

STATEMENT OF CONSIDERATIONS

REQUEST FOR ADVANCE WAIVER OF PATENT RIGHTS BY BWXT
NUCLEAR ENERGY, INC., UNDER SUBCONTRACT 00123000 TO DOE
AWARD NO. DE-AC07-05ID14517 TO BATELLE ENERGY ALLIANCE,
LLC FOR THE OPERATION OF IDAHO NATIONAL LABORATORY;
W(A)-2018-013, CH-1800

Petitioner, BWXT Nuclear Energy, Inc., requested a waiver of domestic and foreign patent rights for all subject inventions arising under the above referenced subcontract. The subcontract is entitled "LEU NUCLEAR THERMAL PROPULSION ROCKET". This waiver will not impact the rights of those parties subject to Public Law 96-517, as amended, nor shall it grant any rights in inventions made by employees of the National Laboratories.

The subcontract under which work is to be performed by Petitioner is issued by Battelle Energy Alliance, LLC under Prime Contract No. DE-AC07-05ID14517 for the management and operation of Idaho National Laboratory. Funding for the subcontract was originally provided by the National Aeronautics and Space Administration (NASA) under NASA Contract No. 80MSFC17C0006 as part of its Nuclear Thermal Propulsion (NTP) Program. A portion of the NTP Program has been transferred to DOE from NASA via the Economy Act. NASA has previously granted a waiver of domestic and foreign patent rights to Petitioner for inventions it develops under the program in Waiver Number MSFC-AW-5101.

The intent of this project is to develop the foundational technology to support a future manned mission to Mars by leveraging the advantages of nuclear propulsion over traditional chemical propulsion systems. The research objective of Petitioner's award includes the conceptual design of an NTP reactor. The award will also include associated research directed toward a low enriched uranium ceramic metal fuel, fuel mechanical design, and the development of fabrication methods for the reactor core, components, assemblies, and fuel samples.

The total cost of the award is \$8.5 million, and, as noted above, the award is being funded by NASA to Petitioner through Idaho National Laboratory. Previous NASA awards to Petitioner did not require any cost share, and there will be no cost-share under this project. Petitioner asserts that the transfer of the NTP Project from NASA to DOE under the Economy Act will not result in a transfer of responsibility for funding the NTP Project. The period of performance is expected to be from November 26, 2018 to December 31, 2019.


As noted in its waiver petition, Petitioner has extensive experience in the research and development of nuclear systems for applications in space. Petitioner previously participated in the design of a nuclear reactor rocket engine. Petitioner also participated in the development of a nuclear power reactor in the range of 10 to 40 kW for space applications. Through various research programs, Petitioner participated in the design of mechanical, nuclear, and thermal design of nuclear reactor cores as well as design of various nuclear fuel types and configurations. While there is no cost share, Petitioner has made investments in excess of \$2.2M in internal research and development funds to research nuclear fuel and advanced manufacturing of high temperature

materials. Petitioner asserts that the technology developed in their research and development will be incorporated into this contract.

Petitioner has agreed that this waiver shall be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, comparable to those set out in 35 U.S.C. 202-204. Further, Petitioner has agreed to the U.S. competitiveness provisions as attached to this Statement. In brief, Petitioner has agreed that products embodying a waived invention or produced through the use of a waived invention shall be substantially manufactured in the United States, and that Petitioner will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.


Referring to item 10 of the waiver petition, granting this waiver is not expected to have an adverse impact on competition. Petitioner cites to a competitive market with multiple parties independently developing advanced reactor designs. Additionally, there are multiple parties competing as suppliers and servicers of nuclear fuel. With respect to research in space application specifically, Petitioner points to several private enterprises competing to commercialize space travel and related activities. Granting this petition is not expected to hinder competition in the field. Rather, the success of this award can be expected to stimulate further investment and competition.

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 award in a fashion which will make the 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 784, all of which have been considered, it is recommended that the requested waiver be granted.



Jacob A. Heafner
Patent Attorney
Intellectual Property Law Division
DOE ISC-CH

Date: 01/02/2019 _____



Daniel D. Park
Assistant Chief Counsel
Intellectual Property Law Division
DOE ISC-CH

Date: 01/02/2019 _____

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the U.S. 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 award, where through such modification or extension, the purpose, scope or cost of the award has been substantially altered.

CONCURRENCE:

[REDACTED]

Tracey L. Bishop
Deputy Assistant Secretary for
Nuclear Infrastructure Programs
NE-3

Date: 2/22/19

APPROVAL:

[REDACTED]

Brian J. Lally
Assistant General Counsel for Technology
Transfer and Intellectual Property
GC-62

Date: 3/20/19

WAIVER ACTION - ABSTRACT

W(A)-2018-013

<u>REQUESTOR</u>	<u>CONTRACT SCOPE</u>	<u>RATIONALE FOR DECISION</u>
BWXT Nuclear Energy, Inc.	LEU Nuclear Thermal Propulsion Rocket	Petitioner has significant experience in the development of nuclear systems. Petitioner was previously granted a waiver NASA as the funding Agency. Granting this waiver will facilitate commercialization of the products developed.

(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 an appropriate, legally binding manner. 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(s): (1) undergo a change in ownership amounting to a controlling interest, or (2) sell, assign, or otherwise transfer title or exclusive rights in the invention (s), then the waiver, assignment, license, or other transfer of rights in the waived invention(s) is/are suspended until approved in writing by the DOE. Approval of any modification of this provision, shall require the concurrence of the Assistant Secretary for Nuclear Energy, the Acting Assistant Secretary, or the cognizant Principal Deputy Assistant Secretary.