



Oak Ridge National Laboratory
 Acting under contract DE-AC05-00OR22725
 With the U.S. Department of Energy
 Internet: <https://contracts.ornl.gov/>

UT-Battelle, LLC Fixed Price Subcontract (All)

When executed by UT-Battelle, LLC, this Subcontract, as described, shall constitute the entire agreement between the Parties hereto and any Terms or Conditions offered by the Subcontractor in addition thereto or in any way different from those set forth herein are hereby objected by UT-Battelle, LLC. Seller agrees to furnish and deliver the items or perform services to the extent stated in this document for the consideration stated in this subcontract. The rights and obligations of the parties to this subcontract are subject to and governed by this document and any documents attached or incorporated by reference.

1. THE SCHEDULE

Vendor Name:

Subcontract Number:

Brief Description:

Period of Performance Start Date:

Period of Performance End Date:

Subcontract Type: Fixed Price

Total Value:

Name and Address of Buyer

UT-Battelle, LLC
 c/o Oak Ridge National Laboratory
 P.O Box 2008, Bldg 1055COM
 Oak Ridge, TN 37831
 Attention: Jason Holder
 Phone: (865)341-3684
 E-Mail Address: holderje@ornl.gov

Name and Address of Seller / Subcontractor

Name: _____
 Street: _____
 City/State: _____
 Attention: _____



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Phone: _____
 Email: _____

Primary Performance Location (ORNL or Vendor/Specified Location)

Name: _____
 City/State: _____

The product classification for this procurement under the North American Industry Classification System (NAICS) is Code: 541512 – Computer System Design Services

NOTICE: Per DOE Directive No. DOE O 142.3B, *Unclassified Foreign National Access Program*, all deliverables coming on site to a DOE Laboratory, including Oak Ridge National Laboratory (ORNL), must be delivered by a United States citizen. If a foreign national attempts to deliver anything to the ORNL site, the driver will not be allowed on site.

2. SUBCONTRACT PRICE

FUNDING AUTHORIZATION

- a. The total estimated cost to the Company for performance of this Contract is referenced above under the total value field. The amount currently allotted to this Contract for payment of allowable costs is based on availability of funding. Company is not obligated to reimburse Seller for costs incurred in excess of the total amount allotted. Seller is not obligated to continue performance or otherwise incur costs in excess of the total amount allotted until Company increases allotted funds.
- b. The funding for the subcontract will be done by purchase order releases sent over the Ariba Network. It is understood that those releases constitute when additional funding is available on the subcontract. **Without a Purchase Order release there is no funding for work under this subcontract.**



FIXED PRICE: For Small or Foreign Owned Businesses – Due to the treatment of Intellectual Property rights for these two categories of firms, Fixed Price contract model will be utilized.

FIXED PRICE SUBCONTRACTS

- a. The total fixed price for this agreement is *referenced above under the total value field*.

FIXED PRICE – PRICE SHARING: Only for Large Businesses based in the United States – ORNL anticipates DOE will grant a class advance waiver on IP for this work for large businesses that chose to retain IP copyright. Price sharing is a condition of the class advance waiver.

FIXED PRICE - PRICE SHARING (For Subcontract Awarded to Large Business)

- a. This is a price-sharing Subcontract. The total estimated price of performing the work under this Subcontract is *referenced above under the total value field*. The Company shall bear 60% of the price incurred up to the total price to the company under this section, and the Seller shall bear 40%, for a total price to the Seller of \$ _____. The total price to the Company is fully funded.
- b. If the total price is increased, the Company and Seller will, in good faith, negotiate a price-share percentage and the subcontract will be modified accordingly.

Table 1 reflects the upper level work scopes and the associated pricing for this Agreement

Table 1.

Required Non-Recurring Engineering Items			
Description	Pricing		
	Seller's Share (40%)	Company's Share (60%)	Extended Price
1.			
2.			

FIXED PRICE OPTIONS

The Company shall have the option(s) to purchase additional quantities of the items or services described in the below sections as follows:

Option No.1: _____

Quantity: _____



Unit Price: _____

Total Price: _____

Period of Performance: _____

Option No.2: _____

Quantity: _____

Unit Price: _____

Total Price: _____

Period of Performance: _____

In the event the Company does not exercise any option by the time specified in the period of performance for the exercise of such option, or any other date mutually agreed to, the Seller shall be relieved of its obligation to furnish items under options not already exercised.

3. SPECIFICATIONS/STATEMENT OF WORK

- a. Independently and not an agent of the Company, the Seller shall furnish all necessary services, qualified personnel, material, equipment, and facilities, not otherwise provided by the Company as needed to perform the Specification/Statement of Work in attachment A.

