made or manufactured in the United States, to the maximum extent practicable.

c. Purchase of Foreign Equipment/Supplies

Seller shall notify Buyer reasonably in advance of purchasing any equipment with a total acquisition cost of \$250,000 or more not made or manufactured in the United States. The notification shall include: (a) a description of the equipment or supplies to be purchased, (b) identification of the proposed supplier, (c) the proposed price, (d) identification of the country of origin and the reason for acquiring the equipment or supplies outside of the United States.

Buyer's Customer will provide consent to purchase or reject within 30 calendar days of receipt of Seller's notification (communicated through Buyer). If Buyer's Customer fails to respond within the timeframe above, Seller may proceed with the purchase.

4. LOBBYING RESTRICTIONS

By accepting funds under this award, Seller agrees that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. § 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

5. FOREIGN ACCESS TO TECHNOLOGY

The parties understand that technology developments resulting from the performance of the agreement may be subject to U.S. laws and regulations limiting access. Any transfer of technology developed under this agreement must be consistent with U.S. laws and regulations, including the Department of Commerce Export Regulation at Chapter VII, Subchapter C, Title 15 of the CFR, as applicable. Seller and subrecipient/subcontractors shall comply with these laws and regulations.

6. PUBLICATIONS

Buyer's Customer encourages Seller to publish or otherwise make publicly available the results of work performed under this contract. Seller is required to include the following acknowledgement in publications arising out of or relating to work performed under this Award:

Acknowledgment: "The information, data, or work presented herein was funded in part by the Advanced Research Projects Agency-Energy (ARPA-E), U.S. Department of Energy, under Award Number DE-AR0001124. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."

7. PROPERTY TRUST RELATIONSHIP AND INSURANCE COVERAGE

Property acquired in whole or in part with Federal funds under this contract may not be encumbered in any way without the written permission of Buyer's Customer, who may require the recording of liens or other appropriate notices of record such property. Seller will ensure full replacement insurance coverage for such property. Federally-owned property provided under the contract need not be insured unless required by the terms and conditions of this contract.

8. PROPERTY – SUPPLIES AND EQUIPMENT

a. Supplies

Seller takes title to any supplies acquired in whole or in part with Federal funds under the contract.

If the total aggregate value of unused supplies is \$5,000 or less at the termination, discontinuation or completion of the project or program Seller may retain the unused supplies with no further obligation to Buyer's Customer.

If the total aggregate value of unused supplies exceeds \$5,000 at the termination, discontinuation, or completion of the project and the supplies are not needed for any other Federal award, Seller may retain the supplies for use on other activities or sell them. In either case, Seller must compensate Buyer's Customer for the Buyer's Customer funded share as specified in 2 C.F.R. § 200.314.

Upon request by Buyer's Customer, Seller is required to provide information on the condition, location, value, and use of remaining supplies.

b. Equipment

Post-Award equipment purchases with a total acquisition cost of \$250,000 or greater may be purchased only with the prior approval of the Contracting Officer, which shall be obtained through Buyer.

Seller takes title to any equipment purchased in whole or in part with Federal funds subject to the following conditions:

- The equipment must be used for the authorized purposes of the project during the period of performance, or until the property is no longer needed for the purposes of the project;
- The equipment shall not be encumbered without approval of Buyer's Customer; and
- The equipment shall be used and disposed of by for-profit entities in accordance with 2 C.F.R. § 910.360, and by all other entities in accordance with 2 C.F.R. § 200.313.

If the current per unit fair market value of particular equipment is \$5,000 or less at the end of the project period (or the termination of the contract, if applicable), Seller may retain, sell, or otherwise dispose of the equipment with no further obligation to Buyer's Customer.

If the current per unit fair market value of particular equipment exceeds \$5,000 at the end of the project period (or the termination of the contract, if applicable), the equipment must be disposed of by for-profit entities in accordance with 2 C.F.R. § 910.360(f) and by all other entities in accordance with 2 C.F.R. § 200.313(e).

Upon request by Buyer's Customer (through Buyer), Seller is required to provide information on the condition, location, value, and use of remaining equipment.

