

### Statement of Considerations

REQUEST BY PETITIONER TECHNOLOGY INC., FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS IN SUBJECT INVENTIONS AND ADVANCED PERMISSION TO ASSERT COPYRIGHT IN TECHNICAL DATA AND COMPUTER SOFTWARE MADE IN THE COURSE OF OR UNDER UT-BATTELLE, LLC SOLICITATION 6400015112 UNDER PRIME CONTRACT NO. DE-AC05-00OR22725; DOE WAIVER DOCKET W(A)2018-004 [ORO-822]

### Patent Rights

Petitioner (Petitioner) has made a timely request for an advance waiver to worldwide rights in Subject Inventions made in the course of or under UT-Battelle, LLC Solicitation No. 6400015112 entitled, "Investigating Solutions to Memory and Storage Challenges" under UT-Battelle Prime Contract No. DE-AC05-00OR22725. *Petitioner is also requesting advanced permission to assert copyright in technical data and computer software generated under the proposed subcontract as well as a limitation on Government rights in all other data first produced in the performance of the subcontract.* The scope of work is to evaluate off road map concepts in memory architectures, on chip data movement, PHY technologies, central processing unit (CPU) offload mechanisms, and the mixing of memory types with the goals of improving system throughput while minimizing power dissipation for the given increase, in order to achieve required performance levels and reduce cost of ownership for next generation supercomputers. The work is sponsored by the Office of Science Advanced Scientific Computing Research.

The dollar amount of the subcontract, including fee, is \$9,299.929 with Petitioner proposing to cost share 40% of the estimated work (\$3,720,052). The period of performance is approximately three (3) years.

Petitioner's experience and expertise will contribute substantially to the development of the inventions and copyrighted works made under the subcontract. Petitioner is an American global corporation based in Boise, Idaho. The company produces many forms of semiconductor devices, including dynamic random-access memory, flash memory, and solid-state drives. Petitioner is the No. 2 supplier of memory worldwide including DRAM, NAND flash and NOR flash. On July 31, 2013, the company closed its acquisition of 100% of Elpida. In addition, Petitioner has a DRAM supply agreement with Inotera and a NAND manufacturing and technology development joint venture with Intel (IM Flash Technology). Petitioner owns and operates manufacturing and testing facilities in seven countries with wholly-owned wafer fabrication facilities in Idaho, Utah, Virginia, Singapore, Japan and Taiwan and wholly-owned module assembly and test facilities in Idaho, China, Puerto Rico, Japan and Singapore. Petitioner is one of three major memory manufacturers in the world, and the only U.S. manufacturer among those three. Petitioner holds thousands of patents for memory and storage technologies and is among the top 20 U.S. patent recipients in the world.

Petitioner has made a significant investment of private funding which will directly assist and further promote development of the work to be performed under the subcontract. Petitioner spends approximately \$500 million dollars per fiscal quarter for research and development in the field of memory storage devices and systems. Petitioner will bring its expertise in analysis of similar acting applications in the commercial environment which may be applied to DOE's selection of future memory and storage devices and implementation of memory centric computing architectures.



Petitioner has agreed to accept the attached DOE waiver terms and conditions if the requested waiver is granted. Specifically, Petitioner agrees to abide by the conditions set forth at 35 U.S.C. §202-204 relating to the Government license, march-in rights, preference for U.S. industry, as well as U.S. Competitiveness.

Petitioner 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 Petitioner can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event 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. Petitioner further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should Petitioner 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.

