

STATEMENT OF CONSIDERATIONS

CLASS WAIVER OF THE GOVERNMENT'S PATENT RIGHTS IN CERTAIN INVENTIONS MADE IN THE COURSE OF OR UNDER ARPA-E AWARDS RELEASED DURING OR AFTER FISCAL YEAR 2017 W(C) 2016-007

This is a class patent waiver of the Government's rights to title in any invention that a domestic large business¹ makes or conceives in the course of or under an Advanced Research Projects Agency-Energy (ARPA-E) funding agreement. The waiver is limited to (1) funding agreements selected through Funding Opportunity Announcements (FOAs) released by ARPA-E during or after fiscal year 2017, and (2) funding agreements awarded on a non-competitive basis during or after fiscal year 2017. The waiver is granted in extendable one (1) year terms beginning the first day of fiscal year 2017 and will be automatically extended at the beginning of each subsequent fiscal year unless cancelled or superseded by the Assistant General Counsel for Technology Transfer and Intellectual Property. To ensure appropriate program cognizance, each year, approximately 60 days prior to the beginning of the next fiscal year, a memo similar to the one in Attachment B, will be sent to ARPA-E providing notice that the class waiver will renew on October 1, unless objected to by the Director of ARPA-E.

The waiver is subject to a Government license, march-in rights, and preference for U.S. industry provisions set out in 35 U.S.C. 202-204. The waiver is further subject to a U.S. competitiveness provision that requires products embodying any waived invention or produced through the use of any waived invention be manufactured substantially in the United States or a U.S. manufacturing plan that provides measurable commitments by the domestic large business to support U.S. manufacturing of the technologies related to the ARPA-E funding agreement when approved by the ARPA-E funding Program Director, and ARPA-E's Chief Counsel in consultation with the cognizant DOE Patent Counsel. The ARPA-E funding Program Director, and ARPA-E's Chief Counsel in consultation with the cognizant DOE Patent Counsel, may choose whether to apply this class patent waiver to a particular Funding Opportunity Announcement. Application of this class patent waiver is contingent on a 20% cost share, as set forth below.

DOE takes title to inventions conceived or made by a domestic large business, unless DOE waives its right to title. A patent waiver is warranted when it is determined that the interests of the United States and the general public will best be served with the patent waiver. When making such a determination, DOE should have the following objectives: (1) make the benefits of the energy research, development and demonstration program funded by ARPA-E widely available to the public in the shortest time; (2) promote the commercialization of the ARPA-E-funded inventions; (3) encourage participation in the programs funded by ARPA-E; and (4) encourage competition.

DOE may grant an advance patent waiver for a particular contractor² or a class patent waiver for a class of contractors. A class patent waiver is appropriate when all members of a particular class would likely qualify for an advance patent waiver. As demonstrated below, domestic large businesses performing

¹ A "domestic large business," as used in this class patent waiver, is any for-profit entity that does not qualify as a "small business" under Bayh-Dole and is incorporated or otherwise formed under the laws of a particular State or territory of the United States. For contractors that do not meet the definition of domestic large business, but where the considerations discussed in this class waiver otherwise apply, the Assistant General Counsel for Technology Transfer and Intellectual Property may grant rights under this waiver with the concurrence of ARPA-E.

² The term "contractor" includes all participants under ARPA-E financial assistance agreements, including grants and cooperative agreements.

work under an ARPA-E funding agreement constitute a class of contractors in which all of the members would likely qualify for an advance patent waiver.

ARPA-E's work is consistent with DOE's policy objectives. The America COMPETES Act of 2007 authorized the establishment of ARPA-E within DOE. ARPA-E's mission is to: (1) enhance the economic and energy security of the United States through development of energy technologies that decrease our nation's dependence on foreign energy sources, reduce greenhouse gas emissions, and improve energy efficiency of all economic sectors; and (2) ensure that the United States maintains a technological lead in developing and deploying advanced energy technologies (42 U.S.C. § 16538(c)(1)). Since its formal establishment in 2009, ARPA-E has dedicated itself to advancing high-potential, high-impact energy technologies that are too risky for private-sector investment and that are not supported by other government programs. ARPA-E invests in research projects that can have transformational impacts -i.e., the potential to radically improve U.S. economic prosperity, national security, and environmental well-being. ARPA-E empowers America's energy researchers with funding, technical assistance, and market readiness.