4. PAYMENT/BILLING INFORMATION

- a. Period of Performance: Seller agrees to accept task orders issued during the performance period. In the event that the period of performance of the task order extends beyond the period of performance of the Contract, the period of performance of the task order shall prevail. The rights and obligations of the parties respecting those orders shall be governed by this Contract to the same extent as if completed during its term.
- b. Payment Terms: The payment terms are Net 30 Days (for Large business) Net 15 Days (for Small Business) – no discount.
- c. Electronic Funds Transfer (EFT): Electronic Funds Transfer (EFT) expedites payments to subcontractors and is our preferred method of payment. A remittance notification (email or fax) is automatically generated to you at the time of payment. To sign up for EFT,



revise your banking information, or contact us to verify your current payment information, visit our website at <https://contracts.ornl.gov/> in the "Electronic Funds Transfer" section.

- d. Ariba Network for Suppliers: For detailed payment/billing information or inquiries concerning invoices and payments please access the Ariba Network account for your organization at <https://supplier.ariba.com/> or email your questions to ornlap@ornl.gov.
- e. Place of Performance: All work hereunder shall be performed at the reference filed above Primary Performance Location and other locations as mutually may be agreed upon by Company and Seller.
- f. Invoices: Invoices shall be submitted via the Ariba network, or by emailing a copy to ORNL Accounts Payable at ORNLAP@ornl.gov. Each invoice shall reflect milestones or services complete and billable under the Agreement. All payments will be made in U.S. Dollars.

5. ADMINISTRATION

Sole authority to make changes in or amendments to this Subcontract and to effect deviations from the work herein specified is hereby vested in the authorized representative of Company's Procurement Officer and must be made in writing. Unauthorized changes, alterations or modifications to this Subcontract will not be considered for equitable adjustment.

Changes to the Subcontract or its scope shall not be made without the express written authorization of the designated Company's Procurement Officer. Except as otherwise specifically provided herein, any notices to be furnished by Seller to Company, or by Company to Seller shall be sent by mail or electronic means as follows:

COMPANY'S TECHNICAL PROJECT OFFICER

The clause, "**Technical Direction**", is available in the "Documents Index" and then "Special Articles and Forms" section of our web site at <https://contracts.ornl.gov/>, and is incorporated by reference and amended as follows: "*Performance under this subcontract is subject to the technical direction of the Company's Technical Project Officer (TPO):*"

UT-Battelle, LLC c/o Oak Ridge National Laboratory

Location is referenced above

Attention: _____

Phone No. () _____ - _____

E-mail Address: _____



COMPANY’S PROCUREMENT OFFICER

UT-Battelle, LLC c/o Oak Ridge National Laboratory

Location is referenced above

Attention: _____

Phone No. () _____ - _____

E-mail Address: _____

SELLER TECHNICAL PROJECT OFFICER/POINT OF CONTACT

Attention: _____

Phone No. () _____ - _____

E-mail Address: _____

SELLER SUBCONTRACT REPRESENTATIVE/POINT OF CONTACT

Attention: _____

Phone No. () _____ - _____

E-mail Address: _____

6. GENERAL PROVISIONS

NOTE: Standard government forms (SF) mentioned herein are available at <http://www.gsa.gov/forms>. Other forms, clauses, articles, and documents are available at our web site, <https://contracts.ornl.gov/>.



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UT-BATTELLE PRIME SUPPLEMENTAL FLOWDOWN DOCUMENT ADDITIONAL TERMS AND CONDITIONS FOR SUBCONTRACTS/PURCHASE ORDERS UNDER Prime Contract No. DE-AC05-00OR22725 is available in the "Documents Index" and then "Special Articles and Forms" section of our web site at <https://contracts.ornl.gov/>.

NOTICE: This contractor and subcontractor shall abide by the requirements of 41 CFR 60-1.4(a) [41CFR 60-1.4(b) for Construction], 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take **affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, protected veteran status or disability.**

To the extent applicable, the employee notice requirements set forth in 29 CFR Part 471, Appendix A to Subpart A, are hereby incorporated by reference into this agreement.

Any Representations and Certifications submitted by the Seller that resulted in this document are incorporated by reference. All articles and documents incorporated by reference, including those made a part of General Provisions, apply as if they were set forth in their entirety.

U.S. National Laboratories and Government

The work performed under this subcontract is of interest to other National Laboratories and DOE. The Seller agrees that Company may share and otherwise distribute deliverables, information, data, software, and any correspondence provided by the Seller under this Subcontract with personnel at the listed US National Laboratories and the US Government.

- a. UChicago Argonne LLC, manager and operator of Argonne National Laboratory (Argonne)
- b. Lawrence Livermore National Security LLC, manager and operator of Lawrence Livermore National Laboratory (LLNL)
- c. Triad National Security LLC, manager and operator of Los Alamos National Laboratory (LANL)
- d. University of California, manager of Lawrence Berkeley National Laboratory (LBNL)
- e. National Technology and Engineering Solutions of Sandia, LLC, manager and operator of Sandia National Laboratories (SNL)

f. US Government including but not be limited to Department of Energy, National Nuclear Security Administration (NNSA) and US Department of Energy, Office of Science (DOE SC)

The terms and conditions for this Subcontract can be found on our website at <https://contracts.ornl.gov/> in the “Documents Index” and then "Terms and Conditions" section.

