

## STATEMENT OF CONSIDERATIONS

### **Request by American Air Liquide for an Advance Waiver of Domestic and Foreign Invention Rights under DOE Contract No. DE-FC26-02NT41586; W(A)-05-049, CH-1334**

The Petitioner, American Air Liquide (Air Liquide) was awarded a cooperative agreement for the performance of work entitled, "Advanced Low/Zero Emission Boiler Design and Operation." The purpose of the cooperative agreement is to demonstrate the concept of oxygen-enriched flue gas recycling using a pilot-scale pulverized coal-fired boiler. The primary goal is to evaluate and optimize a multi-pollutant control system that produces a CO<sub>2</sub>-rich stream for subsequent use of sequestration. Results and information from these evaluations would then be used for retrofit applications or in a preliminary design of a new generation oxy-fired, coal-based boiler. This waiver is only for inventions of Air Liquide made under the cooperative agreement.

The total estimated cost of the contract is \$2,653,033 with the DOE share being \$1,285,287 or 48%. The remaining cost-share of \$1,367,746 or 52% will be provided by Air Liquide. The project began October 1, 2002 for an initial project period that was to end September 30, 2004. The project was continued, and a significant budget revision was recently made increasing the scope of work and extending the project to December 31, 2006. Due to this project extension, Air Liquide has requested this waiver, to cover all inventions made under the course of the agreement, retroactive to October 1, 2002. DOE has excused the late filing of the petition.

In its response to questions 5 and 6 of the attached waiver petition, Air Liquide has described its technical competence in the field of industrial gases. Air Liquide generates and sells industrial and medical gases to a wide variety of businesses, including industries strongly dependent on combustion technologies such as steel-making companies, refineries, and glass makers. Oxycombustion of natural gas is a commercial technology already offered by Air Liquide to the glass industry. Application of oxycombustion to another feedstock, coal, strongly benefits from Air Liquide's wide experience in combustion technologies and oxygen generation. The petitioner's principal investigator (p.i.) has experience in the development of large oxygen plants, and is the author of published papers as well as a co-inventor on a number of related patents. These publications and patents are listed as part of the curriculum vitae of the p.i., Fabienne Chatel-Pelage. Representative copies of publications are also attached. Air Liquide's response demonstrates its technical competency in the field of industrial gases.

In its response to question 10 of the attached waiver petition, Air Liquide states that competition in the field of CO<sub>2</sub> capture technologies is intense. There are many competitors developing a wide variety of competing technologies. This variety of technologies will insure sustainable competition. Air Liquide states that the various improvements expected by a variety of companies will prevent tight market concentration. Therefore grant of the waiver will have a positive effect on competition and market concentration.

The subject contract will be modified to add the Patent Rights--Waiver clause in conformance with 10 CFR 784.12, wherein Air Liquide has agreed to the provisions of 35 U.S.C §§ 202, 203, and 204. This waiver clause will also include a paragraph entitled U.S. Competitiveness, in which Air Liquide agrees to substantial U.S. manufacture of subject inventions (attached hereto). Additionally, Air Liquide agrees not to transfer subject inventions to any other entity unless that other entity agrees to these same requirements.

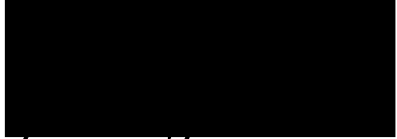
Considering the foregoing, it is believed that granting the waiver will provide the Petitioner with the necessary incentive to invest resources in the commercialization of the results of the agreement in a fashion which will make the agreement's benefits available to the public in the shortest practicable time. In addition, it would appear that grant of the above requested waiver would not result in an adverse effect on competition nor result in excessive market concentration. Therefore, 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, as set forth above, be granted.

  
Mark P. Dvorscak  
Assistant Chief Counsel  
Office of Intellectual Property Law

Date Dec. 5, 2005


Based on the foregoing Statement of Considerations and the representations in the attached waiver petition, 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: 0

  
George Rudins  
Deputy Assistant Secretary for Clean Coal  
Office of Fossil Energy, FE-20

Date 10/19/06

APPROVAL:

  
Paul A. Gottlieb  
Assistant General Counsel  
for Technology Transfer and  
Intellectual Property, GC-62

Date 10-20-06

(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.

## ***WAIVER ACTION - ABSTRACT***

W(A)-05-049 (CH-1334)

### REQUESTOR

American Air Liquide  
under DOE contract  
No. DE-FC26-02NT41586

### CONTRACT SCOPE OF WORK

Advanced Low/Zero Emission Boiler  
Design and Operation

### RATIONALE FOR DECISION

52% cost sharing

### DISPOSITION