To date, ARPA-E has invested approximately \$1.3 billion across more than 475 projects through 30 focused programs and three open funding solicitations. 45 projects have secured more than \$1.25 billion in private sector follow-on funding, 36 projects have formed new companies, 60 projects have partnered with other government agencies for further development and an ever increasing number of technologies have already been incorporated into products that are being sold in the market.

The DOE patent waiver regulations provide a list of considerations that must be used when determining whether an advance patent waiver will best serve the interests of the United States and the general public. The following is a list of those considerations along with an analysis on how each consideration applies to a domestic large business performing work under an ARPA-E funding agreement:

- (a) The extent to which the participation of the contractor (referred to as "recipient" in ARPA-E awards) will expedite the attainment of the purposes of the program.

Each ARPA-E program issues FOAs for research and development efforts in areas that the program has determined will lower the cost associated with its respective technology so that the technology will be more broadly adopted and used across the U.S.

ARPA-E selects the recipients (i.e., contractors) through a competitive process based on the merit criteria set forth in the FOA. Specifically, ARPA-E selects each recipient based on the determination that the recipient is most likely to achieve the purpose of the FOA compared to the other organizations that have applied for funding. In unique circumstances, ARPA-E may also determine that a domestic large business competitively selected under a FOA merits additional support on a non-competitive basis. In both competitive and non-competitive circumstances, the participation of a particular domestic large business is determined by ARPA-E to be the best means of attaining the program's purposes.

- (b) The extent to which a waiver of all or any part of such rights in any or all fields of technology is needed to secure the participation of the particular contractor.

Waiving patent rights encourages participation in ARPA-E funded research, development and demonstration projects. With patent rights, an organization is more likely to invest (e.g., cost share) in research, development and demonstration projects that may lead to valuable inventions.

Congress recognized the value of patent rights with the passage of the Bayh-Dole Act, 35 U.S.C. §§ 200-212 ("Bayh-Dole"). One of the objectives of Bayh-Dole was to encourage participation in federally funded research, development and demonstration projects. Congress understood that more organizations would participate in federally funded research, development and demonstration projects when the organizations can own the rights to the inventions conceived or first actually reduced to practice in performance of the work under a funding agreement (referred to as "subject inventions"). Therefore, Bayh-Dole requires that funding agencies generally allow domestic small businesses and non-profit organizations the right to retain title to their subject inventions. Bayh-Dole was extended to all types of contractors, including domestic large businesses, under Executive Order 12591, to the extent permitted by law. However, Section 9 of the Federal Non-nuclear Research and Development Act of 1974 (42 U.S.C. § 5908) provides that title to subject inventions vests with DOE unless title is waived. Because of this provision, the Executive Order does not extend Bayh-Dole to domestic large businesses under ARPA-E funding agreements and the right for large businesses to retain title to subject inventions must be granted through the patent waiver process. Nevertheless, the same policy reasoning behind Bayh-Dole and the Executive Order applies here to domestic large businesses (*i.e.*, allowing large businesses to take title to their subject inventions will encourage their participation) under ARPA-E funding agreements. Therefore, granting a patent waiver encourages the participation of domestic large businesses.

- (c) The extent to which the work to be performed under the contract is useful in the production or utilization of special nuclear material or atomic energy.

ARPA-E programs are primarily focused on clean energy technologies but might include funding agreements in the future related to technology that would be useful in the production or utilization of special nuclear material or atomic energy.

- (d) The extent to which the contractor's commercial position may expedite utilization of the research, development, and demonstration results.

The utilization of the research, development, and demonstration results is more likely expedited with a domestic large business having patent rights instead of the Government retaining the patent rights. With the patent rights, the domestic large business is more likely to be able and willing to make the necessary investment to commercialize the results.

In order to progress the technology beyond research, development and demonstration to commercialization, a business must make a significant investment in time, equipment and other resources. The investment is not guaranteed due to the risk associated with being the first one to introduce a new technology to the marketplace. A business is less likely to make the investment and accept the risks, if it does not have the patent protection to prevent its competitors from copying the technology if and once the business establishes a market for the new technology.

