

STATEMENT OF CONSIDERATIONS

REQUEST BY ADVANCED TECHNOLOGY MATERIALS, INC. FOR AN ADVANCED
WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER COOPERATIVE
AGREEMENT NO. DE-FC36-99GO10451; W(A)-99-016; CH-1014

The Petitioner, Advanced Technology Materials Inc. (hereinafter "ATMI"), 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 "Integrated Micro-machines Hydrogen Gas Sensors". This cooperative agreement pertains to the development of micro-machines for the sensing of hydrogen gas under a wide variety of concentrations and moisture conditions.

The objectives of this cooperative agreement are to develop, evaluate and test a hydrogen sensor based on micro-machined structures. Specifically, this cooperative agreement is directed to the investigation of sensor fabrication parameters and their effect on performance; testing of micro-machine-based sensors under a variety of moisture and oxygen concentration conditions, and the investigation of the long-term stability of micro-machine-based sensors.

The total anticipated cost of the cooperative agreement, over the course of the twelve-month term of the agreement is \$196,329.00, of which the Petitioner's cost share being \$46,357.00, for approximately 24% (23.6%) cost sharing. This waiver is contingent upon the Petitioner maintaining, in aggregate, substantially the same cost sharing percentage over the course of this cooperative agreement.

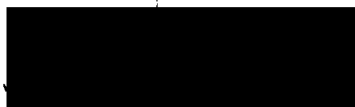
As noted in its waiver petition, Petitioner, through its EcoSys Monitoring Systems (EMS) division, has an established non-governmental commercial position in gas sensor technology. ATMI has invested approximately \$3,000,000 in internal research in this area, while also acquiring Telesonse, a gas sensing company. Sales, by the Petitioner, of gas sensor equipment range from \$4,000,000 to \$7,000,000 per year. Further, ATMI, through its primary researchers has extensive experience in gas sensor technology. The cofounder of ATMI, along with the primary researchers, have numerous patents relating to gas sensors, in addition to the publication of many journal articles. A list of these patents and articles appear in Attachment A of the petition. Considering Petitioner's technical expertise, established market position, and significant investment in this technology, including significant cost sharing in this cooperative agreement, it is reasonable to conclude that Petitioner will continue to further develop and commercialize the technology which may arise from this cooperative agreement.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. There are several alternate technologies for the detection of hydrogen. The granting of this waiver and the underlying cooperative agreement can be expected to stimulate competition in the field by providing a viable alternative to existing sensor technologies.

The Petitioner has agreed that this waiver will be subject to the usual government license and march-in and U.S. preference provisions, equivalent to those set out in 35 U.S.C. 202-204,

as well as appropriate background patent, third party licensing and data provisions. Further, Petitioner has agreed to the attached U.S. competitiveness provisions (clause (t)). In this connection, it should be noted that the Petitioner has also agreed that should DOE accede 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, royalties, etc. Most important, Petitioner has agreed that products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States unless Petitioner can show to the satisfaction of the DOE that it is not commercially feasible to do so, and in any event it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.

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 Part 784, all of which have been considered, it is recommended that the requested waiver be granted.



Thomas G. Anderson
Assistant Chief Counsel
Office of Intellectual
Property Law

Date: 2/15/00



Mark LaMarre
Patent Attorney
Office of Intellectual
Property Law

Date: February 15, 2000

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.

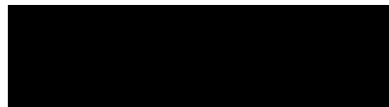
CONCURRENCE:



Neil Rossmeyss
Hydrogen Research and Development
Manager

Date: 3/15/00

APPROVAL:



Paul Gottlieb
Assistant General Counsel for
Technology Transfer and Intellectual
Property

Date: 3-15-00

WAIVER ACTION - ABSTRACT
W(A)-99-008

REQUESTOR

Advanced Technology
Materials, Inc.

Cooperative agreement SCOPE
OF WORK

Development, testing and long-
term stability evaluation of micro-
machine-based hydrogen
sensor.

RATIONALE FOR DECISION

Significant experience in the
design and manufacture of
micro-machine-based sensors -
23.6% cost sharing.