## STATEMENT OF CONSIDERATIONS

REQUEST FOR ADVANCE WAIVER OF PATENT RIGHTS BY UNITED TECHNOLOGIES CORP., UNDER DOE COOPERATIVE AGREEMENT NO. DE-FG36-07GO17030; W(A)-08-017, CH-1444

The Petitioner, United Technologies Corp. (UTC) has requested a waiver of: (a) domestic and foreign patent rights for all subject inventions conceived solely by UTC and (b) UTC's undivided interest, based on its employees contributions, to joint domestic and foreign patent rights for all subject inventions conceived, arising under the above referenced cooperative agreement.

The objective of UTC's cooperative agreement is to address the DOE Hydrogen Storage performance targets for improved material and system gravimetric density, volumetric density and discharge rate of solid state, on-board reversible storage systems through the use of advanced Nano-Framework Structures (NFS) to stabilize and catalyze novel, high capacity hydrogen storage compounds.

The total anticipated cost of the cooperative agreement is $1,257,547 including UTC's contribution of $251,522, or twenty percent (20%) of the total cost of the work under the cooperative agreement. This waiver is contingent upon UTC maintaining, in aggregate, the above cost sharing percentage over the course of the agreement.

Referring to items 5-9 of the waiver petition, UTC is a United States based, leading technology company that provides commercial products throughout the world. UTC has been an industry leader in developing technology for advanced fuel cell systems including system modeling, fuel reformation, solid oxide fuel cell development, and hydrogen storage. UTC has more than 40 years of experience in the fuel cell business. Since 1966 all of the more than 100 U.S. manned space flights have operated with UTC supplied power plants. The UTC Power fuel cells provide efficient, reliable electrical power, as well as drinking water for astronauts.

UTC has invested 1.25 billion dollars to develop new technologies, and plans to invest more than 100 million dollars annually to develop new fuel cell and hydrogen technologies. UTC has invested over 2 million dollars in prior research and development for hydride based hydrogen storage.

At this time a number of hydrogen technologies are in commercial or pre-commercial stages. New technologies generated under this cooperative agreement will offer alternatives to the existing commercial technologies, fostering greater competition. Therefore, the grant of this waiver should effectively promote the continued development and commercial utilization of the subject inventions since UTC will be able to develop these technologies and incorporate them into its commercial portfolio without an adverse patent interest overshadowing its development efforts. Thus, the waiver is

necessary for development to proceed given the size and nature of the investment necessary to commercialize hydrogen distribution and storage inventions.

UTC has agreed that this waiver will be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, set out in 35 U.S.C. 202-204. Further, Petitioner has agreed to the attached U.S. Competitiveness provision (paragraph (t). In brief, Petitioner has agreed that products embodying a waived invention or produced through the use of a waived invention will be manufactured substantially in the United States unless the Petitioner can show to the satisfaction of the DOE that it is not commercially feasible to do so. UTC has further agreed to make the above conditions binding on any assignee or licensee or any entity otherwise acquiring rights in the waived inventions, including subsequent assignees and licensees. Should UTC or other such entity receiving rights in a 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 inventions is suspended until approved in writing by DOE.

Referring to item 10 of the waiver petition, granting this waiver will not have an adverse impact on competition. If anything, the technology forming the subject matter of the collaboration can be expected to provide a new entrant into the market. Low cost, high density hydrogen storage is a key component to a hydrogen economy. The granting of this waiver will not only encourage an alternate hydrogen storage solution, but may also allow the development and commercialization of an improved storage system instrumental in bringing the hydrogen economy into a reality.

Considering the foregoing, it is believed that granting this waiver will provide UTC with the necessary incentive to invest its resources in the commercialization of the results of the agreement 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.

[redacted]

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Assistant Chief Counsel
Intellectual Property Law Division

Date: 9/3/08

[redacted]

Michael J. Dobbs
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Intellectual Property Law Division

Date: 8/26/08

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

CONCURRENCE:

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Date: 9/18/08

APPROVAL:

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Date: 9/24/08

WAIVER ACTION - ABSTRACT
W(A)-08-017

| REQUESTOR | CONTRACT SCOPE | RATIONALE FOR DECISION |
|---|---|---|
| United Technologies Corp. | Address the DOE Hydrogen Storage performance targets for improved material and system gravimetric density, volumetric density and discharge rate of solid state, on-board reversible storage systems through the use of advanced Nano-Framework Structures (NFS) to stabilize and catalyze novel, high capacity hydrogen storage compounds | UTC has contributed research expertise and significant capital for the development of effective hydrogen storage solutions and the grant of this waiver will encourage further development and commercialization. |

(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.