

STATEMENT OF CONSIDERATIONS

REQUEST BY CORNING INCORPORATED FOR AN ADVANCE WAIVER
OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE
CONTRACT NO. B29143; DOE WAIVER NO. W(A)-95-029

The Petitioner, Corning Incorporated, has requested an Advance Waiver of the Government's domestic and foreign rights to inventions made under the above cited research and development contract (R&D Contract).

The objective of the R&D Contract issued by the Lawrence Livermore National Laboratory (LLNL) on behalf of DP-11 is to reduce the costs associated with the manufacturing of large size high quality fused silica transmissive optics utilized in advanced Inertial Confinement Fusion (ICF) laser systems. The present cost of laser optics used in the ICF laser system is between \$1.7/cm³ to \$2.0/cm³. After completion of the R&D Contract, it is believed that a 50% reduction in cost for the laser optics will be achieved, such that the anticipated final unit cost will be around \$0.83/cm³. Corning has agreed to incorporate any manufacturing price reduction realized under the R&D Contract for laser optics used in the ICF Program when DOE purchases the laser optics in any follow-on contracts (see Appendix A - Corning's Petition, response 14). The Office of Research and Inertial Fusion (DP-11) supports granting this Advance Waiver of patent rights to Corning (see Appendix B). DP-11 considers this action to be essential because DOE anticipates the savings to be in the order of 12-15 million dollars if the manufacturing process is improved and the full cost savings is achieved.

The Petitioner was selected in a competitive procurement as the only bidder with the capacity of achieving the cost and quality objectives of the ICF Program (see Appendix B). Further, Corning is the only U.S. manufacturer that currently has the technology and manufacturing capability to make high quality fused silica transmissive optics necessary for ICF laser systems like the proposed NIF (see Appendix A, response 5). In order to reduce the unit cost of the laser optics, DP-11 must enter into this R&D Contract with Corning. However, Corning will only participate in this cost reduction program if it is allowed to protect its overall technology position in the manufacture and sale of fused silica products. Accordingly, the Petitioner has stated that it must be assured that any inventions created in the course of this R&D Contract will be owned by Corning so that this U.S. company can remain a world leader in this strategic technology. Therefore, as a condition of acceptance, Corning requests an Advance Waiver of the Government's rights in subject inventions under this R&D Contract, for use in all fields and all countries, subject to the standard irrevocable, royalty-free, non-exclusive, worldwide Government purpose license. Corning has also agreed to the Government's March-In Rights and U.S. Competitiveness provisions (see Appendix C).

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None of Corning's competitors can make high quality fused silica transmissive optics necessary for the ICF laser systems. Although there are other U.S. manufacturers of fused silica, they cannot produce the quantity of high-quality fused silica necessary to meet DOE's projected requirements. A German manufacturer produces fused quartz material that also fails to meet the level of quality necessary for the ICF laser system. This German manufacturer does produce fused silica, but by a different process that is substantially more expensive than the Corning process. The remaining foreign laser optic manufacturing companies produce phosphate doped laser glass, which has different properties and applications than those of fused silica transmissive optics.

Corning has been involved in the research, development and production of fused silica glass products since the 1950s. The Petitioner represents that it has invested over \$650 million dollars in private funds for the development of fused silica production technology so that it has become a worldwide leader of high-quality fused silica (see Appendix A, response 4). Corning has developed and holds numerous U.S. and foreign patents relating to materials, compositions, processes, equipment and uses of fused silica products such as, for example, optical fiber. Since 1974, the U.S. Patent Office has issued to Corning over 100 patents that relate to fused silica (see Exhibit B in Appendix A). Further, Corning employs a number of scientists and engineers that specialize in the formation and application of fused silica optics. Finally, Corning possesses a significant amount of proprietary know-how and trade secrets relating to the production of fused silica.

In the present R&D contract, Corning is contributing a portion of its background intellectual property that is necessary for LLNL to evaluate and assist in the development of fused silica optics under the R&D Contract. The Petitioner's contribution of intellectual property should be considered a partial funding of the Contract. We estimate that Corning's commercial sales of this technology are over one billion dollars. Thus, it is our belief that the R&D license provided by Corning to DOE for use during this Contract would be worth more than \$360,000, which is at least 20% of the \$1.8 million dollar total cost of this Contract.

Furthermore, with any follow-on manufacturing contracts for fused silica optics to be used in the ICF laser system, the Petitioner has agreed that if it cannot meet its commitment to provide the quantity of laser optics required by DOE Program at the reduced cost rate, then the Government will have the right under the "Background Patents" provision of the Patent Rights clause as well as the "Subcontractor Licensing of Limited Rights Data and Restricted Computer Software" clause (see Appendix D) in the Contract to compel Corning's licensing to a third party for

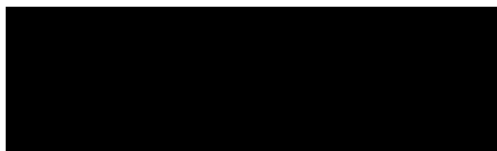
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production of the laser optics at the reduced manufacturing cost.

Again, Corning will only participate in this cost reduction program if it is allowed to protect its overall technology position in the manufacture and sale of fused silica products (see Appendix A, response 8). Thus, Corning requests the granting of an Advance Waiver as a condition of accepting the R&D Contract. The Petitioner has stated that it must be assured that any inventions created in the course of this R&D Contract will be owned by Corning so that this U.S. company can remain a world leader in this field of technology. DP-11 supports granting this advance waiver to Corning because the Government's interests are protected and Corning has unique capabilities (see Appendix B).

The considerations regarding Petitioner's ability to develop and market the fused silica technology are very positive, especially in view of the fact that Corning manufactures the fused silica used presently in ICF laser systems. The Petitioner's technical expertise also weighs heavily in favor of the grant of the advance waiver. There would appear to be no adverse effect on competition and market concentration should Petitioner be granted the present waiver. Finally, by granting the advance waiver, Corning would remain competitive in the world market of fused silica products, such as fiber optics. Ultimately, approval of the advance waiver will also benefit the U.S. Government by potentially saving DOE 12-15 million dollars in the future.

For the foregoing reasons, and in view of the objectives and considerations set forth in 41 CFR 9-9.109-6, all of which have been considered, it is recommended that the requested waiver be granted.



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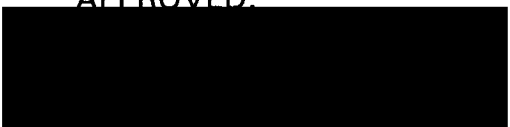
Based on the foregoing Statement of Considerations, it is determined that the interests of the United States and the general public will best be served by waiver of the United States and foreign patent rights as set forth herein and, therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the contract where, through such modification or extension, the purpose, scope or DOE cost of the contract has been substantially altered. This waiver shall not affect any waiver previously granted.

CONCURRENCE:


Marshall Stryker
Director, Office of Research and Inertial Fusion

Date 9/28/95

APPROVED:


Paul Gottlieb, Assistant General Counsel
for Technology Transfer and Intellectual Property

9-29-95
Waiver based on essential nature of having Corning as contractor. Not based on valuation of R+D

Date 9/29/95

