STATEMENT OF CONSIDERATIONS

CLASS WAIVER OF PATENT RIGHTS TO INVENTIONS MADE UNDER SCIENCE, INNOVATION, AND INFRASTRUCTURE FINANCIAL ASSISTANCE AGREEMENTS
W(C) 2022-03

This is a class patent waiver of the Government's rights to title in inventions conceived or made by domestic large businesses in the course of or under Department of Energy (DOE) science, innovation and infrastructure financial assistance agreements.[1,2,3] This class patent waiver authorizes the cognizant DOE patent counsel, in consultation with the funding office or program, to use the attached patent rights clause for domestic large businesses in any science, innovation and infrastructure financial assistance agreement. The patent rights clause allows the domestic large businesses to elect to retain title to inventions made by them under the agreements, subject to various terms and conditions and reserved government rights. As explained in detail below, the class patent waiver is appropriate based on DOE patent waiver regulations, will help implement DOE's policy on U.S. manufacturing and reduce the administrative burden of both DOE and recipients.

Primary Considerations for the Class Patent Waiver

DOE takes title to inventions conceived or made by a domestic large business under DOE financial assistance agreements, 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 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 DOE funding widely available to the public in the shortest time; (2) promote the commercialization of the DOE-funded inventions; (3) encourage participation in the projects funded by DOE; and (4) encourage competition.

DOE may grant an advance patent waiver for a particular contractor 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. According to the DOE patent waiver regulations, to determine whether a contractor qualifies for an advance patent waiver, DOE must consider several factors. The following is a list of those factors along with an analysis on how those factors apply to domestic large businesses under a science, innovation, and infrastructure financial assistance agreement.

(a) The extent to which the participation of the contractor (referred to as "recipient" in a financial assistance agreement) will expedite the attainment of the purposes of the program.

[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 *and complies with the eligibility requirements of the applicable FOA including eligibility requirements that may make certain entities subject to foreign ownership, interest, or control ineligible.*
[2] A science, innovation and infrastructure financial assistance agreement is any financial assistance agreement, such as a cooperative agreement or a grant, including any sub agreements at any tier, selected through a funding opportunity announcement (FOA) released by any office or program under the Office of the Under Secretary for Infrastructure (S3) and the Office of the Under Secretary for Science and Innovation (S4).
[3] With the written concurrence of DOE's Assistant General Counsel for Technology Transfer and Intellectual Property, this waiver may also be applied to Requests for Proposal (RFP) and contracts selected through RFPs released by any S3 or S4 program.

The offices in the Under Secretary of Energy for Science and Innovation (S4) are primarily focused on research and development of energy technologies and the offices of the Under Secretary for Infrastructure (S3) are primarily focused on deploying clean energy technologies. In order achieve these purposes, the offices issue FOAs to solicit projects from potential recipients, including domestic large businesses.

Through the FOAs, each office selects the recipients through a competitive process based on merit criteria. The selections are made based on the offices determination that the recipients are the best suited to attain the purposes of the program that the FOA is supporting. Therefore, the participation of each domestic large business was determined by the funding office 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.

This class patent waiver will encourage participation in DOE funded research, development, and demonstration projects. A domestic large business is more likely to participate in research, development, and demonstration project when that organization can retain ownership of its inventions and pursue patent protections for those 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 and development projects. Congress understood that more organizations would participate in federally funded 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 allow domestic small businesses and non-profit organizations the right to retain title to their subject inventions subject to various terms and conditions and reserved government rights. 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) and Section 2 of the Atomic Energy Act (42 U.S.C. § 2182) 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 DOE funding agreements and the right for large businesses to retain title to subject inventions must be granted through the patent waiver process. But 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 science, innovation, and infrastructure financial assistance 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.

Except for the Office of Nuclear Energy (NE), it is unlikely that work funded by an office or program under the Office of the Under Secretary for Infrastructure (S3) or the Office of the Under Secretary for Science and Innovation (S4) would be useful in the production or utilization of special nuclear material or atomic energy.

If an FOA or a financial assistance agreement or other applicable agreement is directed to work that is likely to be useful in the production or utilization of special nuclear material or atomic energy, the cognizant DOE patent counsel in consultation with the funding office or program may deny this class patent waiver for that the FOA or financial assistance agreement.

Regarding work funded by NE, such funding agreements often cover work which is useful in the production or utilization of special nuclear material or atomic energy. Yet, nevertheless, a class patent waiver has already been granted for NE funding agreements to increase the effective deployment and utilization of nuclear material or atomic energy. Therefore, by including NE funding agreements in this class waiver, the objectives of the existing NE class patent waiver will be continued, and the terms of the NE funding agreements standardized under this waiver. However, as noted below, this class patent waiver does not apply to DOE's weapons programs, or inventions related to subject matter that is classified or sensitive, or to international agreements or treaties.

