

STATEMENT OF CONSIDERATIONS

REQUEST BY SIEMENS SOLAR INDUSTRIES FOR AN ADVANCE
WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER NREL
SUBCONTRACT NO. ZAK-8-17619-19 UNDER DOE CONTRACT NO. DE-
AC36-83CH10093; W(A)-98-019; CH-0987

The Petitioner, Siemens Solar Industries (hereinafter "SSI"), has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above referenced subcontract entitled "Commercialization of CIS-Based Thin-Film PV." The Petitioner is a ~~lower-tier~~ subcontractor under the referenced NREL subcontract with ~~Southwest Research Institute (SRI), a not-for-profit organization.~~ *Pf* *DEE*

The contract pertains to the use of alloys of copper indium diselenide (CuInSe_2 , hereinafter "CIS") in photovoltaic cells. CIS-based photovoltaic cells have shown promise in reducing the cost of photovoltaics well below the cost of crystalline silicon-based photovoltaic cells. The prime objective of this subcontract is to produce commercial CIS-based photovoltaics. Intermediate objectives of this subcontract are to scale-up substrate size and production capacity of the baseline SSI CIS-based modular process in order to provide commercial introduction of CIS-based products. Further, additional objectives include advancing the fundamental understanding of CIS-based materials and devices with the goal of improving attributes of future products. The work planned under this subcontract includes substrate size scale-up; scale-up the SSI CdS deposition process and process equipment; scale-up the SSI patterning processes; increasing the capacity of the SSI substrate preparation and molybdenum deposition processes; increasing the capacity of the SSI graded adsorber formation process; increasing the capacity of the SSI CdS deposition process; increasing the capacity of the SSI zinc oxide deposition process and process equipment, and increasing the capacity of the SSI patterning equipment and patterning processes.

This CIS-based photovoltaic cell development project is anticipated to take place in three phases, over a period of approximately three years. The total expected cost of the subcontract, over the three phases of the contract, is \$5,292,579.00, the Petitioner's shares being \$2,646,290.00, for approximately fifty percent (50%) cost sharing. The first phase of the contract, which is in progress and has a total budget of \$1,594,732, of which the Petitioner's cost share is \$797,366.00. Phase II of the contract has a total anticipated budget of \$1,799,218.00, of which the Petitioner's projected cost share is \$899,609.00. Phase III of the contract has a total anticipated budget of \$1,898,629.00, of which the Petitioner's projected cost share is \$949,315.00. It is anticipated that this waiver will be applicable over all three phases of the subcontract contingent upon the Petitioner maintaining, in aggregate, substantially the same cost sharing percentage over the course of the subcontracts (i.e., 50%).


As noted in its waiver petition, Petitioner, through its predecessor ARCO Solar, has an established non-governmental commercial position in photovoltaic technology. With over 20

years of research and sales experience the Petitioner is a recognized leader in the development of single silicon crystal photovoltaics. Prior to the execution of this subcontract, Petitioner has invested substantial time and monies in developing and testing single crystal silicon photovoltaic cells and in the development of new lower-cost thin film technologies based on CIS. Considering Petitioner's technical expertise, established market position, and significant investment in this technology, including significant cost sharing in this subcontract, it is reasonable to conclude that Petitioner will continue to further develop and commercialize the products which may arise from this subcontract.


Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. The technology is already sufficiently evolved that it is now at the refinement or final development stage. Development work at this stage is unlikely to result in a significant patent position. Rather, it is expected is further refinement of the technology which will spur further interest in the technology

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. 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 subcontract 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: 3/18/99


Mark LaMarre
Patent Attorney
Office of Intellectual
Property Law

Date: March 18, 1999

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 subcontract, where through such modification or extension, the purpose, scope or cost of the subcontract has been substantially altered.

CONCURRENCE:

James E. Rannels
Acting Director
Office of Photovoltaic and Wind
Technologies

Date: 5/10/99

APPROVAL:

Paul Gottlieb
Assistant General Counsel for Technology
Transfer

Date: 5-10-99

U.S. COMPETITIVENESS CLAUSE**(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.