STATEMENT OF CONSIDERATIONS

REQUEST BY 3M COMPANY ("3M") FOR AN ADVANCE WAIVER OF PATENT RIGHTS UNDER DOE GRANT NO. DE-FG36-08GO18134; W(A) 2011-039

3M has requested a waiver of patent rights of the United States of America for all subject inventions arising from its participation under the above referenced grant entitled "Energy Reduction and Advanced Water Removal via Membrane Solvent-Extraction Technology."

3M has developed a membrane solvent-extraction (MSE) technology that shows promise to substantially decrease the energy and water consumption in the production of bioethanol. The project funded by this grant furthers concept development and technology development and verification at the pilot scale. The project will refine the membrane, modules, and solvent choices for the MSE unit operation and integration into the overall bioethanol production facility based on techno-economic modeling. Archer Daniels Midland Co. (ADM) is the subgrantee to 3M and is not subject to this waiver. ADM will file a separate waiver petition if it so desires.

The total anticipated cost of the project is $9,896,238 with 3M providing $2,287,084 and ADM providing $1,675,616, for an aggregate 40% cost share. This waiver is contingent upon 3M maintaining, in aggregate, a cost sharing percentage of at least 40% during the course of the grant. The period of performance for the grant is September 15, 2008 through June 30, 2012.

As noted in the waiver petition, 3M has significant technical competence in the field of membranes and separations. 3M has many patents covering the processes for making membranes and for converting into filtration/separation devices. 3M also has patents related to membrane solvent extraction. Its subgrantee, Archer Daniels Midland Co. (ADM), has significant technical competence in the field of ethanol fermentation processes. According to 3M, it has made significant investments in membrane technology over the past 20 years. Work specifically related to MSE has taken place over the past 10 years and has amounted to an investment over $1 million.

3M has entered into a joint development program with ADM. This joint development program contemplates the development of modules using membranes that are effective in ADM ethanol fermentation processes. If the project is successful, the modules will be commercialized by 3M and the MSE process will be scaled up into ADM ethanol production plants. Further commercialization plans in the ethanol industry have not been finalized, but could entail sale of 3M modules and MSE process design, or could entail licensing the technology.

3M has agreed that this waiver shall be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, comparable to those set out in 35 U.S.C. 202-204. Further, 3M has agreed to the attached U.S. Competitiveness provision, paragraph (t). In brief, 3M 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 unless 3M can show to the satisfaction of the DOE that it is not commercially feasible to do so.

Referring to item 10 of the waiver petition, granting this waiver is anticipated to have a minimal effect on limiting competition. For much of the work to be performed under the grant, any invention would likely be applicable only to Petitioner's particular proprietary processes and materials. As a result, a request for patent waiver would have minimal effect on limiting competition. Furthermore, a number of commercial organizations have developed or are thought to be developing competitive technologies outside the scope of the work to be performed under this grant, which will mitigate any anti-competitive effects caused by granting this waiver.

Considering the foregoing (*e.g.*, 3M's technical experience and competence and past and on-going investments in this technology), it is believed that granting this waiver will provide 3M with the necessary incentive to invest its resources in commercializing the results of the grant in a manner that will make the above technology available to the public in the shortest 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.

Julia Cook Moody
Patent Attorney
Golden Field Office

Date: 6/2/11

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

CONCURRENCE:

[redacted]

Leontios Christodoulou
Program Manager
Industrial Technologies

Date: [redacted]

APPROVAL:

John T. Lucas
Acting Assistant General Counsel for
Technology Transfer and Intellectual
Property

Date: [redacted]

(t) U.S. COMPETITIVENESS

The Contractor agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States unless the Contractor can show to the satisfaction of the DOE that it is not commercially feasible to do so. In the event the 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., recoupment of the Government's investment, etc. The Contractor agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Contractor or other such entity receiving rights in the invention 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.