

## STATEMENT OF CONSIDERATIONS

ADVANCE CLASS WAIVER OF PATENT RIGHTS FOR TECHNOLOGY DEVELOPED UNDER DOE FUNDING AGREEMENTS RELATING TO CROSSCUTTING RESEARCH: DEVELOPMENT OF NOVEL ARCHITECTURE FOR OPTIMIZATION OF ADVANCED ENERGY SYSTEMS; DOE FUNDING OPPORTUNITY ANNOUNCEMENT DE-F0A-0000864; W(C)-2013-003; CH1679

The Department of Energy Office of Fossil Energy anticipates providing federal assistance in the form of cooperative agreements for projects in novel technologies under the Crosscutting Research Program Area to support DOE Strategic Goals. DOE's National Energy Technology Laboratory (NETL) is seeking innovative research and development of novel sensor and control systems for use in advanced power generation systems. New sensor and control technology will contribute to the goals of high efficiency, near zero emission, and effective carbon capture for the next generation power generation technologies. These technologies include advanced combustion, gasification, turbines, fuel cells, gas cleaning and separation technologies, and carbon dioxide separation and capture technologies. The inclusion of transformational power generation and emission control technology will enable high process efficiency and integration to achieve performance goals at reasonable cost. Integration of new technology will introduce unprecedented levels of complexity and process conditions that must be addressed by improved sensor and control technology. To manage complexity and achieve performance goals, advances in the capability and architecture of instrumentation, sensors, and process controls are vital in assuring integrated unit operations, predictive on-line maintenance, and continuous life cycle monitoring and real time process optimization.

Innovations in these areas are being supported by NETL's Crosscutting Research Program which aims at bridging the gap between the basic sciences and applied research as it relates to Advanced Power Systems that utilize domestic resources. Long range transitional type research is needed to support the identification and growth of novel concepts that will lead to scientific breakthroughs and early adoption of innovative concepts into applications for power generation. Areas for long range transitional research are outlined below. Goals for the research outlined below include enabling, improving, and protecting power systems through the application of innovative sensor

and control technology, under the Crosscutting research Program, with specific application to Advanced Power Systems.

There are three (3) areas of interest: 1) Computational Developments for Applied Biomimetic-based Control Methodologies; 2) Innovation to Enable Smart Part Fabrication; and, 3) Novel Harsh Environment Sensing Concepts. Applicants must identify the Area of Interest to which they are applying.

DOE expects to make approximately 6-10 awards, in the form of cooperative agreements, under this announcement. The recipient cost share must be at least 20% or higher.

All types of entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and non profit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.

Considering the above, it is the purpose of this class waiver to vest title in new inventions made under this program by large business awardees and subcontractors in a fashion enabling them to expediently commercialize the various technologies. Accordingly, DOE will waive the Government's title to subject inventions, other than inventions made by Bayh-Dole participants pursuant to P.L. 96-517, as amended, or National Laboratories, to the above identified large business entities. Since cost sharing is at least 20%, it is expected that patent rights will be allocated among the participants on the basis of cost.

This advance class waiver of the Government's rights in inventions is subject to the usual advance patent waiver and background data licensing provisions. The terms of the advance patent waiver include the usual Government license, march-in rights, and preference for U.S. industry provisions comparable to those set out in 35 U.S.C. §§ 202-204. This advance patent waiver also includes the attached U.S. Competitiveness clause which requires that products embodying any waived invention or produced through the use of any waived invention be manufactured substantially in the United States unless the participant 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 will further agree to make this 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 the waived invention is suspended until approved in writing by DOE. The Contractor also agrees to submit copies of issued U.S. Patents resulting from waived inventions, and to submit annual reports on the utilization of a waived invention or on efforts at obtaining such utilization that are being made by the Contractor or any of its licensees or assignees.

The grant of this class waiver is not expected to result in adverse effects on competition or market concentration. Rather the waiver should enhance competition and growth in the coal power industry of the United States. The Contractor agrees to submit copies of issued U.S. Patents resulting from waived inventions, and to submit annual reports on the utilization of a waived invention or on efforts at obtaining such utilization that are being made by the Contractor or any of its licensees or assignees.

This advance class waiver shall apply to grants made to large business entities who meet the minimum cost-sharing requirement as set forth and who have provided written notice to DOE of their acceptance of the terms and conditions of this class waiver. The waiver will remain in effect as long as such cost sharing is maintained, in aggregate, over the term of the agreement. No separate waiver petition is required to be submitted.

Considering the foregoing, and in view of the statutory objectives to be obtained and the factors to be considered under DOE's waiver regulation, 10 C.F.R. 784, all of which have been considered, it has been determined that this class waiver as set forth above will best serve the interest of the United States and the general public. It is recommended that the waiver be granted.

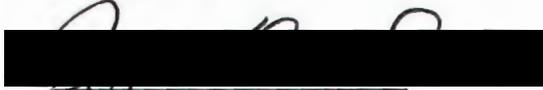


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Intellectual Property Law Division

Date: May 6, 2013

Based on the foregoing Statement of Considerations, it is determined that the United States and the general public will best be served by a waiver of rights of the scope described above, and therefore the waiver is granted. This waiver shall not apply to any modification or extension of this agreement, where through such modification or extension, the purpose, scope, or cost of the agreement is substantially altered.

CONCURRENCE:



Regis Conrad, FE-22  
Office of Clean Energy Systems  
Office of Fossil Energy

Date: 01/05/2016

APPROVAL:



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

Date: 1/29/2016

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.