

## STATEMENT OF CONSIDERATIONS

### REQUEST BY PARKER HANNIFIN CORPORATION FOR AN ADVANCE WAIVER OF PATENT RIGHTS TO INVENTIONS MADE UNDER COOPERATIVE AGREEMENT NO. DE-FE0005508; W(A)-2011-031, CH-1618

As set out in the attached waiver petition and in subsequent discussions with DOE Patent Counsel, Parker Hannifin Corporation (Parker) has requested an advance waiver of domestic and foreign patent rights for all subject inventions made under the above subject cooperative agreement. The waiver will apply to inventions made by Parker employees. Referring to item 2 of Parker's petition, the purpose of this agreement is to continue the development of fuel injector technologies that satisfy DOE's objective of reducing NOx emissions to 2 ppm. This project will use Macrolaminate (ML) multipoint fuel injectors/premixers couple to high-bandwidth piezoelectric valves. The piezoelectric valves will provide the means for high-bandwidth modulation of fuel flow to the premixer in order to extend the lean stability limit and control combustion dynamics. Further details of the project are provided in response to question 2 of the waiver petition.

The work under this agreement is expected to take place from November 1, 2010 through October 31, 2011 at a total cost of \$360,000. Parker will be obligated to cost share \$72,000, or 20 percent of the total cost of the project. DOE is providing the remaining 80% or \$288,000.

Referring items 5-9 in Parker's waiver petition, Parker is a leader in the field of gas turbine injection systems and fuel injection nozzles, both for aerospace (civil and military) and for power generation. It has invested significant sums of its own money in developing macrolamination technology. Parker has also invested significant money to develop its piezo actuation and piezo-valve technology. In appendix A to its petition, Parker has listed a number of patents covering macrolamination, as well as patents covering conventional fuel injection technology. This, coupled with Parker's cost sharing, clearly demonstrates the likelihood that Parker will continue development and commercialization of the results of this agreement.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. Because the work under this agreement will only further Parker's own substantial work in this area, granting the waiver will not change the competitive situation in this technological area.

This advance waiver of the Government's rights in inventions is subject to the usual advance patent waiver licensing provisions, including submission of issued patents, reporting on the utilization of subject inventions, and the government license, march-in rights, and preference for U.S. industry provisions set out in 35 U.S.C. 202-204. The advance patent waiver also includes the attached U.S. Competitiveness clause (paragraph t) which requires 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. The contractor further agrees to make the above condition binding on any assignee, licensee or other entity 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.

Considering the foregoing, it is believed that granting this waiver will provide Petitioner with the necessary incentive to invest its resources in the commercialization of the results of the agreement in a fashion which will make the technology available to the public in the shortest

practicable time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 10 CFR Part 784, all of which have been considered, it is recommended that the requested waiver be granted.

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Mark P. Dvorscak  
Deputy Chief Counsel  
Intellectual Property Law Division

Date: April 19, 2011

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 described above, and therefore the waiver is granted. This waiver will 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]

James F. Wood  
Deputy Assistant Secretary  
For Clean Coal, FE-20

Date October 6, 2011

APPROVAL:

[Redacted signature]

John T. Lucas  
Assistant General Counsel for  
Technology Transfer and Intellectual  
Property, GC-62

Date 10/11/2011

(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.