The following terms will apply under the Terms and Conditions tab:

- a. Terms and Conditions – Fixed Price BSD-CS-2150 (08/29/2023)

Do not Include Sales or use taxes - See Blanket Certificate of Resale at <https://contracts.ornl.gov/>.

7. SPECIAL PROVISIONS

All articles and documents incorporated by reference, including those made a part of Special Provisions apply as if they were set forth in their entirety.

Exhibit 1B - PATENT RIGHTS - ACQUISITION BY THE GOVERNMENT (Feb 2009)*

Exhibit 1C, Patent Rights – Retention by the Seller (Short Form) (Mar 2001)**

Exhibit 9, Technical Data (June 2011)

Note

*Applicable to US Large Business Awardee that does not agree to patent waiver price share and foreign businesses

**Applicable to Small Business Awardee

8. LIST OF ATTACHMENTS:

9. SIGNATURES

Your acceptance of this order serves as your certification that you are in compliance with 52.209-6, Protecting the Government’s Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment, and 52.203-11, Certification and Disclosure Regarding payments to Influence Certain Federal Transactions, as of the time of award.



Seller’s Agreement

Seller agrees to furnish and deliver the items or perform services to extent stated in this document for the consideration stated in this subcontract. The rights and obligations of the parties to this subcontract are subject to and governed by this document and any documents attached or incorporated by reference.

Signature of Person authorized to sign for Seller

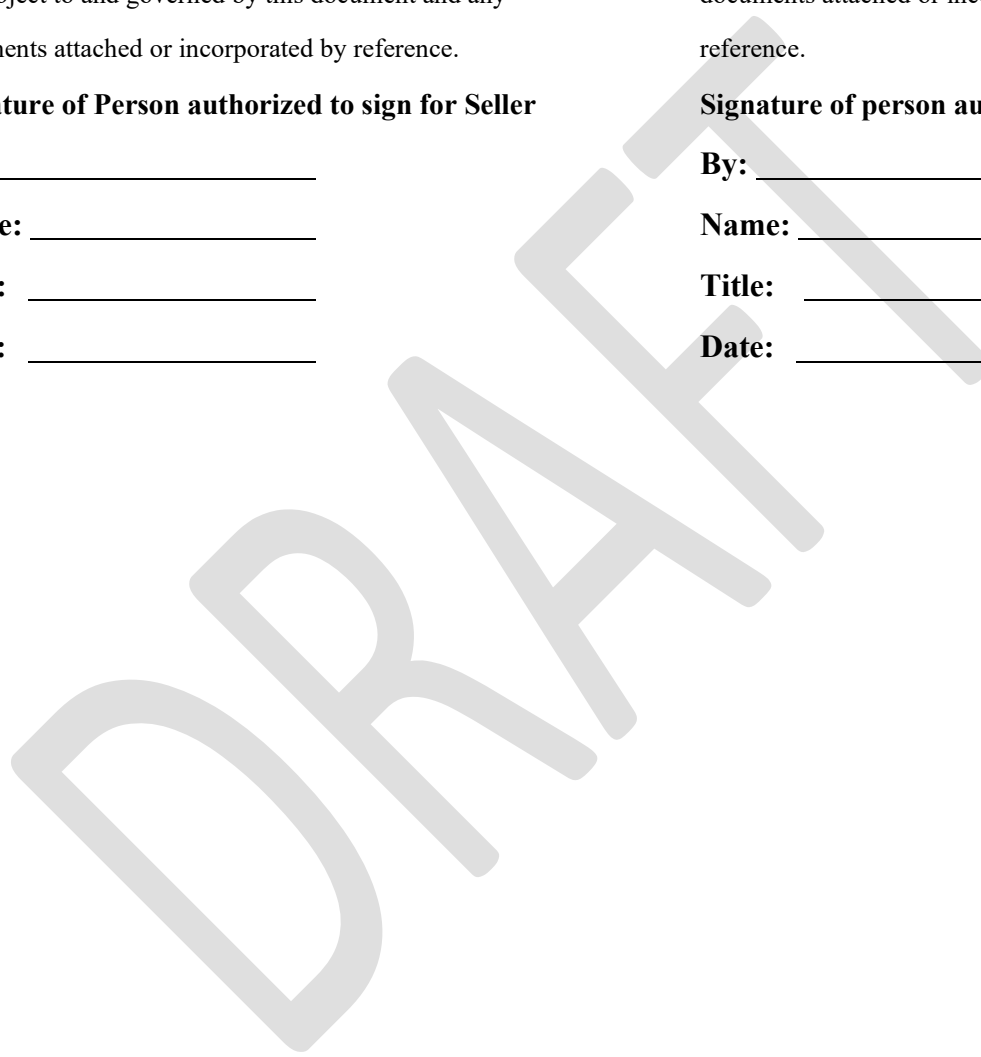
By: _____
Name: _____
Title: _____
Date: _____

UT-Battelle

UT-Battelle, LLC (Company) agrees to award this subcontract to Seller. The rights and obligations of the parties to this subcontract are governed by this and any documents attached or incorporated by reference.