Congress recognized that federally funded technology was more likely to be utilized and commercialized when the organizations that made the inventions had the patent rights to the inventions with the passage of Bayh-Dole. Congress passed Bayh-Dole, in part, to promote the utilization of federally funded inventions by domestic small businesses and non-profit organizations. Executive Order 12591 implicitly recognized that the same policy considerations

behind Bayh-Dole also apply to large business contractors. This same reasoning also applies to domestic large businesses under ARPA-E funding agreements.

- (e) The extent to which the Government has contributed to the field of technology to be funded under the contract.

The Government has made significant and strategic contributions to support the development and deployment of advanced energy technologies. Although the Government's contributions have been important, private industry contributions have been significant, as well. In addition to cost share provided under a particular funding agreement, it is typical that the work of the funding agreement relies significantly on past investments made by a domestic large business and will rely on future investments from the domestic large business in order to commercialize the technology.

- (f) The purpose and nature of the contract, including the intended use of the results developed thereunder.

ARPA-E funding agreements selected through an ARPA-E FOA are financial assistance instruments. The principal purpose of financial assistance is to transfer a thing of value to a recipient to carry out a public purpose of support or stimulation authorized by law rather than acquiring property or services for the direct benefit or use of the U.S. government. The purpose of the ARPA-E funding agreements is to increase performance or lower the cost associated with clean energy technologies so that the technologies are more broadly adopted and used across the U.S. Granting a waiver encourages participation and supports commercialization of the technologies. Therefore, granting a waiver is consistent with the purpose of the ARPA-E funding agreements.

- (g) The extent to which the contractor has made or will make substantial investment of financial resources or technology developed at the contractor's private expense which will directly benefit the work to be performed under the contract.

Under ARPA-E funding agreements, domestic large businesses are usually required to meet certain cost share requirements. Specifically, under Section 988 of the Energy Policy Act of 2005, a large business is usually required to provide at least a 20% cost share for research and development activities and at least a 50% cost share for demonstration activities.

In addition to cost share, a domestic large business will typically have made a past investment and intend to make a future investment beyond the funding agreement related to the technology subject to an ARPA-E funding agreement. The past and anticipated future investment varies from domestic large business to domestic large business. However, based on past patent waiver requests, it is typical that the work to be done under a funding agreement by a large business is built upon and benefits from a past investment by the large business (*e.g.*, use of equipment and facilities and background intellectual property). It is also typical that a large business has the intent and capability of making future investments in promising technologies resulting from work under the funding agreement. In any event, patent waivers are subject to march-in rights that would require licensing the technologies to others if the large business fails to make reasonable efforts to utilize the technologies.

- (h) The extent to which the field of technology to be funded under the contract has been developed at the contractor's private expense.

The extent to which a large business has developed a particular technology at private expense will vary. It is typical, however, for a large business to rely on its past investments to perform the work under an award.

- (i) The extent to which the Government intends to further develop to the point of commercial utilization the results of the contract effort.

A particular large business may receive additional federal funding related to the technology subject to an ARPA-E funding agreement. However, it would be unusual for the Government to conduct any development work on clean energy technologies by itself related to an ARPA-E funding agreement. Any additional federal funding to a large business is likely to be made through a competitive process, in support of other ARPA-E program objectives, and subject to the required terms and conditions for receiving federal funding (*e.g.*, 50% cost share for demonstration activities).

- (j) The extent to which the contract objectives are concerned with the public health, public safety, or public welfare.

The purpose of the ARPA-E funding agreements is to increase performance or lower the cost associated with clean energy technologies so that the technologies are broadly adopted and used across the U.S. The adoption of clean energy technologies would indirectly benefit the public health, safety and welfare through the use of more environmentally friendly sources of energy. Granting a waiver should expedite the adoption of clean energy technologies. Therefore, granting a waiver is in the interest of public health, safety and welfare.

- (k) The likely effect of the waiver on competition and market concentration.

Energy is a globally competitive market. In order to be commercially viable, clean energy must compete with more conventional sources of energy. Within clean energy, the different types of technologies (*e.g.*, wind, water, solar, biomass, and geothermal) compete among themselves. Moreover, even within a particular type of technology, there are typically several different approaches and systems competing among themselves (*e.g.*, silicon based solar cells versus non-silicon based solar cells).

