STATEMENT OF CONSIDERATIONS

CLASS WAIVER OF THE GOVERNMENT'S DOMESTIC AND FOREIGN PATENT RIGHTS IN INVENTIONS MADE IN THE PERFORMANCE OF RESEARCH IN THE INORGANIC MEMBRANE TECHNOLOGY LABORATORY OPERATED BY BECHTEL JACOBS COMPANY UNDER ITS MANAGEMENT AND INTEGRATION CONTRACT DE-AC05-98OR22700; WAIVER ORO-674, W(C)-98-004

The Department of Energy (DOE) previously approved a class waiver [W(C)-96-006] of domestic and foreign patent rights in inventions made in the performance of Cooperative Research and Development Agreements (CRADAs) relating to inorganic membrane technology, which were entered into by Lockheed Martin Energy Systems, Inc. under prime contract DE-AC05-84OR21400 and by Lockheed Martin Energy Research Corporation under prime contract DE-AC05-96OR22464. Those contractors performed cooperative research involving inorganic membrane technology with private industry partners as part of the Department of Energy's program to commercialize that technology (originally developed as part of the gaseous diffusion process for uranium enrichment) by developing unclassified products which could be sold commercially. One such product has been produced to date and others continue under development as part of several active CRADAs. The technology was largely developed at the Oak Ridge Gaseous Diffusion Plant, now known as the East Tennessee Technology Park (ETTP), where a viable team of inorganic membrane researchers/developers remain, and where unique development, testing and manufacturing facilities for inorganic membrane exist.

On April 1, 1998, the ETTP facility operations, including the Inorganic Membrane Technology Laboratory and associated personnel, related Technology Transfer missions and CRADA authority, became a part of DOE's management and integration (M&I) contract with Bechtel Jacobs Company. Accordingly, Bechtel Jacobs Company has now assumed responsibility for commercialization of DOE's inorganic membrane technology and has become a party to those inorganic membrane related CRADAs previously entered into by the predecessor contractors. Pursuant to this assumption of responsibility, Bechtel Jacobs Company has submitted a waiver petition to DOE for rights in all Subject Inventions made in the performance of research in the Inorganic Membrane Technology Laboratory under its M&I contract. A separate identified invention waiver petition has also been submitted by Bechtel Jacobs Company for approximately sixty identified background inventions which were made by predecessor contractors and which are owned by DOE. That petition will be the subject of a separate Statement of Considerations dealing with background inventions and is therefore not within the scope of the subject waiver request.

Early in fiscal year 1995, the DOE, through its Office of Nuclear Energy, Science and Technology, began working toward the establishment of CRADAs with several companies interested in applying classified inorganic membrane technology to commercial applications other than uranium enrichment that would yield unclassified products. Those CRADAs are being carried out on a classified basis, committing the participants to work to rigorous standards of security. Any resulting inorganic membrane products having commercial potential must be evaluated and certified by DOE prior to deployment or commercialization to ensure that applicable nonproliferation standards are met and that arms control risks are acceptable. The operable gaseous diffusion barrier or membrane used for uranium enrichment is not being transferred to private industry or commercialized under these CRADAs. The Department has given approval, subject to several restrictions designed to ensure that safeguard and security standards are met, for the CRADAs to proceed to the point where proof-of-principle is reached for commercial application of the membrane technology in fields of use other than uranium enrichment. One product, a stainless steel filter, has been approved for commercial sale and is expected to be produced commercially in the near future by an industrial supplier which is negotiating a lease of ETTP facilities for the purpose of commercially producing the approved product.

One purpose of this class waiver is to further the Department's program to commercialize inorganic membrane technology by providing Bechtel Jacobs Company with title to those future inorganic membrane inventions made by its employees at the ETTP, thereby enhancing its ability to promote commercialization, consistent with nonproliferation concerns, through licensing the technology. In one particular, the scope of the waiver is directed to the class of identified inorganic membrane related inventions made by Bechtel Jacobs Company employees in the performance of the 22700 contract. It includes, but is not limited to, subject inventions made by Bechtel Jacobs employees while working under CRADAs and other approved technology transfer mechanisms to the extent that the inventions are not covered by existing or future class waivers granted to third parties. This class waiver does not include inventions of subcontractors under the 22700 contract.

