

STATEMENT OF CONSIDERATIONS

REQUEST BY CATCHLIGHT ENERGY, LLC (“CLE”) FOR AN ADVANCE WAIVER OF PATENT RIGHTS UNDER DOE AWARD NO. DE-EE0005974; W(A) 2013-007

CLE 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 award entitled “Liquefaction of Forest Biomass to Drop-in Hydrocarbon Fuels.” CLE is a subawardee to Iowa State University, which is not subject to this patent waiver petition.

The purpose of the award is to convert biomass into liquid fuels compatible with the current transportation infrastructure. The planned work entails proof of concept testing for a new solvent liquefaction process, and determination of upgrading conditions for the bio-oil product and process design for a demonstration plant.

The total anticipated cost of the project is \$4,375,000. CLE’s subaward total cost is \$2,327,470, with CLE cost sharing \$875,000¹. This waiver is contingent upon CLE maintaining a cost sharing percentage of at least 37% during the course of the award. The period of performance for the award is January 1, 2013 to December 31, 2015.

As noted in the waiver petition, CLE is a joint venture between Chevron Corporation and Weyerhaeuser Company. Weyerhaeuser and Chevron created CLE to develop and commercialize forest-based cellulosic biofuels at scale. Both Chevron and Weyerhaeuser contribute resources, including funding, background technology, and services to CLE. The foundations of CLE’s technical competence in the field of biomass conversion are based on the resources and competencies of its parents. Through parent Weyerhaeuser, CLE accesses extensive expertise in forest biomass production and conversion. Through its parent Chevron, CLE accesses extensive technical competence in the refining, certification, and distribution of transportation fuels.

CLE has invested over \$11 million and 20 person-years of technical labor developing its solvent liquefaction technology. This investment has led to the filing of patent applications in the U.S. and several foreign countries. In addition to those direct development costs, CLE’s parent companies have spent many millions of dollars developing knowhow and expertise in biomass processing, biomass liquefaction, and hydroprocessing technologies, all of which contributed to the development of the solvent liquefaction technology.

Granting this waiver will provide CLE with the incentive to license the technology developed under this subaward to other technology companies. The resultant licensing income will allow CLE to continue refining the conversion process after completion of the subaward. If the patent waiver is granted and the process development is completed, a potential path to commercialization includes licensing of the technology to Chevron and possibly others. Chevron’s refining operations in the Gulf coast are close to commercial timberlands and fuel

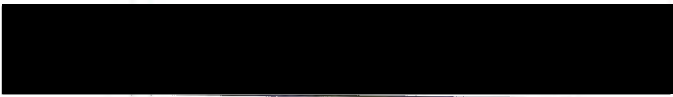
¹ The petition states DOE’s share of CLE’s subaward, which is \$1,452,470, but does not state CLE’s cost share, which is \$875,000.

transportation infrastructure. Chevron and other energy companies are required to provide biofuels to the U.S. market under existing regulations, but current biomass conversion technologies cannot meet those requirements without significant increased costs to consumers. Without this potential licensing revenue, CLE has a reduced incentive to continue development of the solvent liquefaction technology.

CLE 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, CLE has agreed to the attached U.S. Competitiveness provision, paragraph (t). In brief, CLE 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 CLE 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 will not limit market competition in the area of thermochemical conversion of lignocellulosic feedstocks to drop-in hydrocarbon fuels. Numerous competitors in this field already exist. Patenting in this technology area has recently increased. The recent expansion in innovation provides an ideal window to introduce an additional technology that will also be protected by patents. The ability to secure further patents will give CLE the necessary incentive to continue research and development and be able to compete with more well-established technologies. Further, granting this waiver would acknowledge that innovation is accelerating in this area, and would signal to competitors that the area remains ripe for innovation, thus fostering additional competition.

Considering the foregoing (*e.g.*, CLE's technical experience and competence and past and on-going investments in this technology), it is believed that awarding this waiver will provide CLE with the necessary incentive to invest its resources in commercializing the results of the award 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 awarded.


Julia Cook Moody
Deputy Chief Counsel for Intellectual Property
Golden Service Center

Date: 4/3/13

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 awarded. This waiver shall 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.

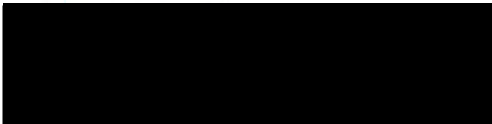
CONCURRENCE:



Valerie Sarisky-Reed
Acting Program Manager
Biomass Technologies Office

Date: 5/1/13

APPROVAL:



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

Date: 5/2/2013

(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.