

STATEMENT OF CONSIDERATIONS

**REQUEST BY AIR PRODUCTS AND CHEMICALS, INC. FOR AN ADVANCE
WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE
COOPERATIVE AGREEMENT NO. DE-FC07-97ID13514; W(A)-97-030; CH-
0933**

The Petitioner, Air Products and Chemicals, Inc., has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above referenced cooperative agreement entitled "High Efficiency, High Capacity, Low-NOx Aluminum Melting Using Oxygen-Enhanced Combustion."

The objective of the cooperative agreement is to develop and demonstrate a new, high-efficiency, high-capacity, low-NOx combustion system with an innovative low-cost, on-site vacuum-swing-adsorption (VSA) oxygen generation. The system is to operate in the economically optimum range of 35-50% oxygen in the oxidizer by integrating an O2 VSA into the combustion process. The integrated VSA will be configured to supply the average oxygen demand and at the same time store oxygen when demand is below average using a proprietary storage technology. It is hoped that this technology will achieve up to a 30% production increase, while maintaining NOx emission rates below California's target rate for secondary aluminum melters.


The total anticipated cost of the cooperative agreement is \$1.64 million, with the Petitioner providing \$.88 million for about fifty four percent (54%) cost sharing. This waiver is contingent upon the Petitioner maintaining, in aggregate, the above cost sharing percentage over the course of the agreement.

As noted in its waiver petition, Petitioner has been supplying products and services to the aluminum industry for over 25 years. Petitioner has considerable experience in the design and implementation of the low-NOx enrichment technology and has a number of patents related to the use of oxygen in combustion to lower NOx emissions. Initial work in this technology which began in 1987 continues to this day at Petitioner's state of the art Combustion Laboratory, for which Petitioner has invested more than \$2 million. Additionally, Petitioner spends approximately \$1 million annually for the development of industrial gases technology in the aluminum industry. Considering Petitioner's technical expertise, established market position, and significant investment in this technology including sizable cost sharing in this cooperative agreement, it is reasonable to conclude that Petitioner will continue to develop and ultimately commercialize the technology and products which may arise from this cooperative agreement.

Petitioner 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, Petitioner has agreed to the U.S. competitiveness provisions as attached to this Statement. In brief, Petitioner has agreed that products embodying intellectual property developed under this agreement shall be substantially manufactured in the United States, and that Petitioner 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, granting this waiver is not anticipated to have any adverse impact on competition. There are currently numerous applications, as well as competitors, in the low-NOx combustion technology. The technical work under this award is to explore one such alternative for providing an environmentally superior combustion process to the metals industry. The success of this cooperative agreement can be expected to stimulate further investment and competition in this technology.

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 cooperative agreement in a fashion which will make the above 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 784, all of which have been considered, it is recommended that the requested waiver be granted.


Daniel D. Park
Assistant Chief Counsel
Office of Intellectual
Property Law

Date:

9/9/99

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 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.

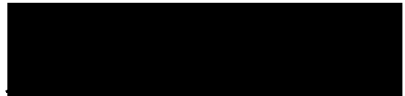
CONCURRENCE:


Kurt Sisson
Director, Office of Industrial
Strategies, EE-20

Date:

10/6/99

APPROVAL:


Paul A. Gottlieb
Assistant General Counsel
for Technology Transfer and
Intellectual Property

Date:

10-8-99

(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)-97-030

REQUESTOR

Air Products and Chemicals,
Inc.

CONTRACT SCOPE OF WORK

Development and demonstration
of low-NOx aluminum melting
using oxygen-enhanced
combustion

RATIONALE FOR DECISION

54% cost sharing