

## STATEMENT OF CONSIDERATIONS

REQUEST BY LUMILEDS LIGHTING, U.S. FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN INVENTION RIGHTS UNDER DOE COOPERATIVE AGREEMENT NO. DE-FC26-01NT41251; W(A)-02-005, CH-1089

The Petitioner, LumiLeds Lighting U.S. LLC (LumiLeds), was awarded this cooperative agreement for the performance of work entitled, "Development of Key Technologies for White Lighting Based on LEDs". According to the State of Project Objectives attached to the waiver petition, the objective of the project is to improve the efficiency of III-N alloy light emitting diodes (LEDs) for use in white lighting. This will be accomplished by investigation of three areas: 1) the use of low defect density substrates to be used for the growth of standard and well characterized LED structures; 2) the use and development of in-situ diagnostic tools to study the environment inside the reactors used to prepare the III-N alloys; and 3) the synthesis of alternate luminescent materials, nanoclusters, as well as new encapsulant materials. These materials will then be characterized to determine their potential usefulness in white light LEDs and then be used in LEDs to determine their effectiveness under actual operating conditions. The program will concentrate on these key issues regarding the III-nitride system and accelerate the realization of a price and performance competitive solid-state white lighting source.

The total estimated cost of the cooperative agreement is about \$1,502,000 with LumiLeds cost sharing about 33%, or \$500,000 with DOE funding at 67% or \$1,002,000.

In its response to question 5 of the attached waiver petition, LumiLeds indicates that it is technically competent in the field of solid state lighting and the III-nitride system. LumiLeds is a joint venture between Agilent Technologies and Philips Lighting. It is a leading worldwide supplier of LED chips, lamps, and lighting modules, specializing in high-flux, power LEDs. LumiLeds has developed several materials systems to provide LEDs with a wider range of emission spectra and improving efficiencies. It states that through its proprietary compound semiconductor wafer bonding technology, it currently holds the world's record performance in efficiency for visible-spectrum LEDs. LumiLeds has Intellectual Property as a result of this development, and representative listings of technical publications and patents are listed in Appendices C and D respectively. LumiLeds' responses to question 5 thus demonstrate its technical competency in white lighting research and development.

In response to question 7 of the attached waiver petition, LumiLeds states that it has developed a substantial core technology within the field of solid-state lighting, advancing LED technology and enabling the first generation of high-power (>1 Watt) emitters. This development was accomplished through a 100% internally funded investment of over \$50M. Other investments have been made in core materials development in the areas of high-brightness III-N and III-P materials. This financial and technical investment serves as a baseline core and provides a solid foundation for all development. LumiLeds' response to question 7 indicates that it has made a substantial financial and technical investment in the technology to be developed under this cooperative agreement.

From its response to questions 9 and 10, LumiLeds indicates that grant of the waiver will more efficiently promote the development and commercialization of inventions made under the cooperative agreement and will provide LumiLeds, at this early stage, with the incentive to invest in the development and commercialization of the technology. LumiLeds states that it does not hold a dominate position with respect to the U.S. III-Nitride industry, and that grant of the waiver will make LumiLeds a stronger U.S. company able to compete more effectively in the

worldwide III-Nitride industry. Therefore, grant of the waiver will likely increase LumiLeds' incentive to rapidly commercialize III-Nitride technology.

The subject cooperative agreement will be modified to add the Patent Rights--Waiver clause in conformance with 10 CFR 784.12. This waiver clause will also include a paragraph entitled U.S. Competitiveness, in which LumiLeds agrees to substantial U. S. manufacture of subject inventions (attached hereto). Additionally, LumiLeds agrees not to transfer subject inventions to any other entity unless that other entity agrees to these same requirements. The petitioner has further agreed to modification of the data clause of the subject cooperative agreement (48 C.F.R. 952.227-14) by adding paragraph (k), Alternative VI, concerning contractor licensing of data.

Considering the foregoing, it is believed that granting the waiver will provide the Petitioner with the necessary incentive to invest resources in the commercialization of the results of the agreement in a fashion which will make the agreement's benefits available to the public in the shortest practicable time. In addition, it would appear that grant of the requested waiver will not result in an adverse effect on competition nor result in excessive market concentration. Therefore, 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, as set forth above, be granted.

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Mark P. Dvorscak  
Assistant Chief Counsel  
Office of Intellectual Property Law

Date March 15, 2002

Based on the foregoing Statement of Considerations and the representations in the attached waiver petition, it is determined that the United States and the general public will best be served by a waiver of rights and consent to assignment of the scope described above, and therefore the waiver is granted. This waiver shall not apply to any modification or extension of this agreement, where through such modification or extension, the purpose, scope, or cost of the agreement is substantially altered.

CONCURRENCE:

[Redacted signature block]

Mark Ginsburg  
EE-40  
Deputy Assistant Secretary for  
Building Technologies and  
State & Community Programs

Date: April 27, 2002

APPROVAL:

[Redacted signature block]

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

Date: MAY 2 2002

(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.