STATEMENT OF CONSIDERATIONS

REQUEST BY HYDROGEN ENERGY OF CALIFORNIA FOR AN ADVANCE WAIVER OF PATENT RIGHTS TO INVENTIONS MADE UNDER COOPERATIVE AGREEMENT DE-FE0000663; W(A)-2010-006; CH-1545

As set out in the attached waiver petition and in subsequent discussions with DOE Patent Counsel, Hydrogen Energy of California (HECA) has requested an advance waiver of domestic and foreign patent rights for all subject inventions made under the above subject cooperative agreement, entitled, "Hydrogen Energy California Project Commercial Demonstration of Advanced IGCC with Full Carbon Capture." Referring to item 2 of the attached waiver petition, the petitioner will design, construct, and operate an Integrated Gasification Combined Cycle (IGCC) power plant with CO_2 capture and sequestration (CCS) that will take blends of coal and petroleum coke, combined with non-potable water, and convert them into hydrogen and CO_2. The CO_2 will be separated from the hydrogen using the methanol-based Rectisol process. The hydrogen gas will be used to fule a power station, and the CO_2 will transported by pipeline to nearby oil reservoirs where it will be used for enhanced oil recovery and sequestered. The project, which will be located in Kern County, California, is designed to capture more than 2,000,000 tons per year of CO_2.

The work under this agreement is expected to take place between October 2010 and November 2018, at a total cost of $2.839 billion. HECA will provide 89% cost share or $2.531 billion. DOE will provide the remaining 11% or $308 million.

In its response to questions 5 and 6 of the attached waiver petition, HECA has described its technical competence in the field of gasification, hydrogen power generation, and carbon sequestration. HECA states that through its affiliated entities, it has a dedicated project team in these fields, and uses a strategy of "licensing-in" key elements of the plant. For example, the gasification unit in which GE has a proven commercial solution and has been chosen as the technology provider with a signed license agreement. Other licensees already identified and with license agreements in place include Eastman. HECA has supplied substantiation of the licenses in Attachment 2 of the waiver petition. HECA states it has also developed, through its affiliates, its own intellectual property available for its use, and lists four inventions as example of this activity in response to question 5. HECAS has also provided examples of commercial technology that will be integrated and utilized for this project (GE gas turbine and gasification technology, and Eastman's Low Sulfur Startup Technology) which are described in Attachment 2 of the petition. HECA's response demonstrates its technical competency in the field of gasification, hydrogen power generation and carbon sequestration. .

In its response to question 10 of the attached waiver petition, HECA states that there are many commercial competitors in the field of hydrogen energy, gasification and carbon sequestration. Many of the major oil companies, including Shell and ConocoPhilips have developed competitive technology positions in this area. HECA also states that there are numerous carbon capture and sequestration projects underway throughout the world as reported by MIT, and has attached a list of these projects as Attachment 3. Thus HECA states that the presence of these multiple competitors prevents it from gaining a preferred or dominant position in this field. Grant of the waiver will therefore have a positive effect on competition and market concentration.

This advance waiver of the Government's rights in inventions is subject to the usual advance patent waiver licensing provisions, and the government license, march-in rights, and preference for U.S. industry provisions set out in 35 U.S.C. 202-204. The Contractor agrees to submit copies of issued U.S. Patents resulting from waived inventions, and to submit annual

reports on the utilization of a waived invention or on efforts at obtaining such utilization that are being made by the Contractor or any of its licensees or assignees.

The advance patent waiver also includes the attached, negotiated, U.S. Competitiveness clause (paragraph t) which requires products embodying any waived invention or produced through the use of any waived invention be manufactured substantially in the United States unless the participant can show to the satisfaction of DOE that it is not commercially feasible to do so. This clause also recognizes the site-specific nature of the technology being developed under this agreement. The contractor further agrees to make the above condition binding on any assignee, licensee or other entity acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor 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.

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 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 Part 784, all of which have been considered, it is recommended that the requested waiver be granted.

[redacted]

Mark P. Dvorscak
Deputy Chief Counsel
Intellectual Property Law Division

Date: April 9, 2010

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 or 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:

[redacted]

James F. Wood
Deputy Assistant Secretary for
Clean Coal
Office of Fossil Energy, FE-2

Date: 11 May 2010

APPROVAL:

[redacted]

Paul A. Gottlieb
Assistant General Counsel
for Technology Transfer and
Intellectual Property, GC-62

Date: 5/13/10

(t) U.S. COMPETITIVENESS, DE-FE0000663, W(A) 2010-006

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 practical to do so.

It is understood that due to the nature of the technology being developed under this Cooperative Agreement, the use of any waived invention will be most practically and necessarily applied at a location near:

The source of cost-effective coal feedstocks; and/or

The source of a sequestration reservoir; and/or

A market for the resultant power produced.

Notwithstanding, and due to the global nature of the energy economy and climate change, application of waived inventions outside the US shall continue to provide substantial benefits to the U.S. energy economy, to the global environmental mission and for U.S. jobs in support of technology development and implementation.

The Contractor 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 the Contractor 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 any waived invention is suspended until approved in writing by DOE.