Signature of person authorized to sign

By: _____
Name: _____
Title: _____
Date: _____



STATEMENT OF CONSIDERATIONS

CLASS WAIVER OF THE GOVERNMENT'S DOMESTIC AND FOREIGN PATENT RIGHTS AND COPYRIGHTS UNDER DOMESTIC FIRST AND SECOND-TIER SUBCONTRACTS, ISSUED BY OAK RIDGE NATIONAL LABORATORY (ORNL) UNDER DOE PRIME CONTRACT NO. DE-AC05-00OR22725 FOR NEW FRONTIERS INDUSTRY RESEARCH PROGRAM (NEW FRONTIERS)

WAIVER NO. W(C) 2024-003

Summary

Oak Ridge National Laboratory (ORNL), via the Oak Ridge Leadership Computing Facility (OLCF), will be issuing a Request for Proposal and awarding subcontracts for the New Frontiers industry research program to enable the next generation of exascale supercomputers in the 2027 and beyond time frame. This research is required to enable the fulfillment of the mission needs of the Advanced Scientific Computing Research (ASCR) Program within the Department of Energy (DOE) Office of Science (SC).

Background

DOE SC is the lead Federal agency supporting fundamental scientific research for energy and the nation's largest supporter of basic research in the physical sciences. The SC portfolio has two principal thrusts: direct support of scientific research and direct support of the development, construction, and operation of unique, open-access scientific user facilities. These activities have a wide-reaching impact. SC supports research in all 50 States and the District of Columbia, at DOE laboratories, and at more than 300 universities and institutions of higher learning nationwide. The SC user facilities provide the nation's researchers with state-of-the-art capabilities that are unmatched anywhere in the world.

Within SC, the mission of the Advanced Scientific Computing Research (ASCR) program is to discover, to develop, and to deploy computational and networking capabilities to analyze, to model, to simulate, and to predict complex phenomena important to the DOE. A particular challenge of this program is fulfilling the science potential of emerging computing systems and other novel computing architectures, which will require numerous significant modifications to today's tools and techniques to deliver on the promise of science in the exascale era.

High-performance computing (HPC) and data-driven modeling and simulation are used extensively in advancing DOE missions in science. To maintain leadership and to address the future challenges in science, energy, health, and growing security threats, the United States must continue to push strategic advancements in HPC—bringing about a grand convergence of modeling and simulation, data analysis, workflows, deep learning, artificial intelligence (AI), quantum computing, and other emerging capabilities—across integrated infrastructures in computational ecosystems. New approaches to predictive analysis for scientific discovery and solutions to complex data-driven engineering problems will arise from this convergence.

The DOE exascale systems recently deployed (i.e., Frontier, Aurora, and El Capitan), as well as those to be developed, are designed to address this emerging convergence. These systems can run simulations that require the entire platform and take days to weeks to complete. The AI-driven approaches on these systems are used to perform uncertainty quantification and to discover complex, non-linear relationships in the output of large multi-physics simulations and large science experiments. The new capabilities of these systems will revolutionize scientific areas, such as energy production, materials design, chemistry, precision healthcare, advanced manufacturing, stockpile stewardship, and national security.

For the past decade, the six science programs in the DOE Office of Science have formulated strategic plans for the disciplines that they steward. These plans rely on HPC in ever-increasing proportion, and, in recent years, the explicit call for HPC at exascale performance levels has been a common and defining theme. Examples include discovery and characterization of next-generation materials; systematic understanding and improvement of chemical processes; analysis of the extremely large datasets resulting from the next generation of particle-physics experiments; and extraction of knowledge from systems-biology studies of the microbiome. Advances in applied energy technologies also are dependent on next-generation simulations, notably whole-device modeling in plasma-based fusion systems. The current Exascale Computing Project (ECP) has developed a portfolio of applications and technologies at exascale that will use the current DOE exascale systems, while benefiting next-generation systems.

