STATEMENT OF CONSIDERATIONS

REQUEST BY ARKEMA, INC. ("ARKEMA") FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE AWARD NO. DE-PS36-08GO98009; W(A) 2010-028

The Petitioner, ARKEMA, has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above grant entitled "Novel Materials for High Efficiency Direct Methanol Fuel Cells." ARKEMA's partners are QuantumSphere and Illinois Institute of Technology, none of which are subject to this waiver or require a waiver because they are all small businesses or nonprofits.

An objective of the grant is to develop a new generation of ultra-thin membranes featuring very low methanol cross-over, high conductivity, durability and low cost at high production volumes. The specific goal is to reduce methanol cross-over by nearly two orders of magnitude relative to conventional assembly membranes and thus improve fuel efficiency and allow higher operational methanol concentrations. Another objective of the grant is to develop a new series of cathode catalysts featuring a ~200% improvement in activity and contribute in the area of advanced electrochemical diagnostics for membrane electrode assembly (MEA) development. The ultimate goal of the project is to develop an MEA having a performance of at least 160mW/cm^2 at 0.4V and a cost of less than $2/W.

The total anticipated cost of the agreement is $3.5 million, with ARKEMA and its partners providing a 25% cost share, totaling $866,546. ARKEMA is providing $537,753 of that cost share, and its partners are providing the remaining $328,793. This waiver is contingent upon the above cost share percentage being maintained, in the aggregate, over the course of the grant. The period of performance is 3 years.

The technology that is the subject of the research efforts under this grant relies heavily on the use of polyvinylidene fluoride polymers (PVDF). ARKEMA is a world leader in PVDF, including developing PVDF films and applications, through its PVDF brand, Kynar®, in related industries such as lithium-ion batteries. ARKEMA holds four U.S. patents and several pending U.S. patent applications related to PVDF and MEAs. ARKEMA has invested about $7.5 million to date in this technology area.

ARKEMA 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, ARKEMA has agreed to the U.S. competitiveness provisions as attached to this Statement. In brief, ARKEMA has agreed that products embodying intellectual property developed under this agreement shall be substantially manufactured in the United States, and that ARKEMA will not license, assign, or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition in the membrane and MEA marketplace. There are several large competitors that have developed membranes and MEAs based on perfluorosulfonic acids or

"hydrocarbon" based materials. ARKEMA is trying to develop another approach based on its Kynar® brand PVDF. Granting this waiver is more likely to help ARKEMA develop and commercialize membranes and MEAs using this new approach. Therefore, granting this waiver is unlikely to result in diminished competition; rather, it is more likely enhance competition by enabling ARKEMA to offer yet another type of membrane or MEA to the marketplace to compete with the existing membranes and MEAs currently being offered. .

Considering the foregoing, it is believed that granting this waiver will provide ARKEMA with the necessary incentive to invest its resources in commercializing the results of the agreement 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.

[redacted]

Glen R. Drysdale
Patent Attorney
Golden Field Office

Date: 5/27/10

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

CONCURRENCE:

[redacted]

~~Richard W. Farmer~~ Sunita Satyapal
~~Acting~~ Program Manager
Fuel Cell Technologies Program
EE-2H

Date: 10/14/10

APPROVAL:

[redacted]

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

Date: 10/19/2010

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 DOE that it is not commercially feasible to do so. 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., recoupment of the Government's investment, etc. The Contractor further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in any waived invention is suspended until approved in writing by DOE.