

International Cooperation

11.1 SAARC Technical Seminar on Coal

As per decision taken in the SAARC Energy Ministers meeting held on 7.3.2007 in India, Ministry of Coal conducted a SAARC Technical Seminar on Coal on 16th October, 2007 in Kolkata on the strategies on promotion of coal development and clean coal technologies in SAARC region. Nine delegates from different SAARC member countries excepting Maldives participated in the Seminar. The 4th meeting of the SAARC working Group on Energy was held in Islamabad during 26-27th March, 2008. The Working Group reviewed the status of implementation of various decisions taken earlier by SAARC Energy Ministers and the working group and the Energy Dialogue. The 5th meeting of the SAARC Working Group on Energy was held during 29-30 April, 2009 in Thimpu, Bhutan. As decided in the meeting, draft Terms of Reference (ToR) for Coal for the Expert Group on Technology/knowledge sharing under the SAARC Working Group has been proposed by this Ministry.

11.2 European Union (EU)

The India-EU Energy Panel was constituted as a follow up of a decision taken at the 5th India-EU Summit held in Hague in November, 2004. The first meeting of the Indo-EU Energy Panel was held in Brussels on 29th June, 2005 in which emerging energy scenario and future prospects for development of the fuel chains and key

priorities for cooperation were discussed. The Panel decided to set up working groups in the following areas :

- Coal and clean coal conversion technologies
- Energy efficiency and renewable energies
- Fusion energy including India's participation in International Thermo nuclear Experimental Reactor (ITER) project.

As a follow up of the decision made by the Panel, the Working Group on Coal and Clean Coal Technologies was constituted in March, 2006. 1st meeting of the working group on Coal and Clean Coal Conversion Technologies was held on 22-3-2006 at New Delhi. 2nd meeting of the India – EU Working Group on Coal and Clean Coal Technology was held on 28.11.2006 at Brussels, Belgium. Various areas discussed for cooperation were:

- i) Capacity creation in resource assessment of CBM/CMM/AMM
- ii) In-situ coal gasification.
- iii) Coal beneficiation for coking and thermal coals
- iv) Development of mining methods for steep and thick seam working.

The meeting of Indo-EU CWG to discuss Coal Conversion Technologies was held on 21.1.2008 in New Delhi, where power sector proposed areas of cooperation for improved

efficiency in coal utilization for power generation. The 4th meeting of the Indo-EU CWG on clean coal technologies was held in Brussels during 17.6.2008. The areas identified for cooperation were Steep Seam mining, underground coal gasification and underground mine rescue. The 5th meeting of the Indo-EU Energy Panel meeting was held on 6.10.2009 in Brussels and the 6th meeting of the Indo-EU was held during 12-14 April, 2010 in Spain. The progress made by the working group on coal and clean coal technologies was reviewed and steps to improve the Indo-EU cooperation further were discussed.

11.3 Republic of South Africa

1. A Joint Working Group on Coal with South Africa was constituted in 2003 and the first meeting of the Working Group was held in New Delhi on 29-30th July, 2008. At present Secretary, Ministry of Coal is Co-Chair and there are four members including Chairman/CIL and Director General/Mines Safety.
2. The specific areas for cooperation identified by the Indian side includes mechanization of Board and Pillar System of underground mining, beneficiation of coal and technology of Conservation of Coal to Liquid (CTL). Some other new areas for cooperation were also identified during the last meeting held in July, 2008.
3. Some of the areas identified in the course of the meeting were mechanization of underground coal mining, Hard Roof Management

techniques, development of Coal Bed Methane, underground coal gasification, identification of coal blocks, facilitation for forging Joint Ventures between CIL and Black Economic Empowerment (BEE). Both sides agreed to continue exchange of information and dialogue for developing a road map for the South African coal sector.

4. As per the agreed decisions, the next meeting of the Coal Working Group was required to take place in South Africa on a mutually convenient date. MEA is pursuing the issue with South Africa side to firm up possible date(s) for hosting the next meeting of CWG in South Africa.

11.4 Mozambique

Government of India and Government of Mozambique are having a Joint Working Group on Coal. An MOU between Government of the Republic of India and the Government of the Republic of Mozambique on cooperation in the fields of coal resources was concluded on 26.05.2006. The meetings of the Coal Working Group have been held once in India and once in Mozambique. First meeting of Indo-Mozambique Joint Working Group on Coal was held on 07.04.2007 in Maputo. Second Joint Working Group meeting on Coal was held on 30.03.2009 in New Delhi. In February 2009, Govt. of Mozambique have allocated two coal blocks in Tete Province, Mozambique to CIL. CIL has already initiated action for exploration and exploitation of these two blocks.