In August of 2022, ORNL, in collaboration with the other ASCR laboratories, released a request for information (RFI) with the purpose of providing DOE SC with information for planning future DOE HPC Programs. The RFI responses highlighted numerous innovative ideas to address future HPC challenges. Informed by responses to the RFI, the DOE facilities drafted several, broad themes for strategic research and development (R&D) investment that will provide benefit to future extreme-scale applications:

- Hardware Technologies
 - Processor and Memory Advancements
 - Disaggregated and Heterogeneous Computing
 - Next Generation Storage Architectures
 - HPC Network Advancements
- Software Technologies
 - Compilers, Software Stack, and Programming Environments
- Cross Cutting
 - Co-Design of Algorithms, Software, and Hardware
 - Energy Efficiency
 - Reliability and Resiliency
 - Thermal Management
 - Quantum Computing
 - Integrated Research Infrastructure

These R&D activities will initially be pursued by ORNL through a program called New Frontiers. The objective of the New Frontiers program is to initiate partnerships with multiple companies to accelerate the R&D of critical technologies needed for the next generation of exascale computing. It is recognized that the broader computing market will drive innovation in directions that may not meet DOE's mission needs.

Many DOE applications place extreme requirements on computations, data movement, and reliability. New Frontiers seeks to fund innovative new and/or accelerated R&D of technologies targeted for production in the 5–10-year timeframe. The period of performance for the subcontracts awarded by ORNL will be two years with a total funding of \$25M allocated for all awarded subcontracts.

ORNL will be soliciting innovative R&D proposals in the areas of hardware technologies, software technologies, and cross-cutting technologies. Due to the focus on extreme-scale application workflows, overall time to solution is also an important consideration. Software technologies will focus on open-source and sustainable software technologies for the extreme scale HPC system and the development of techniques necessary to support emerging workloads of integrated facilities across the DOE landscape. The goal is to begin to address long-lead time items that will impact extreme-scale DOE systems later this decade. Technology roadmaps, as they exist today, threaten to have a hugely disruptive and costly impact on development of DOE applications and ultimately a negative impact on the productivity of DOE scientists.

The Allocation of Patent Rights

Any small business or non-profit organization will retain the patent rights to its subject inventions under the Bayh-Dole Act, codified at 35 U.S.C. §§ 200-212. Such subcontracts will contain the standard clause DEAR 952.227-11, *Patent Rights-Retention by the Contractor*.

For non-Bayh-Dole subcontractors, the Government retains title to subcontractor's subject inventions as set forth in the clause DEAR 952.227-13, *Patent Rights-Acquisition by the Government*. However, a subcontractor that agrees to cost share by an amount of **at least 40% of the total cost of the subcontract shall qualify for this Class Waiver** where DOE agrees to waive in advance, patent rights to the subcontractor such that it may elect its subject inventions. This patent rights waiver is subject to a retained government-use license, march-in rights, reporting requirements, DOE approval of assignments, 35 U.S.C. § 204, a U.S. Competitiveness provision (paragraph (t)), and other terms set forth in the *Patent Rights-- Waiver* clause in Appendix A, which will replace the 952.227-13 clause in all qualified subcontracts.

The Allocation of Rights in Computer Software

The Bayh-Dole Act only applies to the allocation of patent rights. However, many subcontractors prefer to have advance rights in data developed under their subcontracts, specifically rights in computer software. Therefore, this Class Waiver also allows a domestic subcontractor (small business, non-profit or for-profit organization) to assert copyright in computer software without the Contracting Officer's prior approval. Under the subject award, DOE agrees, in advance, to authorize the subcontractor to assert copyright, without the Contracting Officer's prior approval, in software produced under the subcontract by its employees. The right to assert copyright in New Frontiers software is subject to a limited government-use license to allow the subcontractor sufficient opportunity to commercialize the software.

The Government reserves, via the limited government-use license, for itself and others acting on its behalf, a paid-up nonexclusive, irrevocable worldwide license in the computer software to reproduce, prepare derivative works, and perform publicly and display publicly (but not to distribute to the public) by or on behalf of the Government. Furthermore, the limited government-use license in copyrighted

software will expand to a broad Government license (which allows the Government to distribute copies to the public) if either the subcontractor abandons efforts to commercialize the software or DOE exercises its march-in rights when, for example, the subcontractor has not taken effective steps to commercialize the software. Separately, the broad Government license will also apply to whatever New Frontiers software the subcontractors release under an Open Source Software (OSS) license.

Notwithstanding the above approval to assert copyright in computer software, a subcontractor delivering software under a New Frontiers subcontract shall comply with the requirements of the subcontract governing copyright and rights in data, including the standard policies and practices regarding submission to DOE's Office of Science and Technical Information (OSTI) via its DOE CODE platform. ORNL's treatment of delivered software shall be governed by the applicable terms of its prime contract. Therefore, ORNL should consult with ASCR (and with DOE Patent Counsel's concurrence) to determine which software developed under specific subcontracts should be (a) delivered to ORNL and/or (b) required by the subcontract to be distributed under an OSS license.

DOE believes that the above approach for allocating rights in New Frontiers computer software is warranted in order to stimulate the development of end products for future purchase. The proposed subcontract language for these data rights is also attached in Appendix A.

