Statement of Considerations

REQUEST BY UT-BATTELLE, LLC FOR DOMESTIC AND FOREIGN RIGHTS IN SUBJECT INVENTION S-124,938 MADE IN THE COURSE OF AN INFORMAL COLLABORATION BETWEEN UT-BATTELLE AND SERGEI SMIRNOV, PROFESSOR AT NEW MEXICO STATE UNIVERSITY; DOE WAIVER DOCKET: W(I) 2015-028

UT-Battelle, LLC (Petitioner) has made a request for a waiver to worldwide rights in a subject invention made in the course of an informal collaboration between UT-Battelle—acting as the managing and operating (M&O) contractor for Oak Ridge National Laboratory (ORNL) under Prime Contract No. DE-AC05-00OR22725—and Dr. Sergei Smirnov, a Professor of Chemistry at New Mexico State University. The subject invention (S-124,938) is entitled "Porous Graphene for Water Desalination."

The subject invention arose from an informal collaboration between Petitioner's employees and Dr. Smirnov. No formal agreement was in place for the collaboration, but it is DOE's view that Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974, as amended (42 U.S.C. § 5908), is applicable thereto.[1] Rather than Dr. Smirnov petitioning for an undivided interest, he has agreed that UT-Battelle will petition on his behalf, in effect consolidating ownership of the subject invention with UT-Battelle.

In exchange for UT-Battelle obtaining full ownership of the invention, UT-Battelle has agreed to act as the lead for prosecuting, maintaining, and licensing the resulting patent(s); UT-Battelle will also share royalties from licensing the patent(s) as if Dr. Smirnov were an ORNL inventor. New Mexico State University supports this arrangement and in an abundance of caution has released to Dr. Smirnov any and all rights in the subject invention.

The subject invention was first disclosed to DOE in April 2014. 10 CFR 784.8(c) presumes that the instant waiver petition is untimely, unless good cause is shown to explain the delay. Here, the complexity of inventorship and ownership militated in favor of a measured, even cautious, approach in coordinating among the stakeholders to ensure the best possible outcome for commercializing the technology underlying the subject invention. In view of the circumstances, the undersigned Patent Counsel is satisfied that good cause was shown here.

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[1] Section 9 vests title in DOE to "any invention ... made or conceived in the course of or under any contract of the [Department]." *Contract* is defined as "any contract, grant, agreement, understanding or other arrangement, which includes research, development, or demonstration work ... or subcontract." Thus, although there was no formal agreement or exchange of funds here, the broad reach of Section 9 encompasses the collaboration as an "arrangement." A party desiring rights in such an invention is obligated to seek a waiver pursuant to 10 CFR 784.

By way of background, the subject invention discloses a desalination membrane having high water flux and nearly 100% salt rejection. The membrane is essentially composed of a porous graphene layer, where the porosity is achieved by exposing the graphene to an oxygen plasma. The porosity of the membrane is "tunable" by varying the plasma exposure time. The benefits of a simple and effective desalination membrane are numerous, potentially providing a rainfall-independent source of water suitable for industrial, agricultural, and household purposes.

Petitioner has extensive expertise in materials science, including graphene fabrication and membrane technology. As the M&O contractor for ORNL, Petitioner can capitalize on extensive technical competence in the research, design, and development of novel materials and coatings. At ORNL, project work underlying the subject invention was initially funded for three years under ORNL's Directors' R&D Fund with a total budget authority of $691,550. Petitioner reports no other funding associated with this invention.

Petitioner has committed to patenting the subject invention, and has already filed a provisional U.S. patent application therefor. Petitioner is also committed to licensing the technology to commercialization partners through ORNL's long-established technology transfer office. Petitioner anticipates that licensees will commit to expending the facilities, capital, and resources necessarily to successfully commercialize the technology. In this regard, consolidating title with UT-Battelle will aid Petitioner by allowing for exclusive field-of-use licenses that more readily justify a licensee's substantial investment in early-stage technology.

Petitioner, by virtue of its status as a DOE M&O contractor, must abide by essentially the same terms and conditions that DOE would require of a third party seeking a waiver of patent rights. These include the conditions set forth at 35 U.S.C. §§ 202-204 relating to the Government license, march-in rights, and preference for U.S. industry. Petitioner must also comply with a U.S. Competitiveness condition as set forth in the Technology Transfer Mission clause of its Prime Contract.

Granting of the waiver should have little effect on competition due to the extensive and ongoing research into graphene production and related applications. In the long-established field of water desalination, and with so many competing techniques and technologies, Petitioner and its licensees are unlikely to enjoy any undue advantage in the marketplace merely because DOE grants the instant waiver petition.

In view of the objectives and considerations set forth in 10 CFR 784.4, all of which have been considered, it is recommended that the requested waiver for worldwide patent rights in the subject inventions be granted.

[redacted]

Daniel T. Lamb
Patent Attorney

7 Oct. 2016
Date

Based on the foregoing Statement of Considerations, it is determined that the interest of the United States and the general public will best be served by a waiver of U.S. and foreign patent rights; therefore, the waiver is granted.

CONCURRENCE:

[redacted]

John M. LaBarge, Jr.
Office of Laboratory Policy and Evaluation
Office of Science

1/6/17
Date

APPROVAL:

[redacted]

Brian J. Lally
Acting Assistant General Counsel for
Technology Transfer and Intellectual
Property

2/1/17
Date