Typically, a patent waiver encourages a large business to make the necessary investments needed to bring its particular technology solution to the market. A patent waiver should not have an impact of the other technology solutions in the market. By encouraging the large business to bring another technology solution to the market and not impacting the other solutions already in the market, a patent waiver supports competition in energy.

- (l) In the case of a domestic nonprofit educational institution under an agreement not governed by Chapter 18 of Title 35, United States Code, the extent to which such institution has a technology transfer capability and program approved by the Secretary or designee as being consistent with the applicable policies of this section.

This consideration is not applicable to a domestic large business.

- (m) The small business status of the contractor under an agreement not governed by Chapter 18 of Title 35, United States Code.

This consideration is not applicable to a domestic large business.

- (n) Such other considerations, such as benefit to the U.S. economy, that the Secretary or designee may deem appropriate.

Most patent waivers include a U.S. competitiveness provision that requires products embodying any waived invention or produced through the use of any waived invention be manufactured substantially in the United States. In the past, DOE has agreed to other commitments to the U.S. economy in lieu of the U.S. competitiveness provision. This class waiver will be subject to the standard U.S. competitiveness provision or a U.S. manufacturing plan that provides for measurable commitments to U.S. manufacturing.

As shown above, a domestic large business performing work in an ARPA-E funding agreement is likely to qualify for an advance patent waiver because, based on the requisite considerations of the DOE patent waiver regulations, it best serves the interests of the U.S. and the general public. This analysis is consistent with Bayh-Dole.

Historically, DOE has agreed to the proposition that domestic large businesses qualify for advance patent waivers under ARPA-E funding agreements because the objectives and considerations set forth in the DOE patent waiver regulations are usually met by domestic large business. DOE has granted advance patent waivers for 58 domestic large businesses under ARPA-E funding agreements in 2010, 2011 and 2012. It did not reject any request for a patent waiver during that time. DOE also has used class patent waivers for ARPA-E FOAs during the American Recovery Act and for all ARPA-E awards under several FOAs. Moreover, DOE granted similar class patent waivers for ARPA-E FOAs released in FY2013 through FY2016. DOE's past practice is consistent with the above analysis that domestic large businesses working under a funding agreement made under an ARPA-E FOA released during or after FY2017 would likely qualify for an advance patent waiver.

This class patent waiver shall be subject to the terms and conditions that follow this statement of considerations. The terms and conditions include the usual Government license, march-in rights, and preference for U.S. industry provisions set out in 35 U.S.C. 202-204. The class waiver also includes the following U.S. Competitiveness clause:

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 the DOE that it is not commercially feasible to do so. In the event the 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 agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Contractor or other such entity receiving rights in the invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in the waived invention is suspended until approved in writing by the DOE.

The terms and conditions are the standard terms and conditions used in DOE advance patent waivers except that the contractor does not retain any rights to an invention in the event that the above U.S. Competitiveness clause or the utilization reporting requirement is breached.

ARPA-E may require applicants to its FOAs to submit U.S. manufacturing plans as part of their proposals. A U.S. manufacturing plan represents an applicant's measurable commitment to support U.S. manufacturing of the technologies related to its potential ARPA-E funding agreement. The nature and specificity of the applicants' U.S. manufacturing plans will vary based on the FOA and the program issuing the FOA. The weight given to the U.S. manufacturing plans during the review and selection process will also vary based on the particular FOA and may be part of the evaluation or merit criteria. The DOE Patent Counsel supporting the FOA, in consultation with the responsible program/office official for the FOA, may agree to use the U.S. manufacturing plan in lieu of the U.S. competitiveness provision for a particular domestic large business when the funding program/office official, in consultation with ARPA-E's Chief Counsel and cognizant DOE Patent Counsel, determines that the U.S. manufacturing plan provides adequate and enforceable support to the U.S. manufacturing of the technology related to the ARPA-E funding agreement.

This class patent waiver is available to any domestic large business that (1) is a recipient, or subrecipient at any tier, to a funding agreement issued under an ARPA-E FOA released during or after FY2017 or a subcontractor to a DOE national laboratory for work on a project selected under an ARPA-E FOA released during or after FY2017 and (2) is providing at least the statutory minimum cost share for the work assigned to it under the funding agreement or project (*i.e.*, at least 20% for research and development activities and at least 50% for demonstration activities, even when a domestic large business would have otherwise qualified for a cost share waiver).

