

STATEMENT OF CONSIDERATIONS

REQUEST BY SIEMENS ENERGY, INC “SIEMENS” FOR WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS IN IDENTIFIED INVENTION S-176,423; 63/146,231; PCT/US2022/015082. MADE UNDER DOE AWARD NO. DE-FE0032033 ENTITLED “ADVANCED HYDROGEN COMPRESSOR FOR HYDROGEN STORAGE INTEGRATED WITH A POWERPLANT”; W(I)2023-001.

Petitioner, Siemens Energy Inc, has requested a waiver of: (a) domestic and foreign patent rights for the following subject invention and related patents and patent applications.

S-176,423; U.S. Provisional Patent Application Serial No. 63/146,231 was filed on February 5, 2021 and International Patent Application Serial No. PCT/US2022/015082 was filed on February 3, 2022.

The objective of Petitioner’s award is to support the Office of Fossil Energy and Carbon Management (FECM) through the design, manufacture, and testing of an advanced Hydrogen compressor. The aim of the research is to develop and test such an advanced hydrogen compressor to enhance the viability of the Hydrogen Economy. In particular, Petitioner focused on advancing hydrogen compressor technology suitable for integration with a powerplant.

The total cost of the award was \$828,854.00, including the Petitioner’s contribution of \$328,854, or about forty percent (40%) of the total cost of the work under the award. The period of performance was from 1 March 2021 to 31 March 2022.

Referring to items 5-9 of the waiver petition, Petitioner has engaged in the research and development of advanced gas compressors for more than 100 years. Further, Petitioner has expended approximately \$892,000 in the development of the hydrogen compressor that is the subject of this award. Petitioner expects to spend another \$10 million to achieve full commercialization of the developed hydrogen compressor. Moreover, Petitioner developed an advanced hydrogen compressor technology described in the subject invention prior to the award of DE-FE0032033 and filed a patent application on the developed advanced hydrogen compressor technology prior to said award. Petitioner has also developed additional compression technologies including single shaft centrifugal compressors, integrally geared compressors, and reciprocating compressors. Accordingly, Petitioner has significant experience in developing technology within this field and will continue to further develop the contracted work.

Petitioner has agreed that this waiver will be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, set out in 35 U.S.C. 202-204. Furthermore, Petitioner has agreed to the attached U.S. Competitiveness provision (paragraph (t)). The Petitioner has also agreed to the attached revised paragraph (h) to submit annual reports


on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by Petitioner and any of its licensee or assignees. If sold or transferred, this reporting obligation will pass on to the buyer or transferee.

After inventing the above-referenced invention and after performance of the DE-FE0032033 award, Petitioner closed its turbine manufacturing facilities in the United States. With the closure of United States manufacturing facilities, it would be commercially infeasible to manufacture the above-identified invention in the United States. Petitioner therefore requests the ability to manufacture the above-identified invention in its already existing plants in Germany. Allowing Petitioner to manufacture the above-identified invention in Germany would benefit the United States through actual manufacture and commercialization of the hydrogen compressor technology reduced to practice through the DE-FE0032033 award. The United States will further benefit from waiver of the subject invention as the Petitioner employs a large United States based workforce that will support all phases of further development and commercialization of the above-referenced invention.

Petitioner has agreed that products embodying a waived invention or produced through the use of a waived invention will be manufactured substantially in the United States or Germany unless the Petitioner can show to the satisfaction of the DOE that it is not commercially feasible to do so. Petitioner has also agreed to make the above conditions binding on any assignee or licensee or any entity otherwise acquiring rights in the waived inventions, including subsequent assignees and licensees. Should Petitioner or other such entity receiving rights in a waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in the waived inventions is suspended until approved in writing by DOE.


Referring to item 10 of the waiver petition, granting this waiver will not have an adverse impact on competition. Numerous companies are developing technologies that will directly compete with Petitioner's hydrogen compressor technology in the hydrogen economy. Additionally, the hydrogen compressor itself is the focus of significant research from competitors of Petitioner. For example, Baker Hughes, Mitsubishi Heavy Industries, Burckhardt Compression, Atlas Copco, and Howden are all developing and commercializing competing hydrogen compressor technologies. Thus, granting the Petition will not hinder competition in the field.

Considering the foregoing, it is believed that granting this waiver will provide Petitioner with the necessary incentive to invest its resources in the commercialization of the results of the agreement in a fashion which will make the technology available to the public in the shortest practicable time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested waiver be granted.



Aaron R. Keith
Patent Attorney
Intellectual Property Law

Date: March 10, 2023_____



Michael J. Dobbs
Deputy Chief Counsel
Intellectual Property Law

Date: March 10, 2023_____

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the U.S. and the general public will best be served by a waiver of patent rights of the scope described above, and therefore the waiver is granted. This waiver will not apply to any modification or extension of the award, where through such modification or extension, the purpose, scope or cost of the award has been substantially altered.

CONCURRENCE:



Dr. Jennifer Wilcox
Director of Office of Fossil Energy and Carbon
Management, FE-22

APPROVAL:



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

WAIVER ACTION - ABSTRACT

W(I)2023-001

REQUESTOR

CONTRACT SCOPE

RATIONALE FOR
DECISION

Siemens
Energy Inc

Design, manufacture, and test of an
advanced Hydrogen compressor

Siemens Energy generated
hydrogen compressor
technology and will continue
efforts to develop and
commercialize that technology

(h) Reporting on utilization of subject inventions.

The Contractor agrees to submit annual reports on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Contractor and any of its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as DOE may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceedings undertaken by DOE in accordance with paragraph (j) of this clause. To the extent data or information supplied under this paragraph is considered by the Contractor, its licensee or assignee to be privileged and confidential and is so marked, DOE agrees that, to the extent permitted by law, it shall not disclose such information to persons outside the Government.

(t) U. S. Competitiveness

The Contractor agrees that any products embodying any subject invention or produced through the use of any subject invention will be manufactured substantially in the United States or Germany unless the Contractor can show to the satisfaction of DOE that it is not commercially feasible. 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., alternative binding commitments to provide an overall net benefit to the U.S. economy. The Contractor agrees that it will not license, assign or otherwise transfer any subject invention to any entity, at any tier, unless that entity agrees to these same requirements. Should the Contractor or other such entity receiving rights in the invention(s): (1) undergo a change in ownership amounting to a controlling interest, or (2) sell, assign, or otherwise transfer title or exclusive rights in the invention(s), then the assignment, license, or other transfer of rights in the subject invention(s) is/are suspended until approved in writing by DOE. The Contractor and any successor assignee will convey to DOE, upon written request from DOE, title to any subject invention, upon a breach of this paragraph. The Contractor will include this paragraph in all subawards/contracts, regardless of tier, for experimental, developmental or research work.