Foreign Subcontracts

The provisions of this Class Waiver do not automatically apply to any foreign-owned or foreign-controlled subcontractors at any tier. However, ORNL should consult with ASCR to determine whether DOE should grant a foreign subcontractor this waiver's disposition of rights or require the foreign subcontractor to submit a separate waiver petition to be approved by DOE's Assistant General Counsel for Technology Transfer and Intellectual Property.

Conclusion

This Class Waiver and the terms of the intellectual property clauses included within the subject subcontracts are meant to cover only the scope of the work under the New Frontiers procurements for ORNL and shall not serve as precedent for any follow-on work to be negotiated separately with the selected subcontractors. This Class Waiver shall apply to domestic second-tier subcontracts that a first-tier subcontractor issues but shall not apply to foreign-owned or foreign-controlled subcontractors except as provided above.

DOE Patent Counsel will qualify each subcontractor upon written certification by ORNL that this Class Waiver is applicable. Such certification will include verification of the minimum percentage cost share by the subcontractor, a determination that the subcontractor is a U.S. company, a review of the subcontractor's foreign ownership and control, and verification of the acceptance of the terms and conditions of the subcontract.

If any company does not qualify for this Class Waiver or is not satisfied with the terms and conditions of the subcontract necessary to qualify for this Waiver, then that company may separately petition DOE for its own Waiver.

For the foregoing reasons, and in view of the objectives and considerations set forth in 10 CFR Part 784, it is recommended that the requested waiver be granted for domestic first-tier and second-tier subcontracts issued under the New Frontiers procurements.

Emily G. Schneider
Deputy Chief Counsel for Intellectual Property
DOE Oak Ridge Office of Chief Counsel
GC-South

Based upon the foregoing Statement of Considerations, it is determined that the interests of the United States and the general public will best be served by a waiver of the United States and foreign patent rights, and, therefore, the waiver is granted. This waiver shall not affect any waiver previously granted.

CONCURRENCE:

APPROVAL:

Ceren Susut
Associate Director
Office of Advanced Scientific Computing
Research
Office of Science, DOE

Brian Lally
Assistant General Counsel for Technology
Transfer and Intellectual Property
DOE Office of General Counsel

Date: _____

Date: _____

APPENDIX A

NEW FRONTIERS CLASS WAIVER PROVISIONS

A Class Waiver for New Frontier Subcontracts is pending authorization by the Department of Energy. Upon receipt of that authorization, ORNL will amend the New Frontiers RFP to include the following provisions in the Sample Subcontract. See the RFP for additional information on the application of this Class Waiver to New Frontiers Subcontracts

DEAR 952.227-13 Patent Rights—Acquisition by the Government, will be deleted in its entirety and substituted with the following from 10 CFR 784.12 PATENT RIGHTS--WAIVER (JUL 1996).

Patent Rights - Waiver [10 C.F.R. 784.12]

(a) Definitions.

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

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

(I) Which the Contractor, but not the Government, has the right to license to others without obligation to pay royalties thereon, and

(ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is a subject of the research, development, or demonstration work performed under this contract.

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

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

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

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

"Secretary" means the Secretary of Energy.

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

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

"Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 532) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.312, respectively, will be used.

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

(b) Allocation of principal rights.

Whereas DOE has granted a waiver of rights to subject inventions to the Contractor, the Contractor may elect to retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor elects to retain title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

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

(1) The Contractor shall disclose each subject invention to the Patent Counsel within six months after conception or first actual reduction to practice, whichever occurs first in the course

of or under this contract, but in any event, prior to any sale, public use, or public disclosure of such invention known to the Contractor. The disclosure to the Patent Counsel shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and physical, chemical, biological, or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale, or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Patent Counsel, the Contractor shall promptly notify the Patent Counsel of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor.

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

(3) The Contractor shall file its initial patent application on an elected invention within 1 year after election, but not later than at least 60 days, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Contractor shall file patent applications in additional countries (including the European Patent Office and under the Patent Cooperation Treaty) within either 10 months of the corresponding initial patent application or 6 months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

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

(d) Conditions when the Government may obtain title.

The Contractor shall convey to DOE, upon written request, title to any subject invention --

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

- (2) If the Contractor fails to disclose or elect the subject invention within the times specified in paragraph (c) above (DOE may only request title within 60 days after learning of the Contractor's failure to report or elect within the specified times);
- (3) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) above; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) above, but prior to its receipt of the written request of DOE, the Contractor shall continue to retain title in that country;
- (4) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention; or
- (5) If the waiver authorizing the use of this clause is terminated as provided in paragraph (p) of this clause.

(e) Minimum rights to Contractor.