(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.

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 science, innovation, and infrastructure financial assistance 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 the energy technologies covered by science, innovation, and infrastructure financial assistance agreements. Although the Government's contributions have been important, the contributions by private industry have been significant as well. In addition to cost share provided under a particular financial

assistance agreement, it is typical that the work of the financial assistance agreement relies significantly on past investments made by a domestic large business and will rely on future investments from the domestic large business to commercialize the technology.

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

As the name indicates, science, innovation and infrastructure financial assistance agreements are financial assistance instruments. Financial assistance is used 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 public purpose of the science, innovation and infrastructure financial assistance agreements is developing, deploying, and commercializing energy technologies. Granting a waiver encourages participation in the financial assistance projects and supports the public purpose of the 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.

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 financial assistance agreements related to the technology subject to a science, innovation, and infrastructure financial assistance 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 financial assistance 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 financial assistance agreement. In any event, patent waivers are subject to march-in rights that will 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 domestic large business has developed a particular technology at private expense will vary. It is typical, however, for a domestic large business to rely on its past investments to perform the work under a science, innovation, and infrastructure financial assistance agreement.

(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 a science, innovation, and infrastructure financial assistance agreement. However, it would be unusual for the Government to conduct any additional development work on the technologies by itself related to a science, innovation, and infrastructure financial assistance agreement. Any additional federal funding to a large business is likely to be made through a competitive process, in support of other DOE 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.

While the objectives of the science, innovation and infrastructure financial assistance agreements vary, they are often directed at lowering energy cost, providing clean sources of energy, and supporting the U.S. economy. All these objectives, at least indirectly, relate to public health, public safety and public welfare and would benefit from a patent waiver to domestic large businesses.

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

Energy is a globally competitive market. To be commercially viable, all energy sources must compete with other clean energy sources and even more conventional energy sources. Even 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 domestic large business to make the necessary investments needed to bring its technology solution to the market. A patent waiver should not have an impact on the other technology solutions in the market. By encouraging domestic large business to bring another technology solution to the market while 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.

In exchange for an advance patent waiver, a domestic large business usually must agree 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 other commitments beneficial to the U.S. economy in lieu of the U.S. competitiveness provision. As explained in more detail below, this class patent waiver will have a similar requirement.

As shown above, based on the requisite considerations of the DOE patent waiver regulations, domestic large businesses performing work under science, innovation and infrastructure financial assistance agreements is a class of contractors that would likely qualify for advance patent waivers and, thus, a class patent waiver is appropriate. DOE's past practice of granting several advance patent waivers and class patent waivers for domestic large businesses is further evidence that domestic large businesses would qualify for advance patent waivers in the future.

U.S. Manufacturing Policy Considerations

DOE has a long practice of requiring patent waivers to be subject to a U.S. competitiveness provision that requires products (world-wide) embodying any waived invention or produced using any waived invention be manufactured substantially in the United States unless the recipient demonstrates to the satisfaction of DOE that it is not feasible to do so.[4] Even when DOE agreed to waive or modify the U.S. competitiveness provision for a particular patent waiver or recipient, it still required commitments that were beneficial to the United States economy

This class patent waiver will be subject to the U.S. competitiveness provision in paragraph (t) of the attached terms and conditions, including any amendments thereto approved by the Assistant General Counsel for Technology Transfer and Intellectual Property (GC-62). A recipient or other entity subject to the U.S. competitiveness provision may request a waiver or modification to the U.S. competitiveness provision as set forth in paragraph (u) of the attached terms and conditions. In addition to paragraph (u), for NE science, innovation and infrastructure financial assistance agreements, program concurrence of the Assistant Secretary for Nuclear Energy, the Acting Assistant Secretary, or the cognizant Principal Deputy Assistant Secretary or their designee is required.

Secondary Considerations for the Class Patent Waiver

The above captures the primary considerations for this class patent waiver such as encouraging participation in DOE programs, supporting program objectives and commercialization of DOE funded technology and implementing DOE's U.S. manufacturing policy. The class patent waiver will also provide administrative and project management benefits. In the last ten years, DOE has granted class patent waivers for domestic large businesses for several DOE offices including the Office of Energy Efficiency and

[4] This practice has recently been extended to small businesses, universities and other non-profits subject to the Bayh-Dole Act through the Determination of Exceptional Circumstances under the Bayh-Dole Act to Further Promote Domestic Manufacture of DOE Science and Energy Technologies ("Science and Energy DEC" or "S&E DEC") issued on June 7, 2021.