9. POTENTIALLY CLASSIFIABLE RESULTS ORIGINATING UNDER THIS AWARD

This contract is intended for unclassified research to develop and commercialize advanced energy technologies. Buyer's Customer will not provide Seller access to classified information, and Buyer's Customer does not expect that the results of the research project will involve classified information. If at any time Seller believes work generated under this contract may need classification, it must immediately notify Buyer in writing for further instruction. Do not include potentially classifiable information in the notification.

10. PURCHASING

For purchases made under this agreement that are funded in whole or in part with Federal funds or Seller's cost sharing (if applicable), Seller must comply with the requirements in 2 CFR §§ 200.317 – 200.326.

11. FLOW DOWN REQUIREMENTS TO SUBRECIPIENTS

In accordance with the policy in 10 CFR 603.605, Seller shall comply and shall insure subrecipient/subcontractor compliance with the same financial management, property management, and purchasing systems requirements to a subrecipient/subcontractor that would apply if the subrecipient/subcontractor were the recipient. For example, a for-profit Seller would require a university subrecipient/subcontractor to comply with the requirements that apply to a university. If the subrecipient/subcontractor is a FFRDC or GOCO, the financial management, property management, and purchasing requirements in the subaward should conform as much as practicable with the requirements in the FFRDC/GOCO contract. Note these flow down requirements apply to subawards/subcontracts for substantive performance of portions of the effort and not to purchases of goods or services needed to carry out the RD&D.

12. RECORD RETENTION AND ACCESS TO RECORDS

This clause applies in addition to the Financial Records and Audits clause of the General Provisions.

Consistent with 2 C.F.R. § 200.333, Seller is required to retain records relating to this contract for three years after the end of the project period, unless one of the following exceptions applies:

- If any litigation, claim, or audit is started before the expiration of the three-year period, Seller is required to retain the records until all litigation, claims, or audit findings involving the records have been resolved and final action taken.
- Seller is required to retain records for any real property or equipment acquired with Federal funds for three years after final disposition of the real property or equipment.
- Seller is not required to retain records after the end of the project period if ARPA-E agrees to maintain the records.

Copies of records may be substituted for originals.

Buyer's Customer's Contracting Officer, the DOE Inspector General, and the Comptroller General of the United States, or any of their duly authorized representatives, shall have reasonable access to any books, documents, papers or other records of the Seller and subrecipients/subcontractors that are pertinent to the agreement in order to make audits. Such audit, examination, or access shall be performed during business hours on business days upon prior written notice and shall be subject to the security requirements of the audited party.

13. AUDITS

a. Audits Generally

Seller is required to provide any information, documents, site access, or other assistance requested by Buyer's Customer or Federal auditing agencies (e.g., DOE Inspector General, Government Accountability Office) for the purpose of audits and investigations. Such assistance may include, but is not limited to, reasonable access to Seller's records relating to this contract. Buyer's Customer will provide reasonable advance notice of audits through Buyer, and will minimize interference with ongoing work, to the maximum extent practicable.

b. Government Audits

Consistent with 2 C.F.R. §200.503(b), Buyer's Customer may audit Seller's financial records or administrative records relating to this contract at any time.

Buyer's Customer may conduct a final audit at the end of the project period (or the termination of the contract, if applicable). Upon completion of the audit, Seller is required to refund to Buyer's Customer or Buyer any payments for costs that were determined to be unallowable.

c. Compliance Audits for For-Profit Recipients

For-profit Sellers are required to comply with the annual compliance audit requirements in 2 C.F.R. 910 Subpart F. An audit conducted in accordance with this part must be in lieu of any financial audit of DOE awards which a for-profit entity is required to undergo under any other Federal statute or regulation.

d. Single Audits for Entities Other than For-Profit Recipients

Sellers other than for-profits are required to comply with the single audit requirements in 2 C.F.R. 200 Subpart F. An audit conducted in accordance with this part must be in lieu of any financial audit of Federal awards Seller is required to undergo under any other Federal statute or regulation.

14. CONFERENCE SPENDING

Seller shall not use any Federal funds to:

- Defray the cost to the United States Government of a conference held by any Executive branch department, agency, board, commission, or office which is not directly and programmatically related to the purpose for which its ARPA-E Award is made and for which the cost to the United States Government is more than \$20,000; or
- To circumvent the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such a conference.