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

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

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

and 37 CFR 404 concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

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

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

(I) Establish or confirm the rights the Government has throughout the world in those subject inventions to which the Contractor elects to retain title; and

(ii) Convey title to DOE when requested under paragraph (d) above and subparagraph (n)(2) below, and to enable the Government to obtain patent protection throughout the world in that subject invention.

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

(3) The Contractor shall notify DOE of any decision not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response period required by the relevant patent office.

(4) The Contractor agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement:

"This invention was made with Government support under (identify the contract) awarded by DOE). The Government has certain rights in this invention."

(5) The Contractor shall establish and maintain active and effective procedures to assure that subject inventions are promptly identified and disclosed to Contractor personnel responsible for patent matters within 6 months of conception and/or first actual reduction

to practice, whichever occurs first in the course of or under this contract. These procedures shall include the maintenance of laboratory notebooks or equivalent records and other records as are reasonably necessary to document the conception and/or the first actual reduction to practice of subject inventions, and records that show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Contractor shall furnish the Contracting Officer a description of such procedures for evaluation and for determination as to their effectiveness.

- (6) The Contractor agrees, when licensing a subject invention, to arrange to avoid royalty charges on acquisitions involving Government funds, including funds derived through Military Assistance Program of the Government or otherwise derived through the Government, to refund any amounts received as royalty charges on the subject invention in acquisitions for, or on behalf of, the Government, and to provide for such refund in any instrument transferring rights in the invention to any party.
- (7) The Contractor shall furnish the Contracting Officer the following:
 - (i) Interim reports every 12 months (or such longer period as may be specified by the Contracting Officer) from the date of the contract, listing subject inventions during that period and stating that all subject inventions have been disclosed or that there are no such inventions.
 - (ii) A final report, within 3 months after completion of the contracted work, listing all subject inventions or stating that there were no such inventions, and listing all subcontracts at any tier containing a patent rights clause or stating that there were no such subcontracts.
- (8) The Contractor shall promptly notify the Contracting Officer in writing upon the award of any subcontract at any tier containing a patent rights clause by identifying the subcontractor, the applicable patent rights clause, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of the Contracting Officer, the Contractor shall furnish a copy of such subcontract, and no more frequently than annually, a listing of the subcontracts that have been awarded.
- (9) In the event of a refusal by a prospective subcontractor to accept one of the clauses in subparagraph (g)(1) or (2) below, the Contractor --
 - (i) Shall promptly submit a written notice to the Contracting Officer setting forth the subcontractor's reasons for such refusal and other pertinent information that may expedite disposition of the matter; and
 - (ii) Shall not proceed with such subcontracting without the written authorization of the Contracting Officer.
- (10) The Contractor shall provide, upon request, the filing date, serial number and title, a copy of the patent application (including an English-language version if filed in a language other than

English), and patent number and issue date for any subject invention for which the Contractor has retained title.

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

(g) Subcontracts.

(1) Unless otherwise directed by the Contracting Officer, the Contractor shall include the clause at 48 CFR 952.227-11, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental, or research work to be performed by a small business firm or nonprofit organization, except where the work of the subcontract is subject to an Exceptional Circumstances Determination by DOE. In all other subcontracts, regardless of tier, for experimental, developmental, demonstration, or research work, the Contractor shall include the patent rights clause at 48 CFR 952.227-13 (suitably modified to identify the parties).

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

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

(h) Reporting utilization of subject inventions.

The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as the agency may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceedings undertaken by the agency in accordance with paragraph (j) of this clause. To the extent data or information supplied under this paragraph is considered by the Contractor, its licensee or assignee to be privileged and confidential and is so marked, the agency agrees that, to the extent permitted by law, it shall not disclose such information to persons outside the Government.

(i) Preference for United States industry.

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

(j) March-in rights.

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

- (1) Such action is necessary because the Contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
- (2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Contractor, assignee, or their licensees;
- (3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Contractor, assignee, or licensees; or
- (4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Background Patents.

(Reserved)

(l) Communications.

All reports and notifications required by this clause shall be submitted to the Patent Counsel unless otherwise instructed.

(m) Other inventions.

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

(n) Examination of records relating to inventions.

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

- (i) Any such inventions are subject inventions;
- (ii) The Contractor has established and maintains the procedures required by subparagraphs (f)(2) and (f)(3) of this clause; and
- (iii) The Contractor and its inventors have complied with the procedures.

(2) If the Contracting Officer determines that an inventor has not disclosed a subject invention to the Contractor in accordance with the procedures required by subparagraph (f)(5) of this clause, the Contracting Officer may, within 60 days after the determination, request title in accordance with subparagraphs (d)(2) and (d)(3) of this clause. However, if the Contractor establishes that the failure to disclose did not result from the Contractor's fault or negligence, the Contracting Officer shall not request title.

(3) If the Contracting Officer learns of an unreported Contractor invention which the Contracting Officer believes may be a subject invention, the Contractor may be required to disclose the invention to the agency for a determination of ownership rights.