Renewable Energy (EERE), Advanced Research Projects Agency-Energy (ARPA-E), Office of Nuclear Energy (NE), Office of Fossil Energy and Carbon Management (FECM) and Office of Science (SC). These class patent waivers have proven to reduce the administrative burden of DOE and the recipients compared to negotiating patent waivers on a contractor-by-contractor basis. They have also reduced or eliminated delays in work being performed under agreements due to patent waiver negotiations.

Terms and Conditions of the Class Patent Waiver

This class patent waiver shall be subject to the terms and conditions at Appendix A. 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 terms and conditions may be periodically updated by the Assistant General Counsel for Technology Transfer and Intellectual Property. As noted above, the class patent waiver will also be subject to a U.S. competitiveness provision requiring products to be manufactured substantially in the U.S.

Applicability of the Class Patent Waiver and Impact on Existing Waivers

Unless otherwise specified in the applicable FOA, this class patent waiver is available to any domestic large business that (1) is a recipient, or subrecipient at any tier, to a science, innovation and infrastructure financial assistance agreement issued under a FOA released during or after FY2023 or a subcontractor to a DOE national laboratory for work on a project selected under a FOA released during or after FY2023 by any office or program under the Office of the Under Secretary for Infrastructure (S3) and the Office of the Under Secretary for Science and Innovation (S4); (2) is providing cost share from non-federal sources of at least 20% for research and development activities and at least 50% for demonstration activities or the cost share requirement approved by DOE for the science, innovation and infrastructure financial assistance; and (3) accepts the terms and conditions of this class patent waiver.[5,6]

If a subrecipient wants to avail itself of this class patent waiver, the subrecipient or the prime recipient on behalf of the subrecipient must inform DOE and DOE will provide instructions in the science, innovation and infrastructure financial assistance agreement to flow down the class patent waiver to the subrecipient. Alternatively, DOE may agree to the application of the class patent waiver to the subrecipient in a separate written communication to the prime recipient or directly to the subrecipient.

If a FOA or a financial assistance agreement is directed to work that is likely to be useful in the production or utilization of special nuclear material or atomic energy, the cognizant DOE patent counsel in consultation with the funding office or program may deny this class patent waiver for that FOA or financial assistance agreement.

This Class Patent Waiver supersedes previous class patent waivers made for EERE, FCEM and SC awards and agreements to domestic large businesses (*i.e.*, W(C) 2016-004, W(C) 2021-001, and W(C) 2022-001). Except for these three waivers, this class patent waiver has no impact on the applicability or continuation of other existing patent waivers.

[5] The cognizant DOE patent counsel may apply this class patent waiver for any FOA released as early as FY2022 for any S3 or S4 Office that does not have another Class Patent Waiver that it can rely on for FY2022.

[6] DOE may deny application of this class patent waiver to an otherwise eligible entity that is under foreign ownership, control, or influence, for example, as described in DOE O 470.4B, as determined solely by DOE.

This class patent waiver shall not apply to the following categories of subject inventions:

- DOE's weapons programs which inventions principally relate to weapons or inherently disclose or suggest a weapons application where such disclosures or suggestion would be detrimental to national security or relate to naval nuclear propulsion programs;
- those which relate to subject matter that is classified or sensitive under Section 148 of the Atomic Energy Act of 1954, as amended; and
- those which are subject to an international agreements or treaties.

Waiver Termination or Suspension

In addition to any other requirements set forth above or in the terms and conditions, this class patent waiver may be denied, terminated or suspended with respect to any domestic large business that is found to have made materially false statements or nondisclosure of material facts in connection with obtaining or performing work under the science, innovation and infrastructure financial assistance agreement or fails to comply with all applicable financial assistance agreement requirements.

Recommendation and Approval of the Class Patent 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 patent waiver as set forth above will best serve the interest of the United States and the public. It is recommended that the waiver be granted.

Glen R. Drysdale

DOE Patent Counsel

Based upon the foregoing Statement of Considerations, it is determined that the interests of the United States and the public will best be served by a waiver by DOE of its 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:	CONCURRENCE:	APPROVAL:
[redacted]		
Dr. Kathleen Hogan Acting Under Secretary Office of the Under Secretary for Infrastructure	Dr. Geri Richmond Acting Under Secretary Office of the Under Secretary of Science and Innovation	Brian Lally Assistant General Counsel for Technology Transfer, and Intellectual Property, GC-62
Date: _____	Date: _____	Date: _____