Another purpose of this class waiver is to further the Department's program to commercialize inorganic membrane technology by placing title to future inorganic membrane inventions made by employees of private participants under CRADAs with the participants, thereby facilitating their commercialization of the inventions. To the extent necessary, this class waiver is also intended to extend the existing Work-for-Others Class Waiver [W(A)-82-087] so that it applies to classified work

involving inorganic membrane technology. Presently, the Work-for-Others Class Waiver may not apply to classified work in view of an exceptional circumstance determination by the Department which concluded that the Government should retain title to classified technology developed under its contracts. Application of the Work-for-Others Class Waiver would not be automatic and would require prior certification by DOE Intellectual Property Counsel. In addition, Work-for-Others projects involving inorganic membrane technology would be subject to the same rigorous standards of security and nonproliferation as are applied to CRADAs involving classified inorganic membrane technology.

The National Technology Transfer and Advancement Act of 1995 (hereafter the "Act") provides that the Federal laboratories (contractor) must ensure through the CRADA that the collaborating party (participant) has the option to choose an exclusive license for a pre-negotiated field of use to laboratory Subject Inventions. In addition, the Act provides that the collaborating party may retain title to any invention made solely by its own employee in exchange for normally granting the Government a license to practice the invention. Such provisions can best be implemented in inorganic membrane CRADAs by this class waiver of the Government's rights, which would permit the contractor to elect and offer an exclusive field-of-use license in its employees' inventions to the CRADA participant and election by the participant of inventions made by its employees. In this connection, it is noted that a similar class waiver was previously granted to the predecessor contractors for reasons which remain applicable to Bechtel Jacobs Company.

Any invention disclosures will be subject to classification review to determine whether they contain Classified Information or Unclassified Controlled Nuclear Information in accordance with DOE standards and procedures and will be subject to all applicable classification and security restrictions including Secrecy orders, where applicable. Also, participants have been put on notice that future commercialization efforts involving gaseous diffusion membrane technology may be severely curtailed as a result of DOE classification, safeguards and nonproliferation considerations and agree that they will not assert a claim for pecuniary award or compensation based on DOE or contractor actions arising out of such considerations.

This waiver of the Government's rights in inventions is subject to the Government's retention of : (1) a non-exclusive, non-transferable, irrevocable, paid-up license to practice or to have practiced the waived inventions for or on behalf of the United

States, (2) an irrevocable, paid-up, exclusive license (i.e. exclusive as against the owner) in the field-of-use of uranium enrichment with the exclusive right to grant sublicenses in the field-of-use and (3) March-in- Rights. In addition, the Bechtel Jacobs Company contract contains restrictions on the disposition of royalty income resulting from authorized technology transfer activities. Such restrictions ensure that Bechtel Jacobs would not privately profit from the royalties which are not sent to Treasury since the retained royalties must be used for purposes specified in the Bechtel Jacobs contract and would, along with title to the waived inventions, be passed on to a successor contractor or DOE designee in the event that Bechtel Jacobs' contract to manage ETTP is terminated. Royalty income retained in Oak Ridge is to be used in accordance with statutory guidance and contractual requirements for scientific research, development, technology transfer and education at the Laboratory consistent with its research and development mission and objective. The waiver to Bechtel Jacobs would also be subject to a "50-50" split of royalties between the Government and Bechtel Jacobs with the Government's share going to the U.S. Treasury. If the amount of the royalty split retained by Bechtel Jacobs exceeds 5 percent of the Laboratory's budget for a fiscal year, 75 percent of such excess amounts must be paid to the U.S. Treasury (in addition to the 50% initial split) and the remaining amount of such excess used for the purposes described above. Although the 5 percent threshold has not been reached at this early point of the inorganic membrane commercialization process, the potential commercial market for inorganic membrane technology could ultimately result in total royalty income which would trigger application of this contract provision.

