STATEMENT OF CONSIDERATIONS

REQUEST FOR ADVANCE WAIVER OF PATENT RIGHTS BY NOVOZYMES INC, UNDER DOE AWARD NO. DE-FC36-08GO18080; W(A)-08-042, CH-1460

The Petitioner, Novozymes Inc. (Novozymes) has requested a waiver of: domestic and foreign patent rights for all subject inventions conceived or reduced to practice by Novozymes employees, agents or other representatives of Novozymes and/or its affiliated subcontractors arising under the above referenced award.

The objective of Novozymes' award is to develop a two-fold increase in cellulose enzyme cocktail specific activity. The project aims to deliver a new enzyme system which will lead to reduced costs of biochemical conversion of lignocelluloses, whereby biomass is broken down to sugars via enzymatic saccharification, preferably for use in ethanol production.

The total anticipated cost of the award is $24,637,403 including Novozymes' contribution of $12,337,403, or fifty percent (50%) of the total cost of the work under the award. This waiver is contingent upon Novozymes maintaining, in aggregate, the above cost sharing percentage over the course of the award.

Referring to items 5-9 of the waiver petition, Novozymes has a long history of industry leadership in the development and commercialization of industrial enzymes and microorganisms. Novozymes with its affiliated companies employ about 4,600 employees worldwide. Novozymes is the worlds largest vertically-integrated researcher, developer, and producer of industrial enzymes with sales over one billion U.S. dollars of enzymes products annual. Novozymes has over 4,200 active patents, patent applications and licensed patents. Novozymes has twice been awarded the Presidential Green Chemistry Challenge Award in 2005 for employing enzymes to develop healthier fats and oils for use in food applications, and in 2001 for an enzymatic scouring process to treat cotton textiles.

Numerous companies are researching various enzymes for use in ethanol production, as well as other methods for reducing ethanol production costs. A breakthrough technology is required to create a cost-effective enzyme system and this breakthrough will create an entirely new field. After a breakthrough, significant barriers will still be present as there will still be a need to create a biomass collection infrastructure, ethanol production plants (including on-site enzyme plants), as well as a need to create new devices able to consume the produced ethanol. Therefore, the grant of this waiver should effectively foster greater competition, by encouraging Novozymes to invest in the technology (one of many attempts at economically producing ethanol) and hopefully will create a new market for economical ethanol production, thereby spurring the U.S. economy in a variety of industries (automobile, biomass collection and processing, ethanol fuel plants etc..) Therefore, the grant of this

waiver should effectively promote the continued development and commercial utilization of the subject inventions since Novozymes will be able to develop these technologies and incorporate them into its commercial portfolio without an adverse patent interest overshadowing its development efforts. Thus, the waiver is necessary for development to proceed given the size and nature of the investment necessary to commercialize economical ethanol production.

As set out in the attached waiver petition, Novozymes has also requested a waiver of patent rights in the subject inventions of its affiliated subcontractors. It is believed that this approach will facilitate timely commercialization of the technology by furthering the establishment of business and technical relationships between the parties and providing a mechanism for obtaining meaningful cost sharing between the parties. This waiver contemplates that the parties will allocate title or other rights to inventions among themselves as they deem appropriate during the course of their association consistent with the terms of this waiver. Accordingly, title will be waived directly to an affiliated subcontractor upon mutual agreement of Novozymes and the subcontractor. However, this waiver will only apply to such affiliated subcontractor(s) who provide a letter to DOE acknowledging their right to ask for a waiver and agreeing to the terms of this waiver. This waiver shall not impact the rights of those parties subject to Public Law 96-517, as amended, nor shall it grant any rights in inventions made by employees of the National Laboratories.

Novozymes 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, Novozymes has agreed to the attached modified U.S. Competitiveness provision (paragraph (t). In brief, Novozymes has agreed that a substantial portion of any waiver invention product used in the processing of feedstock grown in the U.S. will be manufactured in the U.S. Due to the large cost of transporting feedstock, Novozymes may use manufacturing outside of the U.S. for the processing of feedstock grown outside the U.S. Novozymes may be able to manufacture waived invention products outside the U.S., with the purpose of accelerating the development in the U.S. of commercially viable plants embodying any waived inventions, if Novozymes can show to the satisfaction of DOE that it is not feasible to manufacture in the U.S. for reasons of limited capacity or economics, for a period of up to 2.5 years following the end the Cooperative Agreement.

Novozymes has further 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 Novozymes 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 researching various

enzymes for use in ethanol production, as well as other methods for reducing ethanol production costs. Therefore, as this is one of many efforts to develop a breakthrough technology for cost-effective renewable energy, the grant of this waiver will only help encourage competition in the market.

Considering the foregoing, it is believed that grant this waiver will provide Novozymes 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.

[redacted]

Brian J. Lally
Assistant Chief Counsel
Intellectual Property Law Division

Date: 8/12/09

[redacted]

Michael J. Dobbs
Patent Attorney
Intellectual Property Law Division

Date: 8/12/09

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 of extension of the award, where through such modification or extension, the purpose, scope or cost of the award has been substantially altered.

CONCURRENCE:

[redacted]

Valri Anne Lightner
Program Manager

Office of the Biomass Program
EE-2E

Date: 5/17/2010

APPROVAL:

Paul A. Gottlieb
Assistant General Counsel for Technology
Transfer and Intellectual Property,
GC-62

Date: 5/18/2010

WAIVER ACTION - ABSTRACT
W(A)-08-042

REQUESTOR	CONTRACT SCOPE	RATIONALE FOR DECISION
Novozymes Inc.	Develop a new enzyme system which will lead to reduced costs of biochemical conversion of lignocelluloses	Novozymes has contributed research expertise and significant capital for the development of a new enzyme system for economic enzyme production and the grant of this waiver will encourage further development and commercialization.

(t) U. S. Competitiveness (Modified)

The Contractor agrees that a substantial portion of any waived invention product used in the processing of feedstock grown in the United States will be manufactured in the United States. The Contractor agrees that it, or a licensee, sub-licensee or assignee of rights to waived inventions, will commercialize the technology of the waived inventions in the United States within a commercially reasonable timeframe, unless the Contractor can show to the satisfaction of the DOE that it is not commercially feasible to do so. DOE agrees that the Contractor has an expanding presence in the U.S., and that it is committed to carrying out business in the U.S. Notwithstanding the above, DOE also agrees that the Contractor may manufacture waived invention products outside the U.S., with the purpose of accelerating the development in the U.S. of commercially viable plants embodying any waived inventions, if the Contractor can show to the satisfaction of DOE that it is not feasible to manufacture in the U.S. for reasons of limited capacity or economics, for a period of up to 2.5 years following the end of Cooperative Agreement No. DE-FC36-08G018080. DOE also agrees that the use of any waived invention product for the processing of feedstock grown outside the United States can be manufactured outside the United States. The Contractor and any licensee, sub-licensee or assignee thereof, agrees that it will not license, sub-license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Contractor 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.