STATEMENT OF CONSIDERATIONS

REQUEST FOR ADVANCE WAIVER OF PATENT RIGHTS BY DRALON GMBH ("DRALON") UNDER DOE AWARD NO. DE-EE0006926; W(A) 2017-006

DRALON 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 Institute for Advanced Composites Manufacturing Innovation (IACMI).

CCS Corporation is the prime recipient of the award and manager of IACMI. IACMI is a partnership of industry, universities, national laboratories, and federal, state and local governments working together to benefit the nation's energy and economic security by sharing existing resources and co-investing to accelerate development and commercial deployment of advanced composites. The objective of the proposed IACMI project with DRALON is to reduce the cost, energy and improve recyclability of fiber enforced composites for vehicles, wind blades, hydrogen storage and natural gas fell cell power.

DRALON is the leading producer of dry-spun textile acrylic fibers. Traditionally, acrylic fibers are solution spun into polymer strands to create "white fiber" precursor material from polyacrylonitrile (PAN). DRALON produces a different shape fiber through a dry processing method that avoids the traditional solvent process. The fibers that result from DRALON's process are "dog bone" shape rather than round or kidney shape fibers from the tradition process.

Oak Ridge National Laboratory (ORNL), a partner in IACMI, has demonstrated that DRALON fibers are useful for making industrial carbon fibers with production cost well below that of conventional carbon fiber precursors. Up until now, DRALON's process has been developed and optimized for making fibers for textiles. Under the IACMI project, ORNL, University of Tennessee and DRALON will work to optimize DRALON process for making acrylic fibers as a precursor in carbon fiber production instead.

From DRALON's petition regarding its technical competence: "[DRALON] is Europe's largest acrylic fiber manufacturer and a world leader in acrylic fiber production technology. It currently produces both a wet-spin and a dry-spin polyacrylonitrile (PAN) fiber. Those will be the candidate precursor materials to be used in this project. The Petitioner's PAN fiber production has a capacity of approx. 180.000 t/a. [DRALON] has been producing acrylic fibers for over 70 years with approximately 500 qualified employees at present. Given its long-term expertise in this field, [DRALON] holds comprehensive know-how, however, currently no patents."

The total anticipated cost of the project is $1,200,000 over 18 months. The project budget includes $300,000 of federal funds for work to be done by ORNL and University of Tennessee. The remaining $900,000 is cost share provided by DRALON. DRALON's cost share includes $150,000 cash that it will provide ORNL and University of Tennessee for their work under the project. DRALON is not receiving any federal funds. The waiver is contingent on DRALON not receiving any federal funds.

There are no commercial scale acrylic fiber manufacturing facilities in the United States. DRALON's acrylic fiber production facilities are in Germany. EERE's Advanced Manufacturing Office, the funding program for IACMI, has already approved the foreign work for the project because it has determined that the foreign work would further the goals of IACMI including reducing the cost of carbon fiber composite and supporting carbon fiber manufacturing in the U.S. Moreover, with no U.S. acrylic fiber manufacturers, working with a foreign company is necessary.

DRALON cannot agree to the standard U.S. Competitiveness provision because of the location of its manufacturing facilities in Germany. However, there is a direct benefit to U.S. manufacturing. DRALON role is to develop the process for making the acrylic fiber that would serve as a low cost precursor in carbon fiber manufacturing. ORNL owns the intellectual property around the conversion process for using the precursor in carbon fiber manufacturing. Therefore ORNL can control who gets access to the intellectual property around the conversion process so that only U.S. manufacturers have access to it. Information on the conversion process is also subject to export control restrictions. DRALON as part of this waiver will agree to make the precursor available to any U.S. manufacturer. Because U.S. manufacturers will have access to and can use a low cost precursor that foreign manufacturers cannot use due to the controlled conversion process, U.S. carbon fiber manufacturers will have a competitive advantage and will encourage the building of U.S. carbon fiber conversion facilities. There are already new U.S. carbon fiber manufacturing facilities being planned in part due to the work of IACMI.

In view of the foregoing benefit to U.S. manufacturers, the lack of potential U.S. based partners for this project and DRALON receiving no federal funds and providing cash cost share to ORNL and University of Tennessee for the project, waiving the standard U.S. Competitiveness is justified. In lieu of the standard U.S. Competitiveness provision, DRALON agrees to make its acrylic fiber precursors available to any U.S. manufacturer under non-discriminatory and reasonable commercial terms. The waiver shall also 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.

Considering the foregoing, it is believed that awarding this waiver is in the economic interests of the U.S. and will provide DRALON with the necessary incentive to invest its resources in commercializing the results of the IACMI project 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 Drysdale
Patent Attorney
Golden Field Office

Date: 8/3/17

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

CONCURRENCE:

[redacted]

Mark Johnson
Director
Advanced Manufacturing Office

Date: 8-25-17

APPROVAL:

Brian Lally
Assistant General Counsel for Technology
Transfer and Intellectual Property

Date: 8/17/17