

## STATEMENT OF CONSIDERATIONS

REQUEST BY FUELCELL ENERGY, INC. ("FCE") FOR WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS IN AN IDENTIFIED INVENTION DOE INVENTION NO. S-147,796 MADE UNDER DOE CONTRACT NO. DE-EE0006606; W(I)2017-010

FCE has requested a waiver of domestic and foreign patent rights of the United States of America to the subject invention entitled "Improved Binder System for Molten Carbonate Fuel Cell Matrix" and numbered DOE S-147,796 ("the Subject Invention"). The Subject Invention was made by FCE in the performance of DOE contract number DE-EE0006606 to FCE entitled "Smart Matrix Development for Direct Carbonate Fuel Cells."

The Subject Invention relates to molten carbonate fuel cells (MCFCs) used for large stationary power generation. A MCFC includes an anode and a cathode separated by an electrolyte matrix. The electrolyte matrix may be a micro-porous ceramic structure that retains a liquid electrolyte by a capillary force. To develop the matrix, a binder is used to form the electrolyte matrices. The Subject Invention is an improved matrix binder system that enables enhanced flexibility, improved mechanical strength and pore size distribution and packing density. The matrix design is made of a binder containing a mixture of short and long chain polymers. The Subject Invention is further described in U.S. Patent Application No. 15/486,160 filed on April 12, 2017. The Subject Invention aligns with the overall goal of the project funded by the DOE contract of lowering direct fuel cell power plant cost for energy stationary applications.

The period of performance of the contract is August 15, 2014 through October 31, 2017. The total cost of the contract was \$4,518,519. FCE's cost share obligation is \$1,355,556 or 30%.

According to the petition, FCE has over 30 years of experience in designing, developing and implementing MCFCs. FCE power plants operate in more than 50 locations on three continents and have generated more than 5.6 million megawatt hours of electricity. FCE has 90 patents in the U.S. and 88 patents in other jurisdictions covering fuel cell technology. FCE has 40 U.S. patent applications pending. FCE-funded research and development expenditures for FY2016 was \$32,725,000.

FCE does not believe the granting of this waiver will negatively impact competition. The technology that is subject to this project must compete against numerous other technologies from a variety of sources. The competing technologies include an array of electrochemical or electrolyte options that will not be impacted by the waiver.

The terms of this patent waiver are reflected in the attached confirmatory license to DOE from FCE. The patent waiver is 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. Furthermore, the patent waiver is subject to the standard U.S. competitiveness provision in which FCE must agree that any products embodying or made through the use of the Subject Invention shall be manufactured substantially in the United States. FCE cannot license, assign, or otherwise transfer the Subject Invention to any entity unless that entity agrees to these

same requirements.

Upon evaluation of the waiver petition, in view of all the objectives and consideration set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested waiver be granted.

[Redacted Signature]

Glen R. Drysdale  
Patent Attorney  
EERE

Date: 9/15/17

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.

CONCURRENCE:

[Redacted Signature]

Sunita Satyapal  
Office Director  
Fuel Cell Technologies Office

Date: 2/8/18

APPROVAL:

[Redacted Signature]

Brian Lally  
Assistant General Counsel for Technology  
Transfer and Intellectual Property

Date: 2/15/18