

**Patent Rights – Acquisition by the Government (Exhibit 1B)**(Reference CD-0036)

(a) Definitions.

"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.).

"Practical application", as used in this clause, 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.

"Subject invention", as used in this clause, means any invention of the Seller conceived or first actually reduced to practice in the course of or under this subcontract.

"Patent Counsel", as used in this clause, means the Department of Energy Patent Counsel assisting the procuring activity.

"Department of Energy (DOE) patent waiver regulations", as used in this clause, means the Department of Energy patent waiver regulations in effect on the date of award of this subcontract.

"Agency licensing regulations" and "applicable agency licensing regulations", as used in this clause, mean the Department of Energy patent licensing regulations at 10 CFR Part 781, *DOE Patent Licensing Regulations*.

(b) Allocations of principal rights.

(1) Assignment to the Government. The Seller agrees to assign to the Government the entire right, title, and interest throughout the world in and to each subject invention, except to the extent that rights are retained by the Seller under subparagraph (b)(2) and paragraph (d) of this clause.

(2) Greater rights determinations.

- i. The Seller, or an employee-inventor after consultation with the Seller, may request greater rights than the nonexclusive license and the foreign patent rights provided in paragraph (d) of this clause on identified inventions in accordance with the DOE patent waiver regulations. A request for a determination of whether the Seller or the employee-inventor is entitled to acquire such greater rights must be submitted to the Patent Counsel with a copy to the DOE Contracting Officer at the time of the first disclosure of the invention pursuant to subparagraph (e) (2) of this clause, or not later than 8 months thereafter, unless a longer period is authorized in writing by the DOE Contracting Officer for good cause shown in writing by the Seller. Each determination of greater rights under this subcontract shall be subject to paragraph (c) of this clause, unless otherwise provided in the greater rights determination, and to the reservations and conditions deemed to be appropriate by the Secretary of Energy or designee.
- ii. Within two months after the filing of a patent application, the Seller shall provide 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, promptly upon issuance of a patent, provide the patent number and issue date for any subject invention in any country for which the Seller has been granted title or the right to file and prosecute on behalf of the United States by the Department of Energy.
- iii. Not less than 30 days before the expiration of the response period for any action required by the Patent and Trademark Office, notify the Patent Counsel of any decision not to continue prosecution of the application.

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- iv. Upon request, the Seller shall furnish the Government an irrevocable power to inspect and make copies of the patent application file.

(c) Minimum rights acquired by the Government.

- (1) With respect to each subject invention to which the Department of Energy grants the Seller principal or exclusive rights, the Seller agrees as follows:
- i. The Seller hereby grants to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced each subject invention throughout the world by or on behalf of the Government of the United States (including any Government agency).
 - ii. The Seller agrees that with respect to any subject invention in which DOE has granted it title, DOE has the right in accordance with the procedures in the DOE patent waiver regulations to require the Seller, 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 Seller, assignee, or exclusive licensee refuses such a request, DOE has the right to grant such a license itself if it determines that—
 - (A) Such action is necessary because the Seller 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;
 - (B) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Seller, assignee, or their licensees;
 - (C) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Seller, assignee, or licensees; or
 - (D) Such action is necessary because the agreement required by paragraph (i) of this clause has neither been obtained nor 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.
 - iii. The Seller 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 of a subject invention or on efforts at obtaining such utilization that are being made by the Seller 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 Seller, and such other data and information as DOE may reasonably specify. The Seller also agrees to provide additional reports as maybe requested by DOE in connection with any march-in proceedings undertaken by that agency in accordance with subparagraph (c)(1)(ii) of this clause. To the extent data or information supplied under this section is considered by the Seller, its licensee, or assignee to be privileged and confidential and is so marked, the Department of Energy agrees that to the extent permitted by law, it will not disclose such information to persons outside the Government.
 - iv. The Seller agrees, when licensing a subject invention, to arrange to avoid royalty charges on acquisitions involving Government funds, including funds derived through a Military Assistance Program of the Government or otherwise derived through the Government, to refund any amounts received as royalty charges on a 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.
 - v. The Seller agrees to provide for the Government's paid-up license pursuant to subparagraph (c)(1)(i) of this clause in any instrument transferring rights in a subject invention and to provide for the granting of licenses as required by subparagraph (c)(1)(ii) of this clause, and for the

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reporting of utilization information as required by subparagraph (c)(1)(iii) of this clause, whenever the instrument transfers principal or exclusive rights in a subject invention.

- (2) Nothing contained in this paragraph (c) shall be deemed to grant to the Government any rights with respect to any invention other than a subject invention.

(d) Minimum rights to the Seller.

