

STATEMENT OF CONSIDERATIONS

REQUEST BY PALO ALTO RESEARCH CENTER, INC (PARC) FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE AWARD NO. DE-EE0002765; W(A) 2010-061

PARC has requested a waiver of domestic and foreign patent rights of the United States of America in all subject inventions arising from its participation under the above referenced cooperative agreement entitled "Experiment-based model for the chemical interaction between geothermal rocks, supercritical carbon dioxide and water."

The objective of the project funded by the cooperative agreement is to develop a new geochemical model capable of simulating an EGS-CO₂ reservoir both during the transition from water to supercritical carbon dioxide (scCO₂) and throughout subsequent long-term operations. The model will be developed on a foundation of both theory and measurements of chemical and physical interactions between minerals, rocks, scCO₂ and water. According to PARC's petition, "[a]n experimentally validated reservoir modeling capability is critically important for the evaluation of the scCO₂-EGS concept, the adoption of which can significantly enhance energy production in the USA."

The total anticipated cost of the cooperative agreement is \$4,004,705. PARC is committed to providing a 25% cost share of \$1,004,705. This waiver is contingent upon PARC maintaining, in aggregate, a cost share percentage of at least 25% over the course of the cooperative agreement.

As set forth in its petition, PARC has an active program in Clean Tech including in solar energy, clean water, and CO₂ capturing and sequestration. More specific to this geothermal project, PARC has years of broad experience in handling difficult samples in complex environments at extreme conditions, unique knowledge and know-how in building complex experimental systems for material evaluations. PARC's principal investigator has 12 years of experience of working in similar programs as the one being funded by the cooperative agreement.

According to PARC, it has a 30-year track record of commercializing the results of its research and development efforts and it intends to commercially exploit the results from this cooperative agreement as well. More specifically, PARC intends to provide a competitive service offering to the industry in the U.S., focused on high throughput screening of mineral samples for EGS and sequestration, based on the results from this cooperative agreement. PARC has already approached several companies (*e.g.*, AltaRock, Greenfire, and GeothermEX) to discuss commercial collaborations in this area.


In addition to the planned service offering directed to testing mineral samples for the geothermal and sequestration, PARC believes that a waiver would allow PARC to combine multiple innovations within its Cleantech portfolio, to generate new capabilities and commercialize them in multiple markets.

According to PARC, it can only justify participating in this cooperative agreement and providing the 25% cost share, if it can protect the results of the cooperative agreement. The waiver will allow PARC to pursue patent protection for its subject inventions under this cooperative agreement. Without this protection, PARC believes it cannot create a commercial offering that is compelling to others. Therefore, PARC believes that the success of its commercialization goals depends directly on its ability to obtain a patent waiver.

PARC 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, PARC has agreed to the U.S. competitiveness provisions as attached to this Statement. In brief, PARC has agreed that products embodying any waived invention or made through the use of any waived invention shall be substantially manufactured in the United States, and that PARC 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 and item (k) of the additional information submitted by PARC, in granting this waiver, PARC believes that "[w]hile PARC may capture certain proprietary methods useful for high throughput screening mineral samples, there are other groups practicing related methods, and so [PARC does] not believe that there will be an excessive market concentration" as a result from the granting of this patent waiver.

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


Glen R. Drysdale
Patent Attorney
Golden Field Office

Date: 3/15/11

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 approved. This waiver shall not apply to any modification or extension of the cooperative agreement, where through such modification or extension, the purpose, scope, or cost of the cooperative agreement has been substantially altered.

CONCURRENCE:

[Redacted signature]

JoAnn Milliken
Acting Program Manager
Geothermal Program

Date: _____

[Redacted date]

APPROVAL:

[Redacted signature]

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

Date: _____

[Redacted date]

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.