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### III. INTELLECTUAL PROPERTY FACT SHEET

## EXCEPTIONAL CIRCUMSTANCES FOR WORK PROPOSED UNDER THE SOLID STATE ENERGY CONVERSION ALLIANCE (SECA) PILOT PROGRAM

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An Exceptional Circumstance determination is required to implement a slightly modified intellectual property agreement (relative to the Department of Energy Acquisition Regulations (DEAR)) in contractual or financial assistance arrangements with members of the Solid State Energy Conversion Alliance (SECA) Core Technology Program (universities, National Laboratories and other research-oriented programs). This modification of the standard DEAR intellectual property agreement is critical to the SECA structure and the implementation of the program. SECA is regarded as a pilot-program demonstrating a new Department of Energy (DOE) business model. Without this modification this pilot-program could not be implemented in a significant way. A brief description of SECA and the modified intellectual property agreement is discussed in the following paragraphs. DOE does not intend to modify any existing practices with regard to background rights. The purpose of SECA is to focus significant resources on a well defined technology target that in DOE's judgment has broad applicability. DOE believes the Exceptional Circumstance will ensure that the individual research organizations that receive substantial resources from the SECA budget will benefit both the Alliance and themselves. If the Exceptional Circumstance were not implemented, the majority of funding available for research would most likely be funneled through the industrial concerns at their discretion as it has been in the past.

The statutory authority for the Exceptional Circumstance follows. The implementation of this Exceptional Circumstance determination will further the goals of 35 U.S.C. § 200, e.g., to promote collaboration between commercial concerns, and nonprofit organizations and small businesses. Exceptional circumstance determinations are authorized by 35 U.S.C. § 202(a) when the agency determines that restricting of the right to retain title to an invention resulting from federal sponsored research and development "will better promote the policy and objectives of this chapter." This Exceptional Circumstance determination will better promote the following policy and objective of the Congress as described in 35 U.S.C. § 200: to use the patent system to promote the utilization of inventions arising from federally supported research or development; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise; and to promote the commercialization and public availability of inventions made in the United States by United States industry and labor.

The DOE is exploring a new business model by implementing the SECA Pilot Program through the National Energy Technology Laboratory (NETL) in partnership with the Pacific Northwest National Laboratory to develop solid-oxide fuel cell technology for a broad range of applications. The major element of the pilot program is the development of highly efficient, cost-effective and mass-producible solid-oxide fuel cell systems. The SECA goal is to enable the implementation of the mass-customization approach developed by U.S. Industry to solid-oxide fuel cell technology. This program offers the prospect of improving the overall efficiency of power generation by a factor of two over traditional technologies and

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with greatly reduced emissions. These solid-oxide fuel cell systems have also been identified as one of the key enabling technologies for achieving the efficiency goals in DOE's Vision 21 Program.

The SECA will be structured into Industrial Teams and a Core Technology Program (an applied research and development program consisting of universities, National Laboratories, and other research-oriented organizations). A NETL led project management team will maintain responsibility for both of these activities. The Industrial Teams will develop the fuel cell stack, system, and manufacturing capability and the packaging needed for different markets; the number of teams will depend on the level of commitments from sponsors. The Core Technology Program will be focused on finding solutions to the more difficult shared technical barriers in support of the Industrial Teams.

In brief, the proposed intellectual property agreement will require members of the SECA Core Technology Program to offer to each of the Industrial Teams the first option to enter into a non-exclusive license upon terms that are reasonable under the circumstances, including royalties, for subject inventions developed under the SECA program. The field of use of the license could be limited to solid-oxide fuel cell applications, although greater rights could be offered at the discretion of the invention owner. The offer must be held open for at least 2 years after the U.S. patent issues and the invention owner must agree to negotiate in good faith with any and all Industrial Teams that indicate a desire to obtain at least a non-exclusive license. Exclusive licensing may be considered if only one Industrial Team expresses an interest in licensing the invention. Partially exclusive licenses in a defined field of use may be granted to an Industrial Team, as long as doing so would not preclude any other Industrial Team that indicates a desire to license the invention from being granted at least a non-exclusive license for solid-oxide fuel cell applications. The Core Technology Program participant that owns or controls the invention must enter into good faith negotiations with the individual Industrial Team. If no agreement is reached after 6 months of negotiations, the Department of Energy may grant such a license itself if it determines that the invention owner has not negotiated in good faith. Any assignment of the invention must be made subject to this requirement.

The following discussion provides additional justification for the SECA pilot-program exceptional circumstance:

- By making the intellectual property available to the Industrial Teams on a non-exclusive basis, the value of an individual license may be less but the cumulative value may very well be greater. If the intellectual property is important, all Industry Teams will need to have it to remain competitive, the baseline of the technology will be raised.
- Making the intellectual property available to as many Industrial Teams as want it, would ensure that the individual technology pieces are incorporated into the best designs versus that of only the highest bidder (not necessarily the technology with the best chance for commercial deployment). This would benefit U.S. National interests.
- If Core Technology Program participants could exclusively license to anyone they chose, including outside of the SECA Industrial Teams, then it would be unlikely that Industrial Teams would be willing to collaboratively define the Core Technology Program objectives. Based on past fuel cell program experience, Industrial Teams in general would prefer to keep most development work in-house. This is not necessarily the best technical approach or best use of public funds since an individual company

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would typically not possess a concentration of the best talent; redundant equipment and facilities would have to be purchased; and redundant research and development efforts would have to be performed. This would negate the SECA goal of leveraging the most difficult problems to accelerate commercialization of this nationally important technology.

A market for the intellectual property is being created. The Core Technology Program participants will have a ready set of potential licensees to which they can license their invention(s), and, if the Industrial Teams are successful in commercializing their fuel cell systems, reap income in the form of royalties or cash payment. Also, in many cases where difficult negotiations for exclusive arrangements can keep intellectual property unavailable for significant lengths of time, companies can find ways to bypass intellectual property held by others. There is less incentive for a company to circumvent another entity if a mechanism is in place to make the intellectual property readily and immediately available. Parallel negotiations for non-exclusive licenses and the time limits imposed by the Exceptional Circumstance should significantly shorten the time it takes to implement new intellectual property. In addition, once an agreement is reached with one Industrial Team, agreements with the other Teams should quickly follow if the intellectual property has general applicability.