

Record of Meeting of Indo-US Coal Working Group

New Delhi 1 April, 2008

The meeting of the Indo-U.S. Coal Working Group (CWG) was held on 1 April, 2008. The agenda (Attachment I) and list of participants (Attachment II) are included.

The Indian Co-Chair, Dr. S.P. Seth, Additional Secretary, Ministry of Coal welcomed the participants and apprised them of the recent developments in Indian energy and the progress in the activities of the CWG. He emphasized the need for identifying projects considering quality of indigenously produced coal and its impact on energy generation covering all the related issues and promotion of clean coal technologies. The U.S. co-Chair, Mr. Judd Swift, Deputy Assistant Secretary, Department of Energy, conveyed his compliments to the Indian government for the elaborate arrangements in quickest possible time for the working group meeting. Mr. Swift acknowledged the significant efforts and contributions of Mr. Mandal (India CWG Lead Coordinator) and Ms. McKee and Dr. Zamuda (U.S. CWG Lead Coordinators) and all the CWG participants for their ongoing dedication and support to the CWG effort and the progress made.

The Indian side made a detailed presentation on the activities of the working group and the status of previously identified activities under different thematic areas; including:

- Coal Beneficiation
- Fine Coal Recovery
- Coal Mine Safety
- Coal Bed Methane/Coal Mine Methane/Abandoned Mine Methane
- Underground Coal Gasification
- High Wall Mining
- Alternative Technologies for Lignite Mining
- Coal Liquefaction

The following R&D project proposals, developed by CWG, have been finalized for Coal India Ltd., approval and joint US/India implementation:

- Cost-effective Technology for Beneficiation and Recovery of Fine Coal
- Beneficiation Technology for Low Volatile Coking Coal
- Development of a Coal Preparation Plant Simulator

Final approval is expected from CIL within the next several weeks; the United States agreed to identify potential signatories for the agreements.

Four new preliminary project proposals, developed by US-CWG at India's request, were given to India-CWG for their evaluation, preliminary acceptance and approval for development of a detailed proposal. The areas of focus include: (1) Dry coal beneficiation; (2) Underground Coal Gasification; and (3) Waste Coal Utilization for power generation.

The following new areas were identified by the CWG for possible cooperation:

- Underground Coal Gasification- Capacity building covering modeling and environmental studies, engineering and design, drilling and collection well development, etc.
- Lignite Coal- Issues related to extraction including UCG and CBM development, dump slope stability, and seepage water control in overburden reaches.
- Government R&D Laboratory Coordination- Identify possible areas of collaboration between India's Central Institute for Mining and Fuel Research (CIMFR) and U.S. DOE's National Laboratories (i.e. National Energy Technology Laboratory) in the areas of UCG, CBM/CMM/AMM, coal liquefaction and gasification for the generation of power, chemical feedstock and liquid fuels.
- Dry Coal Beneficiation – Evaluate and optimize cleaning of Indian thermal coals using dry beneficiation processes.
- CBM/CMM/AMM - Resource modeling and recovery assessment.
- Coal Resource Characterization- Innovative approaches for accelerating the timely assessment of coal resources with an emphasis on geo-physical methods.
- A study for developing a model to increase usable quantum of energy from indigenously mined coal.
- A study on revival of selected abandoned mines in CIL companies.

Both India and the US will exchange information on the identified areas of interest and continue to exchange of information on other areas of mutual interest aiming towards timely implementation of mutually agreed upon projects. For the areas identified above, India will develop a brief problem statement including identification of possible project objectives and areas of support requested from the US.

The Co-Chairs concluded the meeting expressing their satisfaction on the progress of the working group and looking forward to holding the next meeting of the Coal Working Group on the agreed upon annual schedule. Plans will be formulated over the next several months on the schedule, location and agenda.

Attachment I

Agenda

**U.S.-India Energy Dialogue
Fifth Coal Working Group Meeting
April 1, 2008
Ministry of Coal
Shastri Bhawan Building
Dr. Rajendra Prasad Road,
New Delhi, India**

- I. Opening Remarks
 1. India – Additional Secretary Dr. S.P. Seth
 2. US – Deputy Assistant Secretary Mr. Justin Swift

- II. Status of Ongoing CWG Activities
 1. India – Mr. Pravat Mandal
 2. US – Dr. Craig Zamuda

- III. Status of Joint U.S. DOE – Ministry of Coal R&D Initiatives
 1. Developing a Coal Cleaning Plant Simulator
 2. Cost Effective Technology for Beneficiation/Recovery of Fine Coal
 3. Beneficiation Technology for Low Volatile Coking

- IV. Identification of New Potential Projects/Activities
 1. India – Mr. Pravat Mandal, Mr. B. Surender Mohan, Mr. A.K. Sinha
 2. US – Dr. Craig Zamuda, Mr. Henry Steingass
 - a. Coal Bed/Mine Methane
 - b. Underground Coal Gasification
 - c. Binani Cement Company Captive Coal Mining/Power Project
 - d. Neyveli Lignite Cooperation: US TDA report on proposed implementation plans
 - e. Coal to liquids project feasibility/pilot
 - f. Dry Beneficiation
 - g. Waste coal utilization for power generation

- V. Planning for Next Coal Working Group Meeting

- VI. Closing Remarks
 1. India – Additional Secretary Dr. S.P. Seth
 2. US – Deputy Assistant Secretary Mr. Justin Swift

Attachment II

LIST OF PARTICIPANTS

United States

1. Mr. Judd Swift Co-Chair
2. Mr. Raj Luhar
3. Dr. Craig Zamuda
4. Mr. Somnath Som
5. Mr. Henry Steingass
6. Mr. Tom Cutler
7. Mr. Eric Anthony Jones
8. Mr. Sikander Shah
9. Mr. K. Balakrishnan
10. Mr. Ed Markley

India

Ministry of Coal

1. Dr. S.P. Seth, Additional Secretary (Coal) Co-Chair
2. Mr. P.R. Mandal, Adviser (Projects)
3. Mr. A.K. Jyotishi, Director
4. Mr. D.N. Prasad, Director
5. Mr. P.S. Bhattacharyya, Chairman, Coal India Ltd.
6. Mr. A.K. Singh, CMD, CMPDI
7. Mr. N.C. Jha, Director (T), Coal India Ltd,
8. Dr. A. Sinha, Director, CIMFR
9. Mr. B. Surender Mohan, CGM, Neyveli Lignite Corporation

Ministry of External Affairs

1. Ms. Gaitri I. Kumar, JS (AMS)
2. Ms. Vani Rao, Director (AMS)
3. Mr. Sudhir Kumar, US (AMS)