- (1) The Seller is hereby granted a revocable, nonexclusive, royalty-free license in each patent application filed in any country on a subject invention and any resulting patent in which the Government obtains title, unless the Seller fails to disclose the subject invention within the times specified in subparagraph (e)(2) of this clause. The Seller's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Seller is a part and includes the right to grant sublicenses of the same scope to the extent the Seller was legally obligated to do so at the time the subcontract was awarded. The license is transferable only with the approval of DOE except when transferred to the successor of that part of the Seller's business to which the invention pertains.
- (2) The Seller'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, *Licensing of Government-Owned Inventions*, and agency licensing regulations. This license will not be revoked in that field of use or the geographical areas in which the Seller has achieved practical applications and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be evoked or modified at the discretion of DOE to the extent the Seller, 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 will furnish the Seller a written notice of its intention to revoke or modify the license, and the Seller will be allowed 30 days (or such other time as may be authorized by DOE for good cause shown by the Seller) after the notice to show cause why the license should not be revoked or modified. The Seller 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.
- (4) The Seller may request the right to acquire patent rights to a subject invention in any foreign country where the Government has elected not to secure such rights, subject to the conditions in subparagraphs (d)(4)(i) through (d)(4)(vii) of this clause. Such request must be made in writing to the Patent Counsel as part of the disclosure required by subparagraph (e)(2) of this clause, with a copy to the DOE Contracting Officer. DOE approval, if given, will be based on a determination that this would best serve the national interest.
- i. The recipient of such rights, when specifically requested by DOE, and three years after issuance of a foreign patent disclosing the subject invention, shall furnish DOE a report stating:
 - (A) The commercial use that is being made, or is intended to be made, of said invention, and
 - (B) The steps taken to bring the invention to the point of practical application or to make the invention available for licensing.
 - ii. The Government shall retain at least an irrevocable, nonexclusive, paid-up license to make, use, and sell the invention throughout the world by or on behalf of the Government (including any Government agency) and States and domestic municipal governments, unless the Secretary of Energy or designee determines that it would not be in the public interest to acquire the license for the States and domestic municipal governments.
 - iii. If noted elsewhere in this subcontract as a condition of the grant of an advance waiver of the Government's title to inventions under this subcontract, or, if no advance waiver was granted but

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a waiver of the Government's title to an identified invention is granted pursuant to subparagraph (b)(2) of this clause upon a determination by the Secretary of Energy that it is in the Government's best interest, this license shall include the right of the Government to sublicense foreign governments pursuant to any existing or future treaty or agreement with such foreign governments

- iv. Subject to the rights granted in subparagraphs (d)(1), (2), and (3) of this clause, the Secretary of Energy or designee shall have the right to terminate the foreign patent rights granted in this subparagraph(d)(4) in whole or in part unless the recipient of such rights demonstrates to the satisfaction of the Secretary of Energy or designee that effective steps necessary to accomplish substantial utilization of the invention have been taken or within a reasonable time will be taken.(v) Subject to the rights granted in subparagraphs (d)(1), (2), and (3) of this clause, the Secretary of Energy or designee shall have the right, commencing four years after foreign patent rights are accorded under this subparagraph (d)(4), to require the granting of a nonexclusive or partially exclusive license to a responsible applicant or applicants, upon terms reasonable under the circumstances, and in appropriate circumstances to terminate said foreign patent rights in whole or in part, following a hearing upon notice thereof to the public, upon a petition by an interested person justifying such hearing:
 - (A) If the Secretary of Energy or designee determines, upon review of such material as he deems relevant, and after the recipient of such rights or other interested person has had the opportunity to provide such relevant and material information as the Secretary or designee may require, that such foreign patent rights have tended substantially to lessen competition or to result in undue market concentration in any section of the United States in any line of commerce to which the technology relates; or
 - (B) Unless the recipient of such rights demonstrates to the satisfaction of the Secretary of Energy or designee at such hearing that the recipient has taken effective steps, or within a reasonable time thereafter is expected to take such steps, necessary to accomplish substantial utilization of the invention.
- v. If the Seller is to file a foreign patent application on a subject invention, the Government agrees, upon written request, to use its best efforts to withhold publication of such invention disclosures for such period of time as specified by Patent Counsel, but in no event shall the Government or its employees be liable for any publication thereof.
- vi. Subject to the license specified in subparagraphs (d) (1), (2), and (3) of this clause, the Seller or inventor agrees to convey to the Government, upon request, the entire right, title, and interest in any foreign country in which the subcontractor or inventor fails to have a patent application filed in a timely manner or decides not to continue prosecution or to pay any maintenance fees covering the invention. To avoid forfeiture of the patent application or patent, the Seller or inventor shall, not less than 60 days before the expiration period for any action required by any patent office, notify the Patent Counsel of such failure or decision, and deliver to the Patent Counsel, the executed instruments necessary for the conveyance specified in this paragraph.

