STATEMENT OF CONSIDERATIONS

REQUEST BY CHEMICAL RESEARCH AND LICENSING COMPANY FOR AN ADVANCE WAIVER OF PATENT RIGHTS UNDER DOE COOPERATIVE AGREEMENT NO. DE-FC36-04GO14152; ENTITLED "ADVANCES IN PROCESS INTENSIFICATION THROUGH MULTI-FUNCTIONAL REACTOR ENGINEERING"; W(A)-04-057;CH-1227

As set out in the attached waiver petition and in subsequent discussions with DOE Patent Counsel, Chemical Research and Licensing Company (CR&L) has requested an advance waiver of domestic and foreign patent rights for all subject inventions made under the above-identified cooperative agreement by its employees and its subcontractors' employees, regardless of tier, except inventions made by subcontractors eligible to retain title to inventions pursuant to P.L. 96-517, as amended, and National Laboratories. CR&L is leading a tearning arrangement including ABB Lummus Global, Inc. (ALG) and Sandia National Laboratory (Sandia) to develop scale-up technology for a multi-phase catalytic reactor system.

Referring to CR&L's waiver petition, the purpose of this agreement encompasses the development of scale-up technology for methane alkylation processes using a multi-phase catalytic reactor system.

The work under this agreement is expected to take place over a period of about 4 years at a total cost of \$3,300,000. A portion of the work will be done under a CRADA between Sandia and Catalytic Distillation Technologies (CDTECH), a partnership between CR&L and ALG, and the remainder will be done by CR&L as it deems appropriate. CR&L is obligated to cost share \$1,050,000 or about 32 percent of the cost of the work under the agreement.

In view of the cost sharing and other equities between CR&L and its subcontractors, it is anticipated that the parties will develop an appropriate allocation of patent rights among the participants to facilitate the expeditious development of the technology forming the subject matter of the agreement. Accordingly, DOE will waive title to all subject inventions made by CR&L's employees and its subcontractors' employees, regardless of tier, except inventions made by subcontractors eligible to retain title pursuant to P.L. 96-517, as amended, and National Laboratories, to CR&L or its subcontractors, as mutually agreed by the parties. Except as otherwise approved in writing by DOE Patent Counsel, a party's acceptance of a subcontract under this agreement, at any tier, shall constitute CR&L's certification that it has provided that party with a copy of this Statement of Considerations and that party's notice to DOE that it accepts the terms and conditions of this advance waiver. Additionally, subcontractors who receive title under this waiver shall notify DOE Patent Counsel in writing of such disposition of patent rights.

Referring to items 5-9 of CR&L's waiver petition, CR&L is a leading developer of processes and facilities used in the refining, chemical and petrochemical industries. This, coupled with CR&L's cost sharing, clearly demonstrates the likelihood that CR&L will continue development and commercialization of the results of this agreement.

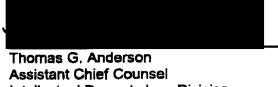
This advance waiver of the Government's rights in inventions is subject to the attached patent waiver clause and the government license, march-in rights, and preference for U.S. industry provisions set out in 35 U.S.C. 202-204. The advance patent waiver also includes the

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attached U.S. Competitiveness clause (paragraph t) which requires products embodying any waived invention or produced through the use of any waived invention be manufactured substantially in the United States unless the participant can show to the satisfaction of DOE that it is not commercially feasible to do so. The contractor further agrees to make the above condition binding on any assignee, licensee or other entity acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived 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 DOE.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. If anything, the technology forming the subject matter of this agreement can be expected to provide a new entrant to an existing market.

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 agreement in a fashion which will make the 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.



Intellectual Property Law Division

Date: 12-23-04

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 agreement has been substantially altered.

MICH INDENICE

Douglas E. Kaernof, Director Office of Industrial Technology Program, EE-2F

Date: 1/1.3/05

APPROVAL: Paul A. Gottlieb Assistant/General Counsel for Technology Transfer⁴ and Intellectual Property, GC-62

Date:

WAIVER ACTION - ABSTRACT W(A)-04-057 (CH-1227)

REQUESTOR

CONTRACT SCOPE OF WORK

RATIONALE FOR DECISION

DISPOSITION

Chemical Research and Licensing, Co. Under DOE Cooperative Agreement No. DE-FC36-04GO14152 Advances in Process Intensification Through Multi-Functional Reactor Engineering 32% cost sharing