

## Statement of Considerations

REQUEST BY MICRON TECHNOLOGY, INC. (MICRON) FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS IN SUBJECT INVENTIONS MADE IN THE COURSE OF OR UNDER BATTELLE MEMORIAL INSTITUTE (BMI) SOLICITATION 594627 UNDER PRIME CONTRACT NO. DE-AC05-76RL01830; DOE WAIVER DOCKET W(A)2020-007 [ORO-826]

Micron Technology, Inc. (Petitioner) has made a timely request for an advance waiver to worldwide rights in Subject Inventions made in the course of or under BMI Solicitation No. 594627 entitled “Advance Memory Research in Support of AI for Science” under BMI Prime Contract No. DE-AC05-76RL01830. Petitioner will work in collaboration with Pacific Northwest National Laboratory (PNNL) to examine technology roadmaps for memory systems, the effectiveness of near memory computing on shared data, and future High Bandwidth Memory (HBM) designed to be for general market usage. These investigations specifically target the assessment of emerging memory technologies in support of Machine Learning (ML) and Artificial Intelligence (AI) for the Office of Science. The work is sponsored by the Advanced Scientific Computing Research (ASCR) program.

The dollar amount of the expected effort is \$11,901,138 with Petitioner proposing to provide 41% in-kind contribution of \$4,917,954. The period of performance is approximately 24 months.

Petitioner’s experience and expertise will contribute substantially to the development of the inventions made under the proposed subcontract. Micron is the No. 3 supplier of memory worldwide, including DRAM, NAND flash and NOR flash. Micron was founded in Boise, Idaho in 1978 and by 1994, was listed as #402 of the Fortune 500. Micron has since acquired Texas Instruments worldwide memory operations, Toshiba’s commodity DRAM operations, Numonyx B.V., Elpida Memory Inc., Rexchip Electronics Corp., Tidal Systems, Inotera Memories and IM Flash Technologies, LLC. Micron has a NAND Center of Excellence in Singapore and a DRAM Center of Excellence in Taiwan. Micron owns and operates manufacturing and testing facilities across six countries – wholly owned wafer fabrication facilities are in Idaho, Utah, Virginia, Singapore, Japan and Taiwan. Micron’s module assembly and test facilities are in Taiwan, China, Malaysia, Japan and Singapore. Micron is also one of the top U.S. patent recipients and has contributed to over 43,000 patents in memory and storage on other technologies worldwide.

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. Micron spends hundreds of millions of dollars per fiscal quarter for research and development (R&D) focused on advancing the technology of memory and storage devices and systems. Additionally, a portion of that investment goes toward exploring off roadmap technological advances in memory and storage that have potential direct benefit to critical U.S. Government computing challenges and to maintaining and advancing U.S. commercial competitiveness.

Granting of the requested waiver should not have a negative impact on competition or market concentration. Micron is one of three major memory manufacturers in the world, and the only U.S. manufacturer among those three. Other foreign global corporations are from South Korea and Japan. An emerging national corporation funded by the Chinese government also has the potential to become a global provider in the future.

Commercially, Micron has the broadest portfolio of memory chips and storage devices in the semiconductor industry and employs over 37,000 people. Micron currently engages in R&D projects with the NNSA and the DOE Office of Science looking to break down performance barriers for computer systems in memory and storage. Moreover, the unique demands of AI and ML necessitate new computing architectures and new higher bandwidth and more energy efficient memory.


The granting of this waiver will assist Micron in maintaining and extending a technology leadership position among foreign competitors and potentially play a significant role in ensuring U.S. competitiveness in the manufacture of semiconductor memory and storage systems. The research done under this subcontract would allow for technologies that have promising commercial value to also address the often-unique requirements of critical government systems. The benefit of this is in ultimately producing memory and storage technologies in volume that benefit both commercial and critical government applications, thus reducing the cost to the government.

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 a U.S. Competitiveness provision.

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.

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.

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Emily G. Schneider

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Deputy Chief Counsel for  
Intellectual Property

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 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:

APPROVAL:

X 

Barbara Helland

Associate Director  
Advanced Scientific Computing Research (ASCR)  
Office of Science

X 

Brian Lally

Assistant General Counsel for Technology  
Transfer and Intellectual Property