(e) Invention identification, disclosures, and reports.

- (1) The Seller shall establish and maintain active and effective procedures to assure that subject inventions are promptly identified and disclosed to Seller personnel responsible for patent matters within 6 months of conception and/or first actual reduction to practice, whichever occurs first in the performance of work under this subcontract. 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

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request, the Seller shall furnish the DOE Contracting Officer a description of such procedures for evaluation and for determination as to their effectiveness.

- (2) The Seller shall disclose each subject invention to the DOE Patent Counsel with a copy to the DOE Contracting Officer within two months after the inventor discloses it in writing to Seller personnel responsible for patent matters or, if earlier, within six months after the Seller becomes aware that a subject invention has been made, but in any event before any on sale, public use, or publication of such invention known to the Seller. The disclosure to DOE shall be in the form of a written report and shall identify the subcontract 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 DOE, the Seller shall promptly notify DOE Patent Counsel of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Seller. The report should also include any request for a greater rights determination in accordance with subparagraph (b)(2) of this clause. When an invention is disclosed to DOE under this paragraph, it shall be deemed to have been made in the manner specified in Sections (a)(1) and (a)(2) of 42 U.S.C. 5908, unless the Seller contends in writing at the time the invention is disclosed that it was not so made.
- (3) The Seller shall furnish the DOE Contracting Officer the following:
 - i. Interim reports every 12 months (or such longer period as may be specified by the DOE Contracting Officer) from the date of the subcontract, listing all subject inventions during that period, and including a statement that all subject inventions have been disclosed (or that there are not such inventions) and that the procedures required by subparagraph (e)(1) of this clause have been followed.
 - ii. A final report, within 3 months after completion of the contracted work listing all subject inventions or containing a statement 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.
- (4) The Seller 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 Seller each subject invention made under subcontract in order that the Seller 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 subparagraph (e)(2) of this clause.
- (5) The Seller agrees, subject to Federal Acquisition Regulation (FAR) 27.302(j), that the Government may duplicate and disclose subject invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause.

(f) Examination of records relating to inventions.

- (1) The DOE Contracting Officer or any authorized representative shall, until three years after final payment under this subcontract, have the right to examine any books (including laboratory notebooks), records, and documents of the Seller relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this subcontract to determine whether—
 - i. Any such inventions are subject inventions;



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- ii. The Seller has established and maintains the procedures required by subparagraphs (e)(1) and (4) of this clause;
 - iii. The Seller and its inventors have complied with the procedures.
- (2) If the DOE Contracting Officer learns of an unreported Seller invention which the DOE Contracting Officer believes may be a subject invention, the Seller may be required to disclose the invention to DOE for a determination of ownership rights.
- (3) Any examination of records under this paragraph will be subject to appropriate conditions to protect the confidentiality of the information involved.

(g) Withholding of payment.

NOTE
This paragraph does not apply to sub-subcontracts

- (1) Any time before final payment under this subcontract, the Company may, in the Government's interest, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of this subcontract, whichever is less, shall have been set aside if, in the DOE Contracting Officer's opinion, the Seller fails to—
- i. 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.
 - ii. Establish, maintain, and follow effective procedures for identifying and disclosing subject inventions pursuant to subparagraph (e)(1) of this clause;
 - iii. Disclose any subject invention pursuant to subparagraph (e)(2) of this clause;
 - iv. Deliver acceptable interim reports pursuant to subparagraph (e)(3)(i) of this clause; or
 - v. Provide the information regarding subcontracts pursuant to subparagraph (h)(4) of this clause.
- (2) Such reserve or balance shall be withheld until the DOE Contracting Officer has determined that the Seller has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.
- (3) Final payment under this subcontract shall not be made before the Seller delivers to the DOE Contracting Officer all disclosures of subject inventions required by subparagraph (e)(2) of this clause, and acceptable final report pursuant to subparagraph (e)(3)(ii) of this clause, and the Patent Counsel has issued a patent clearance certification to the DOE Contracting Officer.
- (4) The DOE 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 subcontract. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government rights.

(h) Subcontracts - lower-tier.

