

## STATEMENT OF CONSIDERATIONS

ADVANCE WAIVER OF THE GOVERNMENT'S U.S. AND FOREIGN PATENT RIGHTS TO INVENTIONS MADE BY EG&G/ENERGY MEASUREMENTS, INC. IN THE PERFORMANCE OF COOPERATIVE AGREEMENT NO. DE-FC08-93NV11387 BETWEEN THE DEPARTMENT OF ENERGY AND XSIRIUS, INC. COVERING COLLABORATIVE R&D PROJECT BY EG&G/ENERGY MEASUREMENT, INC. (UNDER DOE CONTRACT NO. DE-AC08-88NV10617) AND XSIRIUS FOR THE DEVELOPMENT OF MERCURIC IODIDE PHOTON SENSOR AND INSTRUMENT TECHNOLOGY; W(A)-93-015; SAN 621

### Background

EG&G, Inc. through its EG&G, Energy Measurements Division (EG&G/EM) operates research and production facilities for the Department of Energy under the subject DOE contract. In the course of its research activities for DOE, EG&G/EM has acquired a recognized expertise in the field of mercuric iodide photon sensor and instrument technology.

DOE considers its contractor operated research and production facilities such as EG&G/EM to be national resources capable of providing significant contribution to the development of new products and processes, creation of jobs, enhancement of the skill level of the U.S. labor force and in improved U.S. competitiveness.

In support of DOE's implementation of the National Competitiveness Technology Transfer Act of 1989 (15 USC 3710(a), PL 101-189) and DOE's new technology transfer mission, DOE has modified the EG&G/EM contract to authorize, subject to DOE approval, the transfer, for commercial development and use, of technology originally developed by EG&G/EM for DOE program use.

Xsirius, Inc. has an interest in the commercial development and sale of mercuric iodide photon sensors and technology. Xsirius has proposed to DOE a joint research and development project with EG&G/EM which would give Xsirius access to the background experience and expertise of EG&G/EM and aid Xsirius in the development of mercuric iodide sensor technology for the commercial market.

DOE has determined that it is in the best interests of DOE for DOE to execute a cooperative agreement with Xsirius and to have EG&G/EM perform, under the terms of its subject contract with DOE, a collaborative research project with Xsirius in the field of mercuric iodide technology.

The EG&G/EM - Xsirius collaborative R&D project is proposed to be performed over a period of thirty-six (36) months. The total cost of the project is estimated to be \$1,800,000. Of the total

cost, DOE's share, funded through the subject EG&G/EM contract is estimated to be \$900,000. Xsirius' share in the form of contributions-in-kind is estimated to be \$900,000.

### Scope of the Waiver

This Advance Waiver is directed to those inventions conceived or first actually reduced to practice by employees of EG&G/EM in the course of its collaborative research and development project with Xsirius, Inc. in the field of mercuric iodide technology. Subject to the requirements of its contract with DOE and the conditions of this Advance Waiver, EG&G/EM may elect title to any invention which is conceived or first actually reduced to practice by employee(s) of EG&G/EM in the course of the subject collaborative R&D project with Xsirius, Inc.

Subject to the requirements of Cooperative Agreement No. DE-FC08-93NV11387 between DOE and Xsirius, Xsirius may elect title to any invention which is conceived or first actually reduced to practice by employee(s) of Xsirius in the course of the subject collaborative R&D project with EG&G/EM.

Excluded from the scope of this Advance Waiver is any other invention made by an employee of EG&G/EM in the course of or under the subject contract with DOE which is neither conceived nor first actually reduced to practice in the course of the subject collaborative R&D project with Xsirius. Also excluded from the scope of this Advance Waiver is any invention conceived or first actually reduced to practice by either party in the collaborative R&D project which is determined by DOE to be classified or sensitive under Section 148 of the Atomic Energy Act of 1954, as amended, or which inherently discloses or suggests a DOE weapons program application where such disclosure or suggestion would be detrimental to national security. DOE does not anticipate any such invention from the proposed project.

This waiver of the Government's rights in inventions is subject to the Government's retention of (1) a non-exclusive, non-transferable, irrevocable license to practice or to have practiced for or on behalf of the United States the waived inventions throughout the world and (2) march-in rights comparable to those set out in 35 USC 203.

### Analysis

For a period of fifteen (15) or more years DOE has supported R&D of mercuric iodide sensor technology for use in DOE programs. DOE recognizes a potentially large commercial application and market for such technology in the fields of environmental restoration and waste management. DOE's Defense Program (DOE DP) organization determined several years ago that there was no U.S.-based company that could or would undertake commercial

development and production of sensors/detectors of the type developed by EG&G/EM for DOE program use. DOE DP has concluded that it would be in the best interests of DOE to support the establishment of a U.S.-based commercial development and production capability for such sensors/detectors.

Xsirius, Inc. is a small business and a U.S. corporation organized under the laws of the State of Delaware. Xsirius has research facilities located in Santa Barbara, California. Xsirius has background expertise in mercuric iodide technology and has performed R&D in the mercuric iodide field for DOE and other Federal Agencies through various subcontracts and grants over a period of approximately 8 - 10 years.

Xsirius appears willing to undertake commercialization of mercuric iodide sensors/detectors. Xsirius approached DOE DP and EG&G/EM within the past three (3) years with a proposal for DOE and EG&G/EM to assist Xsirius in the development of mercuric iodide technology leading to the establishment of Xsirius as a U.S.-based source of mercuric iodide sensors/detectors. EG&G has agreed to grant to Xsirius commercial royalty bearing licenses to EG&G/EM waived subject inventions. Xsirius has agreed to seek patent protection on Xsirius subject inventions.

DOE DP would like to have commercial sources for mercuric iodide detectors which historically have been custom-made for Government use. DOE DP has determined that the technical information gained by DOE DP and EG&G/EM from the proposed collaborative R&D project will provide a significant benefit to DOE R&D programs in the form of increased understanding of how to produce commercial quality mercuric iodide crystals and how to employ such crystals as sensors/detectors in commercially produced instruments. Based upon this anticipated program benefit, DOE DP has agreed to support the proposed project.

Both Xsirius and EG&G/EM have reviewed and approve of the terms and conditions of the cooperative agreement (copy attached).

#### Conclusion/Recommendation

DOE has determined there is a need for a U.S.-based source of commercial production of mercuric iodide sensors/detectors. Xsirius has shown a desire and commitment to develop mercuric iodide technology for commercial application and U.S.-based production. EG&G/EM has shown a willingness to collaboratively work with Xsirius to fill the DOE need and accomplish the Xsirius objective. Government rights to two mercuric iodide technology background patents have already been waived to the University of Southern California which manages an active patent licensing program. Rights to a third mercuric iodide technology background patent are still owned by the U.S. Government and may be

commercially licensed to others. Thus, this waiver should not cause any unacceptable market concentration or adverse impact on competition.

For the foregoing reasons and in view of the objectives and considerations set forth in DOEPR 9-9.109-6 all of which have been considered, it is recommended that the subject Advance Waiver be granted.

[Redacted]  
[Redacted]  
James M. Hanley  
Asst. Chief Counsel  
Intellectual Property Law Div., SF

Based on the foregoing Statement of Considerations 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.

CONCURRENCE:  
[Redacted]

James L. Van Fleet  
Acting Director,  
Technology Management Group  
Defense Programs

Date: 11/19/93

APPROVAL:  
[Redacted]

Richard E. Constant  
Assistant General Counsel for  
Intellectual Property

Date: 11/24/93