15. SYSTEM FOR AWARD MANAGEMENT REGISTRATION

Unless Seller is exempt from this requirement under 2 C.F.R. § 25.110, Seller must maintain current information in the System for Award Management (SAM) until submission of the final financial report required under this Award or receipt of final payment, whichever is later.

16. APPLICABLE COST PRINCIPLES

a. Cost Principles for For-Profit Entities

Pursuant to 2 C.F.R. § 910.352, the cost principles in the Federal Acquisition Regulations (48 C.F.R. Part 31.2) apply to for-profit entities.

b. Cost Principles for Entities other than For-Profits

The cost principles contained in 2 C.F.R. Part 200 Subpart E apply to all entities other than for-profits.

17. FINANCIAL SYSTEM AND RECORDS

Prior to the submission of invoices to Buyer, Seller shall have and maintain an established accounting system which complies with Generally Accepted Accounting Principles, and with the requirements of this contract, and shall ensure that appropriate arrangements have been made for receiving, distributing and accounting for Federal funds and Seller cost sharing (if applicable), including any in-kind costs. Consistent with this, an acceptable accounting system will be one in which all funds, cash receipts, and disbursements are controlled and documented properly. Such records are subject to audit.

18. PAYMENT PROCEDURES

a. Reimbursement Requests Generally

Only Buyer may submit reimbursement requests to Buyer's Customer. Seller must submit reimbursement requests to Buyer, which is responsible for conveying reimbursement requests to Buyer's Customer on behalf of Seller. Seller may not submit reimbursement requests directly to Buyer's Customer.

19. FELONY CONVICTION AND FEDERAL TAX LIABILITY ASSURANCES

By entering into this agreement, Seller attests that it has not been convicted of a felony criminal violation under Federal law in the 24 months preceding the date of signature.

Seller further attests that it 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.

20. NONDISCLOSURE AND CONFIDENTIALITY AGREEMENTS ASSURANCES

By entering into this contract, Seller attests that it does not require its employees or contractors to sign nondisclosure or confidentiality agreements which prohibit or otherwise restrict signatories from reporting the following to the DOE Inspector General: a violation of law, rule, or regulation, mismanagement, waste, fraud, abuse, or a substantial and specific danger to public health or safety.

21. PROVISIONAL RATES

Seller is responsible for application of Federally approved indirect cost rates or negotiation of rates in accordance with 2 CFR 200.331(a)(4) with its subrecipients/subcontractors.

22. INTELLECTUAL PROPERTY CLAUSES

(a) If Seller is a Small Business: The intellectual property provisions found in Attachment 2 (Domestic Small Businesses) INCLUDING ENHANCED U.S. COMPETITIVENESS of the ARPA-E Model Cooperative Agreement (published at <https://arpa-e.energy.gov/technologies/project-guidance/pre-award-guidance/funding-agreements>) apply to Seller. Seller shall comply with the IP terms referenced above and when incorporating the above-referenced intellectual property provisions, Seller shall expressly require compliance with their terms and conditions. In Attachment 2 (Domestic Small Businesses) INCLUDING ENHANCED U.S. COMPETITIVENESS of the ARPA-E Model Cooperative Agreement, the term “Contractor” means “Seller” and any reference to “contract” or “subcontract” means this contract.

(b) If Seller is a University and Nonprofit Organization: The intellectual property provisions found in Attachment 2 (Domestic Universities and Nonprofit Organizations INCLUDING ENHANCED U.S. COMPETITIVENESS) of the ARPA-E Model Cooperative Agreement (published at <https://arpa-e.energy.gov/technologies/project-guidance/pre-award-guidance/funding-agreements>) apply to Seller. Seller shall comply with the IP terms referenced above and when incorporating the above-referenced intellectual property provisions, Seller shall expressly require compliance with their terms and conditions. Attachment 2 (Domestic Universities and Nonprofit Organizations INCLUDING ENHANCED U.S. COMPETITIVENESS) of the ARPA-E Model Cooperative Agreement, the term “Contractor” means “Seller” and any reference to “contract” or “subcontract” means this contract.