- (1) The Seller 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, demonstration, or research work to be performed by a small business firm or domestic 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 Seller shall include this clause (suitably modified to identify the parties). The Seller shall not, as

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- part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.
- (2) In the event of a refusal by a prospective subcontractor to accept such a clause the Seller—
- i. Shall promptly submit a written notice to the DOE 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 subcontract without the written authorization of the DOE Contracting Officer.
- (3) In the case of subcontracts at any tier, DOE, the subcontractor, and Seller agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and DOE with respect to those matters covered by this clause.
- (4) The Seller shall promptly notify the DOE 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 DOE Contracting Officer, the Seller shall furnish a copy of such subcontract, and, no more frequently than annually, a listing of the subcontracts that have been awarded.
- (5) The Seller shall identify all subject inventions of the subcontractor of which it acquires knowledge in the performance of this subcontract and shall notify the Patent Counsel, with a copy to the DOE Contracting Officer, promptly upon identification of the inventions.
- (i) Preference United States industry.** Unless provided otherwise, no Seller that receives title to any subject invention and no assignee of any such Seller shall 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 may be waived by the Government upon a showing by the Seller or 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) Atomic energy.**
- (1) No claim for pecuniary award of compensation under the provisions of the Atomic Energy Act of 1954, as amended, shall be asserted with respect to any invention or discovery made or conceived in the course of or under this subcontract.
 - (2) Except as otherwise authorized in writing by the DOE Contracting Officer, the Seller will obtain patent agreements to effectuate the provisions of subparagraph (e)(1) of this clause from all persons who perform any part of the work under this subcontract, except nontechnical personnel, such as clerical employees and manual laborers.
- (k) Background Patents.**
- (1) 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 Seller at any time through the completion of this subcontract:
 - i. Which the Seller, 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

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thereof) which is a subject of the research, development, or demonstration work performed under this subcontract.

- (2) The Seller agrees to and does hereby grant to the Government a royalty-free, nonexclusive license under any background patent for purposes of practicing a subject of this subcontract by or for the Government in research, development, and demonstration work only.
- (3) The Seller also agrees that upon written application by DOE, it will grant to responsible parties, for purposes of practicing a subject of this subcontract, nonexclusive licenses under any background patent on terms that are reasonable under the circumstances. If, however, the Seller believes that exclusive rights are necessary to achieve expeditious commercial development or utilization, then a request may be made to DOE for DOE approval of such licensing by the Seller.
- (4) Notwithstanding subparagraph (k)(3) of this clause, the Seller shall not be obligated to license any background patent if the Seller demonstrates to the satisfaction of the Secretary of Energy or designee that:
 - i. A competitive alternative to the subject matter covered by said background patent is commercially available or readily introducible from one or more other sources; or
 - ii. The Seller or its licensees are supplying the subject matter covered by said background patent in insufficient quantity and at reasonable prices to satisfy market needs, or have taken effective steps or within a reasonable time are expected to take effective steps to so supply the subject matter.

(l) Publication. It is recognized that during the course of the work under this subcontract, the Seller 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 subcontract. In order that public disclosure of such information will not adversely affect the patent interests of DOE or the Seller, patent approval for release of publication shall be secured from Patent Counsel prior to any such release or publication.

(m) Forfeiture of rights in unreported subject inventions.

- (1) The Seller 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 Seller fails to report to Patent Counsel within six months after the time the Seller:
 - i. Files or causes to be filed a United States or foreign patent application thereon; or
 - ii. Submits the final report required by subparagraph (e)(2)(ii) of this clause, whichever is later.
- (2) However, the Seller shall not forfeit rights in a subject invention if, within the time specified in subparagraph(m)(1) of this clause, the Seller:
 - 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 subcontract and delivers the decision to Patent Counsel, with a copy to the DOE Contracting Officer; or
 - ii. Contending that the invention is not a subject invention, the Seller nevertheless discloses the invention and all facts pertinent to this contention to the Patent Counsel, with a copy to the DOE Contracting Officer; or
 - iii. Establishes that the failure to disclose did not result from the Seller's fault or negligence.
- (3) Pending written assignment of the patent application and patents on a subject invention determined by the Secretary of Energy or designee to be forfeited, the Seller shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture

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provision of this paragraph (l) shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to subject inventions.

- (n) Facilities License.** In addition to the rights of the parties with respect to inventions or discoveries conceived or first actually reduced to practice in the course of or under this subcontract, the Seller agrees to and does hereby grant to the Government an irrevocable, nonexclusive, paid-up license in and to any inventions or discoveries regardless of when conceived or actually reduced to practice or acquired by the Seller or any time through completion of this subcontract and which are incorporated or embodied in the construction of the Government facility or which are utilized in the operation of the Government facility or which cover articles, materials, or products manufactured at the Government facility (1) to practice or have practiced by or for the Government at the facility, and (2) to transfer such license with the transfer of that facility. The acceptance or exercise by the Government of these rights shall not prevent the Government at any time from contesting the enforceability, validity, or scope of, or title to, any rights or patents herein licensed.