

ANNEX IV  
TO THE PROTOCOL ON COOPERATION IN THE FIELD OF FOSSIL ENERGY  
TECHNOLOGY DEVELOPMENT AND UTILIZATION  
BETWEEN  
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA 4  
AND  
THE MINISTRY OF SCIENCE AND TECHNOLOGY  
OF THE PEOPLE'S REPUBLIC OF CHINA  
  
FOR COOPERATION IN THE AREA OF  
ENERGY AND ENVIRONMENTAL TECHNOLOGIES

The Department of Energy (DOE) of the United States of America, and the Ministry of Science and Technology (MOST) of the People's Republic of China, hereinafter referred to as the "Parties":

Noting the Agreement between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Science and Technology signed January 31, 1979, as amended and extended, hereinafter referred to as the "Umbrella Agreement;"

Noting that under the Umbrella Agreement the USDOE and the Ministry of Science and Technology (MOST) signed a Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization on April 20, 2000, hereinafter referred to as the "Protocol;"

Noting that Article 2 of the Protocol identifies a number of areas for potential cooperation in the field of fossil energy technology development and utilization, and noting that Article 7 of the Protocol provides that the USDOE and the MOST may invite other organizations to participate in cooperative activities under the Protocol; and

Desiring to establish cooperation between agencies in the United States and in the People's Republic of China (PRC) for environmental technologies;

Have agreed as follows:

ARTICLE 1  
OBJECTIVES

1. This Annex is subject to the terms and conditions of the Umbrella Agreement and the Protocol. In the event of any conflict between the terms and conditions of the Umbrella Agreement or the Protocol and this Annex, the Umbrella Agreement and the Protocol shall govern.
2. The objectives of this Annex are to establish a framework for collaboration between the Parties directed toward finding solutions to common problems associated with the environmental issues related to fossil fuel use. The activities undertaken are intended to result in substantial mutual benefit and are intended to occur in specific areas where the

programs of the Parties complement one another as well as those in which comparability exists.

## ARTICLE 2 AREAS OF COOPERATION

Cooperation under this Annex may include, but is not limited to, the following areas:

Environmental impacts of the use of fossil fuels including emissions of fine particulate, oxides of sulfur and nitrogen, trace metals and air toxics, and greenhouse gases. The focus is on defining collaborations on technology development for the control of pollutant emissions, exploring options to manage greenhouse gas emissions, and developing analytical capabilities to define effective and economical control options that reduce human health and ecological risks. Activities may relate to base or enabling technologies, including the underlying science and engineering.

Specifically, this includes:

- Advanced environmental control systems for conventional and advanced power systems, including:
  - i. Particulate matter
  - ii. Nitrogen oxides (NO<sub>x</sub>)
  - iii. Sulfur oxides (SO<sub>x</sub>)
  - iv. Hazardous air pollutants
  - v. Greenhouse gases
- Research, development and assessment of sequestration options for carbon dioxide (CO<sub>2</sub>) and other greenhouse gases from fossil fuel-based systems, including capture and storage or utilization. Sequestration as an element of methane recovery from coal beds may be discussed in this group or as part of the oil and gas group.
- Assessment of emission and the effectiveness of control strategies for these emissions from the power sector including: automatic, continuous monitoring systems; analytic methods needed to develop emission inventories of air emissions; and methods to explore the long-range transport of pollutants and the effects of their deposition after transport.
- Other related technologies, such as minimization and utilization technologies for wastes resulting from fossil fuel production and use (e.g., coal combustion by-products)
- Other environmental technologies for assessment, control, and remediation of ground water and soils, including acid mine drainage, affected by fossil fuel production and use

Other areas may be added by written agreement of the Parties.

## ARTICLE 3 PARTICIPATING ORGANIZATIONS

1. The principal organization in the United States responsible for conducting the cooperative activities under this Annex shall be the DOE.
2. The principal organizations in the PRC responsible for conducting the cooperative activities under this Annex shall be the MOST.
3. By written agreement of DOE and MOST, other government agencies and organizations may be invited to participate in this Annex and sign the cooperative agreement that shall be attached to this Annex as an amendment. The date of signature shall be the effective date of eligibility for participating in cooperative activities under the Annex.

#### ARTICLE 4 FORMS OF COOPERATION

Cooperative activities undertaken pursuant to this Annex may include any of those forms listed in Article 3 of the Protocol. DOE and MOST shall agree, in advance, in writing, to any new areas of cooperation not identified in the Protocol.

#### ARTICLE 5 MANAGEMENT

Each Party to the Annex shall designate an Annex Coordinator to oversee all activities under it. In addition to overseeing all activities, the Annex Coordinators shall be responsible for proposing to the Permanent Coordinating Group under the Protocol, future program opportunities with a view to maximizing the mutual benefits of cooperation. An Annex Coordination Meeting shall be held at a mutually agreed site, preferably annually. Individual Tasks under the Annex shall have a Task Coordinator from each of the signatory organizations participating in the Tasks, to manage specific cooperative activities initiated under it, and to establish and maintain working contacts at the staff level.

#### ARTICLE 6 COSTS AND TECHNICAL SCOPE

Except when otherwise specifically agreed by the Parties in writing in each joint Task, all costs, including travel and lodging expenses, resulting from cooperation under this Annex shall be borne by the Party that incurs them. The implementation of this Annex by way of joint Tasks is subject to the availability of appropriated funds and personnel, and subject to applicable laws and regulations of the countries of the Parties. Joint Tasks shall, as appropriate, cover such things as exchange of proprietary information, management, total costs, cost sharing, and schedule, and any undertakings, obligations or conditions necessary to the proposed Task.

#### ARTICLE 7 ENTRY INTO FORCE, AMENDMENT, AND TERMINATION

1. This Annex shall enter into force upon signature by all Parties and remain in force for five (5) years or until termination of the Protocol, whichever occurs first. This Annex

may be amended or extended by written agreement of the Parties, so long as the Protocol remains in force.

2. At the discretion of each Party, its participation in this Annex may be terminated upon six (6) months advance notice in writing to the other Parties.

SIGNED in duplicate in the English and Chinese languages, both texts being equally authentic.

**PERMANENT COORDINATING GROUP CO-CHAIRMEN**

FOR THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA:      FOR THE MINISTRY OF SCIENCE AND TECHNOLOGY OF THE PEOPLE'S REPUBLIC OF CHINA:



DATE:

12/07/06

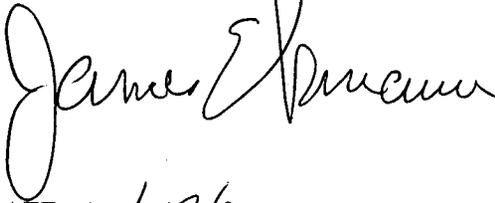


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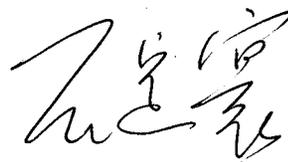
**ANNEX 4 COORDINATORS:**

FOR THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA:      FOR THE MINISTRY OF SCIENCE AND TECHNOLOGY OF THE PEOPLE'S REPUBLIC OF CHINA:



DATE:

12/07/2006



DATE:

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