Bechtel Jacobs must establish Contracting Officer approved policies for making awards and sharing royalties with its employee-inventors, and the waiver will be subject to special terms and conditions developed by ORO Intellectual Property Counsel, in consultation with the Assistant General Counsel for Technology Transfer and Intellectual Property and with the concurrence of cognizant program personnel, for providing review/approval of all options/licenses and oversight of Bechtel Jacobs' licensing activities. One such special term will be a limitation of $150,000 per year royalty share with any one person. This annual limit on royalty sharing is the same as would have been applied under 15 U.S.C. Part 3710c.(a)(3) had this waiver not been granted and DOE had licensed the inventions directly. Further, in view of the unique quality and nature of the waiver, DOE will also retain the right to review the waiver and revoke or modify it if deemed necessary. Such review is expected to occur every two years, with the Assistant General Counsel for Technology Transfer and Intellectual Property being responsible for conducting the review with the assistance of cognizant program personnel and Field Office representatives. After

two years, a review finding of satisfactory or better will provide a basis for reducing the degree of DOE oversight and approval needed. However, any such revocation or modification to the waiver would require concurrence at a level at least as high as the concurrence level of the original waiver. In order to avoid chilling current license negotiations with potential licensees and to protect licensee investments in commercialization activities, future modifications or revocation of the waiver would not adversely impact any options/license agreements effective at the time of such modification or revocation. In any event, future modifications, if any, are likely to deal with internal matters such as royalty distribution and use having little or no impact on licensees.

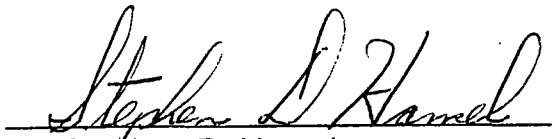
The grant of this Class Waiver should not result in adverse effects on competition or market concentration. Although the potential benefits of inorganic membrane products may ensure that such products will find extensive use in various industry segments, this waiver and the licensing efforts of Bechtel Jacobs will maximize exposure of the technology to many interested parties and will thereby tend to promote competition. Competition and market concentration would thus be controlled by appropriate marketing practices which would be subject to DOE review and which would provide for fairness of opportunity to encourage widespread industry participation consistent with security and nonproliferation requirements. Also, many users of the inorganic membrane products will have neither the capability nor an interest in manufacturing the membrane itself, but will prefer to purchase membrane from Bechtel Jacobs licensees and then incorporate the purchased membrane in a variety of other products and processes. In this regard, DOE cannot ensure, through the waiver process or otherwise, that there will be multiple licensees who are interested in manufacturing the inorganic membrane elements or products even though there are likely to be many companies which decide to use the membrane in a wide variety of applications. DOE review of all inorganic membrane options/licenses and oversight of Bechtel Jacobs' licensing activities should best ensure that adverse effects on competition do not develop as a result of this waiver grant.

There are no known Government regulations which require or might require use of the technology which is the subject of the contract and this waiver. The technology does not directly concern the public health, safety or welfare although some future applications of the technology such as water purification or waste cleanup could have an impact on public health.

Conclusions/Recommendation

It is believed that granting this class waiver will facilitate the commercialization of membrane technology to the extent that such commercialization is consistent with DOE classification and security restrictions as well as nonproliferation safeguards. It is also believed that such commercialization will inure to the benefit of the United States and the general public, and that no adverse effects on competition or market concentration are likely to result. If participants do not make reasonable efforts to utilize a waived invention, DOE can exercise its March-in-Rights to require licensing of the invention to a responsible party or parties.

Accordingly, in view of the legislative requirement that CRADA participants be offered an exclusive field-of-use license, the protective restrictions, including a certification requirement, that will ensure compliance with DOE classification and security standards and nonproliferation safeguards, the statutory objectives to be obtained and the factors to be considered under DOE's statutory waiver policy, the objectives of Public Law 101-189, and Executive Order 12591, all of which have been considered, it is believed that the grant of this Class Waiver, as set forth above, will best serve the interest of the United States and the general public. It is therefore recommended that the waiver be granted.



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Based on the foregoing Statement of Considerations, it is determined that the interest of the United States and the general public will best be served by waiver of United States and foreign rights as set forth herein and, therefore, the waiver is granted. This waiver shall not affect any waiver previously granted.

CONCURRENCE:

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