STATEMENT OF CONSIDERATIONS

REQUEST BY CONSOL ENERGY, INC., FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN INVENTION RIGHTS UNDER DOE COOPERATIVE AGREEMENT NO. DE-FC26-01NT41148; W(A)-02-014, CH-1094

The Petitioner, Consol Energy, Inc. (Consol), was awarded this cooperative agreement for the performance of work entitled, "Enhanced Coal Bed Methane Production and Sequestration of CO2 in Unmineable Coal Seam." The purpose of the cooperative agreement is to design and construct a coal-bed methane recovery system, design and implement a directional, horizontal drilling program in two coal seams, recover the methane and strip the contaminant gases, compress the gas and deliver the gas to a pipeline. After the methane pressure is reduced to the desired value, carbon dioxide will be compressed and pumped into the lower unmineable coal seam. The CO2, as it is absorbed into the coal, will release additional methane and the CO2 pressure will drive the methane to the horizontal collection holes. The produced gas is dewatered, compressed and inert gases (CO2, N2, and O2) are removed. Following the CO2 sequestration phase, Consol will monitor the stability of the sequestered CO2 to ensure that it remains in place.

The total estimated cost of the cooperative agreement is $9,207,753, with the DOE share being $6,979,367, or 75.8, while the remaining cost share of 24.2, or $2,228,386, will be provided by Consol. The period of performance is from October 1, 2001 through December 31, 2008.

In its response to question 5 of the attached waiver petition, Consol has described its technical competence in the field of coal bed methane drilling and stimulation. Dating back to 1985, Consol has experience in vertical drilling, and more recently, has developed a horizontal drilling procedure that is applicable to coal seams. Consol has experience with stimulation of coal bed methane production using hydrofracking and nitrogen injection. The principal investigator, Dr. P. Thakur, is an internationally recognized expert in coal bed methane recovery. Consol's response demonstrates its technical competency in the field of coal bed methane drilling and stimulation.

In its response to question 10 of the attached waiver petition, Consol states that there are numerous CO_2 sequestration options to reduce or stabilize the atmospheric CO_2 concentration. Most are co-funded by the private sector and government agencies. The scale of the development activities range from full-scale implementation to bench/pilot-scale tests. Considering the wide range of CO2 sequestration work underway, it is likely that a number of options will be available for commercial application. Depending on site-specific economic considerations, different CO2 sequestration options will be preferred at different power plants. Consol's new process will add to this technology and therefore grant of the waiver will 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 Consol 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 Consol agrees to substantial U. S. manufacture of subject inventions (attached hereto). Additionally, Consol 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.

[redacted]

Mark P. Dvorscak
Assistant Chief Counsel
Intellectual Property Law Division

Date: Feb. 13, 2003

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:

[redacted]

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

APPROVAL:

[redacted] 11-26-03

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

(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.