(c) If Seller is a Large Business or Foreign Entity:

(1) If Seller is a large business that provides cost sharing of at least 20% under the contract, the intellectual property provisions found in this Attachment 2 (Large Businesses)—Waiver (Patent Rights) INCLUDING ENHANCED U.S. COMPETITIVENESS IN SUBAWARDS of the ARPA-E Model Cooperative Agreement (published at <https://arpa-e.energy.gov/technologies/project-guidance/pre-award-guidance/funding-agreements>) apply to Seller. In Attachment 2 (Large Businesses)—Waiver (Patent Rights) INCLUDING ENHANCED U.S. COMPETITIVENESS IN SUBAWARDS of the ARPA-E Model Cooperative Agreement, the term “Contractor” means “Seller” and any reference to “contract” or “subcontract” means this contract.

(2) If Seller is a large business that does not provide cost sharing of at least 20% under the contract, or Seller is a foreign entity receiving a contract, the intellectual property provisions found in Attachment 2 (Large Businesses)—No Waiver (Patent Rights) INCLUDING ENHANCED U.S. COMPETITIVENESS IN SUBAWARDS of the ARPA-E Model Cooperative Agreement (published at <https://arpa-e.energy.gov/technologies/project-guidance/pre-award-guidance/funding-agreements>) apply to Seller. Upon request to Patent Counsel for good cause shown, the right to use the Attachment 2 (Large Businesses)—Waiver (Patent Rights) INCLUDING ENHANCED U.S. COMPETITIVENESS IN SUBAWARDS in the award to the large business or foreign entity may be granted. In Attachment 2 (Large Businesses)—No Waiver (Patent Rights) INCLUDING ENHANCED U.S. COMPETITIVENESS IN SUBAWARDS of the ARPA-E Model Cooperative Agreement, the term “Contractor” means “Seller” and any reference to “contract” or “subcontract” means this contract.

(3) In incorporating the above-referenced intellectual property provisions, Seller shall comply and shall expressly require compliance with their terms and conditions with subcontractors.

(d) Subaward Unlimited Rights Data List: For any subaward/subcontract with a for-profit entity (including subcontracts with for-profit vendors) for experimental, developmental or research work, the unlimited rights data list below (Rights in Data, paragraph (g)(4) from the prime agreement) is incorporated into the corresponding Rights in Data provision in Seller's contract.

Seller agrees that the following types of data are not considered to be protected and shall be provided to the Government when required by this award without any claim that the data are Protected Data. The parties agree that notwithstanding the following lists of types of data, nothing precludes the Government from seeking delivery of additional data in accordance with this award, or from making publicly available additional non-protected data, nor does the following list constitute any admission by the Government that technical data not on the list is Protected Data.

1. General, non-proprietary, and non-enabling graphics, pictures and videos which illustrate the heat exchanger, material, and manufacturing technologies.
2. General, non-proprietary, and non-enabling written summaries and description of the heat exchanger, material(s), and manufacturing technologies.
3. Heat exchanger design and performance data:
 - working fluid(s);
 - inlet and outlet predicted temperatures and pressure of hot and cold streams of the heat exchanger;
 - effectiveness achieved by the heat exchanger;
 - pressure drop of the heat exchanger, expressed in relative variation from the inlet pressure on both hot and cold streams;
 - if available, projected or measured maximum allowable working pressure;
 - heat duty of the prototype(s) built;
4. Non-proprietary measured thermomechanical and corrosion data of the material(s) used to fabricate the heat exchanger.
5. Results from any independent, third-party validation the heat exchanger performance.
6. Descriptions of the commercial value proposition for the heat exchanger, material, and manufacturing techniques.
7. Non-enabling and non-proprietary descriptions of the application areas and performance advantages for the heat exchanger, materials, and manufacturing techniques.
8. General information on the industrial/commercial segments with which partnerships have been or will be pursued.
9. All data and information publicly released by the performer team, such as, through journal articles, workshop and conference presentations, and press releases.
10. High resolution photos of the performer team.
11. Initial and updated project impact sheet.

23. COST MATCHING

If Seller is providing cost matching, Seller shall include a formal letter on their letterhead stating and breaking down clearly how much cost match was expended with each invoice.