#### **Data Rights**

While the Bayh-Dole act only applies to the allocation of patent rights, Petitioner has also requested to have advanced rights to assert copyright in computer software and technical data without the Contracting Officer's prior approval. The Petitioner notes that DOE is funding the project with the goal of pushing Exascale-related technologies to become commercially viable on an expedited schedule, with Petitioner - the only remaining pure-play memory manufacturer - acting as a leader/catalyst for such commercialization efforts. Petitioner states that it is committed to commercializing the project technology, but recognizes the challenges of doing so in the context of a highly-competitive global memory market with significant foreign competition from Korea and emerging competition from China. Memory is a cross-cutting technology that impacts multiple CPU manufacturers, network manufacturers, and storage manufacturers. Speed in being able to present and distribute successful results of the contemplated research - to customers, industry partners and other stakeholders - is essential to Petitioner's commercialization efforts. Allowing Petitioner to swiftly present project data to relevant third parties (but with copyright protection already attached to cutting-edge project data) will materially enhance Petitioner's commercialization efforts.

The Government reserves a Government license in both the copyrighted technical data and computer software. For data other than computer software, the Petitioner grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the Government. For computer software, the Petitioner grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly (but not to distribute copies to the public) by or on behalf of the Government. However, the limited Government-use license in copyrighted software will revert to a broad Government license, which allows the Government to distribute copies to the public, if either the Petitioner abandons the commercialization of the software or DOE march-in rights are exercised, for example, where the Petitioner has not taken effective steps to commercialize the software.



In another departure from normal DOE data rights, for all other data first produced or delivered under the subcontract that is not copyrighted or considered limited rights data or restricted computer software, the Government has Government Purpose Use Rights (GPR). Petitioner states that GPR is necessary to protect Petitioner's commercial market position. Because the contemplated project scope will involve Petitioner working in collaboration with Oak Ridge National Laboratory (ORNL) to evaluate the potential impact of the performance parameters for Petitioner's portfolio of (privately-developed) advanced off-roadmap technologies in memory architectures, on chip data movement, and PHY technologies in connection with relevant DOE supercomputers and applications. The basis of reporting the achievements of this collaboration will include information on Petitioner's advanced off-road map technologies. Petitioner is comfortable exposing this proprietary information to the Government for the purpose of improving the Government's understanding of these technologies and their potential benefit to DOE. However, exposure of this Petitioner proprietary information to commercial entity third parties (as Unlimited Rights would allow) poses an unacceptable risk to Petitioner's commercial position and the value of Petitioner's proprietary information, information which Petitioner has spent substantial private funds to develop over years. The GPR status for certain data allows the Government to effectivity utilize this data for the essential purpose of the project, while at the same time protecting Petitioner from the potential harm that would result from disclosure of this data to the commercial market participants.


As set forth in the attached modifications (See Attachment 1) to be made to the data clause (See Attachment 2: ORNL's Exhibit 9) to be added to Petitioner's subcontract, "Government Purpose" means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

Furthermore, GPR provides the Government the right to use, modify, reproduce, release, perform, display, or disclose technical data within the Government *and DOE's M&O Contractors (and subcontractors)*, without restriction; and (ii) release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States Government Purposes.

### Conclusion

Granting of the waiver should have little effect on competition since there are several technology options, this being one of many previously or yet-to-be developed in the marketplace. Moreover, Petitioner's technology will require significant additional development prior to commercial introduction. Thus, there should not be undue market concentration of Petitioner products.


In view of the objectives and considerations set forth in 10 CFR 784.4, all of which have been considered, it is recommended that the requested waiver for worldwide patent rights in Subject Inventions be granted, as well as advanced permission to assert copyright in technical data and computer software, and the GPR limitation for certain data.

  
Emily G. Schneider  
Assistant Chief Counsel for  
Intellectual Property

Date 9/25/2018


Based on the foregoing Statement of Considerations and the representations in the attached Waiver Petition, it is determined that the interest of the United States and the general public will best be served by a waiver of U.S. and foreign patent rights and advanced permission to assert copyright, and therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the subcontract where, through such a modification or extension, the purpose, scope or cost of the subcontract has been substantially altered.

CONCURRENCE:

  
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Associate Director  
Office of Advanced Scientific Computing  
Research  
Office of Science

9/26/2018  
Date

APPROVAL:

  
Brian Lally  
Assistant General Counsel for Technology  
Transfer and Intellectual Property

9.26.18  
Date