Considering the foregoing, and in view of the statutory objectives to be obtained and the factors to be considered under DOE's statutory waiver policy, all of which have been considered, it has been determined that this class waiver as set forth above meets the statutory requirements, e.g. will best serve the interest of the United States and the general public. It is recommended that the waiver be granted.

Paul Gottlieb
Sr. Advisor for Intellectual Property
ARPA-E

Date: _____

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 as set forth herein, and, therefore, the waiver is granted. This waiver shall not affect any waiver previously granted.

CONCURRENCE:

Ellen Williams
Director
Advanced Research Projects Agency-Energy

Date: _____

APPROVAL:

Brian Lally
Acting Assistant General Counsel for
Technology Transfer and
Intellectual Property, GC-62

Date: _____

Attachment A – Terms and Conditions of ARPA-E Class Patent Waiver

FAR 52.227-12 Patent Rights - Waiver (JUL 1996), as modified by 10 C.F.R. 784, DOE Patent Waiver Regulations

PATENT RIGHTS - WAIVER (JUL 1996)

(a) Definitions.

As used in this clause:

Background patent means a domestic patent covering an invention or discovery which is not a Subject Invention and which is owned or controlled by the 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.

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

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

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

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

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

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

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

Secretary means the Secretary of Energy.

Small business firm means a small business concern as defined at Section 2 of the Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For

the purpose of this clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, 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. 202 and 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 inventors and the contract under which the invention was made. It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and physical, chemical, biological, or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale, or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Patent Counsel, the 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 the Patent Counsel 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 United States 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 foreign filing has been prohibited by a Secrecy Order.

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

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

The Contractor shall assign and hereby assigns to DOE, upon written request from DOE, 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) of this clause (provided that 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) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of DOE, the 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;

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

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

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

(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) of this clause or breaches paragraph (h) or (t). 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 agency licensing regulations and 37 CFR part 404 concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

(f) 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 paragraphs (d) and (n)(2) of this clause, 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) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The 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 Patent Counsel 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 Patent Counsel the following:

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

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

(8) The Contractor shall promptly notify the Patent Counsel 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 Patent Counsel, 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) 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.

(10) 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.

(4) 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 Contracting Officer shall furnish a copy of such subcontract, and, no more frequently than annually, a listing of the subcontracts that have been awarded.

(h) Reporting on utilization of subject inventions.

(1) The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of each waived subject invention or on efforts at obtaining such utilization that are being made by the Contractor and any of its licensees or assignees including compliance with paragraph (t) of this clause. Each report shall include information regarding the status of development, date of first commercial sale or use, products that embody or are made through the use of the waived such invention, manufacturing locations of such products and such other data and information as DOE may reasonably specify. The report shall further include a certification from the Contractor that the Contractor, including its licensees, is in compliance with the requirements of this clause.

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

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

(i) Preference for United States industry.

Notwithstanding any other provision of this clause, the 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 48 CFR 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 paragraphs (f)(2) and (f)(5) of this clause; and

(iii) The Contractor and its inventor 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 paragraph (f)(5) of this clause, the Contracting Officer may, within 60 days after the determination, request title in accordance with paragraphs (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 DOE 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.

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

(1) Any time before final payment under this contract, the Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the

amount of the contract, whichever is less, shall have been set aside if, in the Contracting Officer's opinion, the Contractor fails to--

- (i) Establish, maintain, and follow effective procedures for identifying and disclosing subject inventions pursuant to paragraph (f)(5) of this clause;
- (ii) Disclose any subject invention pursuant to paragraph (c)(1) of this clause;
- (iii) Deliver acceptable interim reports pursuant to paragraph (f)(7)(l) of this clause;
- (iv) Provide the information regarding subcontracts pursuant to paragraph (f)(6) of this clause; or
- (v) Convey to the Government, using a DOE-approved form, the title and/or rights of the Government in each subject invention as required by this clause.

(2) Such reserve or balance shall be withheld until the Contracting Officer has determined that the 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. If the maximum amount authorized above is already being withheld under other provisions of the contract, no additional amount shall be withheld under this paragraph. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(p) Waiver Terminations.

Any waiver granted to the 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 or the cost share requirement as set forth in the applicable statement of considerations is not met. 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 (f)(7)(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 (n)(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.

(End of clause)