(4) Any examination of records under this paragraph shall be conducted in such a manner as to protect the confidentiality of the information involved.

(o) Withholding of payment (this paragraph does not apply to subcontracts or grants).

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

- (i) Establish, maintain, and follow effective procedures for identifying and disclosing subject inventions pursuant to subparagraph (f)(5) above;

- (ii) Disclose any subject invention pursuant to subparagraph (c)(1) above;
- (iii) Deliver acceptable interim reports pursuant to subdivision (f)(7)(i) above;
- (iv) Provide the information regarding subcontracts pursuant to subparagraph (f)(8) of this clause; or
- (v) Convey to the Government, using a DOE-approved form, the title and/or rights of the Government in each subject invention as required by this clause.

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

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

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

(p) Waiver Terminations.

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

(q) Atomic Energy.

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

(r) Publication.

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

(s) Forfeiture of rights in unreported subject inventions.

(1) The Contractor shall forfeit and assign to the Government, at the request of the Secretary of Energy or designee, all rights in any subject invention which the Contractor fails to report to Patent Counsel within six months after the time the Contractor:

- (i) Files or causes to be filed a United States or foreign patent application thereon; or
- (ii) Submits the final report required by paragraph (e)(2)(ii) of this clause, whichever is later.

(2) However, the Contractor shall not forfeit rights in a subject invention if, within the time specified in paragraph (m)(1) of this clause, the Contractor:

- (i) Prepares a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the contract and delivers the decision to Patent Counsel, with a copy to the Contracting Officer; or
- (ii) Contending that the subject invention is not a subject invention, the Contractor nevertheless discloses the subject invention and all facts pertinent to this contention to the Patent Counsel, with a copy to the Contracting Officer, or
- (iii) Establishes that the failure to disclose did not result from the Contractor's fault or negligence.

(3) Pending written assignment of the patent application and patents on a subject invention determined by the Contracting Officer to be forfeited (such determination to be a Final Decision under the Disputes clause of this contract), the contractor shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph shall be in addition to and shall not supersede any other rights and remedies which the Government may have with respect to subject inventions.

(t) U.S. Competitiveness

The Contractor agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless the Contractor can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, e.g., recoupment of the Government's investment, etc. The Contractor further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license or other transfer of rights in any waived invention is suspended until approved in writing by DOE.

Data Clause Modifications:

Paragraphs (c) and (d) of FAR 52.227-14 Rights in Data-General (May 2014) (modified) will be deleted in their entirety and replaced with the following.

(c) Copyright.

(1) Data first produced in the performance of this contract.

- (i) Except as otherwise specifically provided in this contract, the Contractor may assert copyright in any data first produced in the performance of this contract. When asserting copyright, the Contractor shall affix the applicable copyright notice of 17 U.S.C. 401 or 402, and an acknowledgment of Government sponsorship (including contract number), to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For data other than computer software, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license for all such data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. For computer software, the Contractor grants to the Government and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license for all such computer software to reproduce, prepare derivative works, and perform publicly and display publicly (but not to distribute copies to the public), by or on behalf of the Government.
- (ii) When authorized to assert copyright to the data, the Contractor shall affix the applicable copyright notices of [17 U.S.C. 401 or 402](#), and an acknowledgment of Government sponsorship (including contract number).
- (iii) The Contractor may establish, without prior approval of the Contracting Officer, claim to copyright subsisting in computer software first produced in the performance of this contract. For computer software, the Contractor grants to the Government and others acting in its behalf during the period of Contractor's commercialization of the software, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly by or on behalf of the Government. The Contractor will provide an Announcement Notice, AN 241.4 Software Announcement Notice, along with providing the source code, the executable object code and the minimum support documentation

needed by a competent user to understand and use the computer software to DOE CODE at DOE's Office of Science and Technical Information via <https://www.osti.gov/doecode/>.

- (iv) If the Contractor abandons commercialization of computer software, or, the contractor has not taken effective steps to commercialize the software, or where it is necessary to alleviate health, safety or energy needs that are not reasonably satisfied by the Contractor, or to meet requirements for public use specified by Federal Regulations and these requirements are not reasonably satisfied by the Contractor, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted computer software to reproduce, distribute copies to the public, prepare derivative works, perform publicly and display publicly, and to permit others to do so.
- (2) Data not first produced in the performance of this contract. The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract unless the Contractor—
- (i) identifies such data; and
 - (ii) grants to the Government, or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause, or if such data are restricted computer software, the Government shall acquire a copyright license as set forth in paragraph (g)(4) of this clause (if included in this contract) or as otherwise provided in a collateral agreement incorporated in or made part of this contract.
- (3) Removal of copyright notices. The Government will not remove any authorized copyright notices placed on data pursuant to this paragraph (c), and will include such notices on all reproductions of the data.