## STATEMENT OF CONSIDERATIONS

**REQUEST BY UNITED TECHNOLOGIES CORPORATION ACTING THROUGH PRATT & WHITNEY POWER SYSTEMS FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN INVENTION RIGHTS UNDER DOE COOPERATIVE AGREEMENT NO. DE-FC26-03NT41890; W(A)-04-002, CH-1173**

The Petitioner, United Technologies Corporation, acting through Pratt & Whitney Power Systems (UT-PWPS) was awarded this cooperative agreement for the performance of work entitled, "Rapid Deployment of Rich Catalytic Combustion." The purpose of the cooperative agreement is to deliver technology for the implementation of rich catalytic combustion in ground power gas turbines with the capability of burning both conventional fuels and hydrogen bearing coal-derived synthesis gas and delivering 2 ppmvd NOx emissions.

The total estimated cost of the cooperative agreement is $7,939,786, with the DOE share being $6,316,138 or 79.5%, while the remaining cost share of 20.5%, or $1,623,648, will be provided by UT-PWPS. The period of performance is from October 2003 through September 2007.

In its response to questions 5 and 6 of the attached waiver petition, UT-PWPS has described its technical competence in the field of gas turbine products. UT-PWPS is a multi-national corporation. Its work in rich catalytic combustion at UT's Research Center (UTRC) has resulted in U.S. Patent 5,235,804, entitled, "Method and System for Combusting Hydrocarbon Fuels with Low Pollutant Emissions by Controllably Extracting Heat from the Catalytic Oxidation Stage." The petitioner and UTRC have teamed on several government projects (listed in the waiver petition). Further, UT-PWPS is a leading supplier of gas turbine engines for commercial and military applications. UT-PWPS has developed and supports the FT8 aeroderivative gas turbine that is the state of the art 25 MW class leader. FT8 applications include peaking duty, cogeneration, combined cycled, and compressor drive. Since 1960, more than 2000 UT-PWPS industrial gas turbines have been installed and have accumulated more than 16 million operating hours. This experience puts UT-PWPS in a unique position to develop and commercialize rich catalytic combustion. UT-PWPS' response demonstrates its technical competency in the field of gas turbine products.

In its response to questions 8 and 9 of the attached waiver petition, UT-PWPS states that grant of the waiver request will result in the rapid commercialization of fuel flexible catalytic combustion technology the will significantly improve plant emissions and broaden application to coal based fuels. The waiver will provide UT-PWPS with the incentive to further invest, develop and market a fuel flexible catalytic combustor. With respect to competition, UT-PWPS states that it competes in the global marketplace with other global companies that have the potential to and continue to develop advanced, ultra low emission combustors for gas turbine application. General Electric, Alstom, and MHI all produce gas turbines with similar components. UT-PWPS anticipates these competitors will develop similar technologies in response to the market drivers for a fuel flexible, ultra low NOx combustion system. Thus grant of the waiver will not place UT-PWPS in a preferred position: it will allow it to remain competitive in a global marketplace, and therefore have a positive effect on competition and market concentration.

The subject cooperative agreement will be modified to add the Patent Rights--Waiver clause in conformance with 10 CFR 784.12, wherein UT-PWPS has agreed to the provisions of 35 U.S.C §§ 202, 203, and 204. This waiver clause will also include a

paragraph entitled U.S. Competitiveness, in which UT-PWPS agrees to substantial U. S. manufacture of subject inventions (attached hereto). Additionally, UT-PWPS agrees not to transfer subject inventions to any other entity unless that other entity agrees to these same requirements. The petitioner has further agreed to modification of the data clause of the subject cooperative agreement (48 C.F.R. 952.227-14) by adding paragraph (k), Alternative VI, concerning contractor licensing of data

Considering the foregoing, it is believed that granting the waiver will provide the Petitioner with the necessary incentive to invest resources in the commercialization of the results of the agreement in a fashion which will make the agreement's benefits available to the public in the shortest practicable time. In addition, it would appear that grant of the above requested waiver would not result in an adverse effect on competition nor result in excessive market concentration. Therefore, 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, as set forth above, be granted.

Mark P. Dvorscak

Mark P. Dvorscak
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Intellectual Property Law Division

Date: Feb. 20, 2004

Based on the foregoing Statement of Considerations and the representations in the attached waiver petition, it is determined that the United States and the general public will best be served by a waiver of rights of the scope described above, and therefore the waiver is granted. This waiver shall not apply to any modification or extension of this agreement, where through such modification or extension, the purpose, scope, or cost of the agreement is substantially altered.

CONCURRENCE:

George Rudins
Deputy Assistant Secretary
Office of Fossil Energy
Coal and Power Systems
FE-20/FORS

Date:_____

APPROVAL:

Paul A. Gottlieb
Assistant General Counsel
for Technology Transfer and
Intellectual Property

Date: 3-23-04

(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.