Coal India Africana Limitada, a wholly owned subsidiary of Coal India Limited has been granted Prospecting Licenses 3450L and 3451L for coal by the Ministry of Mineral Resources, Govt. of Mozambique w.e.f. 06.08.2009 for a period of five years based on the winning Bid by CIL against tender no. 06/DNB/08 dated 18.12.2008.

Apart from two coal blocks already allocated to Coal India Africana Limitada, Mozambican side has been persuaded to allot more coal blocks so that exploration infrastructure can be optimally utilized and more coal resources are available for future exploitation.

11.5 Japan

The 4th meeting of the Indo-Japan Energy Dialogue was held in New Delhi on 30th April, 2010 wherein Deputy Chairman, Planning commission of India and Minister of Economy, Trade and Industry (METI) of Japan had issued Joint Statement identifying important areas of energy cooperation between India and Japan. The salient fetures of the Joint Statement, are as under:-

- Formulation and completion of the action plan on high-efficiency and low-emission coal technologies by Japan and India.
- Efforts on technology transfer aiming at improving the efficiency of India's domestic coal use and reducing environmental impact, commercial-based model project for high-efficiency coal preparation in India, signing of a MOU by NEDO and the Ministry of Coal, continued discussions on possible cooperation in the area of coking coal washing.
- Conduct a pre-primary study for improvement of efficiency and environment of coal-fired TPP in India by dispatching experts and providing advice on modifications and signing of a MOU of the study on improving the thermal efficiency of coal-fired TPP in India and reducing their environmental impact by JCOAL, Japan and CEA, India.
- Continuation of the training programme regarding the transfer of Clean Coal Technology (CCT).
- Electricity generation, Training progremme on thermal power technology by JICA and the implementation of the study on enhancing the efficiency of operating TPP in NTPC.
- First India-Japan Joint Venture manufacturing plant for supercritical pressure boilers and turbine generators, which will operational shortly. The JV was set up with financial support from the Japan Bank for International Cooperation (JBIC).
- The areas of cooperation proposed by India are: (a) development of integrated underground communications system (b) instrumentation for monitoring of mine gases and fires (c) detection of partings between adjoining water-logged unapproachable workings and (d) rescue equipment and operations.
- Proposal of the Japanese side to hold the Clean Coal Seminar on Japan-

India cooperation in areas such as low-carbon coal-fired power plants in India this year was welcomed by Indian side.

11.6 Russia

The 5th meeting of the Working Group on Mines & Metallurgy was held in Moscow on 8-9 October, 2009. The salient features of the meeting are:

- During the meeting Indian side informed about interest of Indian companies in securing coking and thermal coal deposits in Russia as well as in securing access to frontline technologies in this area. Russian side requested Indian side to send specific information on volume demand and qualitative requirement of coal as well as interest of Indian investors in participating in coal projects in Russia.
- M/s. Zarubezhugol has expressed their interest to continue work on the Indian investments into the coal industry of Russia and also expressed their interest in export of non-coking and coking coal.
- Both sides noted the interest of the Russian and Indian companies in cooperation and expansion in the coal industry and agreed to support prospective projects in this sphere.
- M/s. Zarubezhugol, M/s. Giprosakht and other Russian organizations have expressed interest in participation in tenders for performance of works on designing, building new and reconstruction of the operating coal enterprises, deliveries of the mountain-mine and mountain-transport equipment and spare parts.
- The Russian side requested Indian side to provide the updated expansion plan of Indian coal industry in order to give a definitive direction.
- Russian side conveyed that M/s Zarubezhaugol and other Russian scientific and research institutions are ready to participate in the design works on a contract basis of Indian research and project institutes, working in sphere of the coal industry.
- Giprosakht and VNIMI have requested the Indian side to expedite the signing of Memorandum on Cooperation between Giprosakht and VNIMI with CMPDIL.
- The Working Group noted the readiness of Zarubezhugol and Giprosakht to train the Indian experts on a contract basis in the research and design institutes on modern technologies of designing of coal (underground and coal open-pit mining), designing and manufacture of the modern mountain-mine equipment, for acquaintance with modern technologies for both OC and OG mining.
- Ministry of Coal has desired inputs on the following issues for the 3rd meeting of the Joint Task Force:
 - Information exchange in the field of mining equipment production
 - Metallurgy and mining – Russian experts keen providing consulting services to Indian steel, coal and energy companies.

11.7 Belarus

A meeting was held between Minister of State (I/C) Coal & SPI and First Deputy Prime Minister of Republic of Belarus on 25.10.2010 with officials of Ministry of Coal & Public Sector Undertaking coal companies. It was suggested that, in case Belarus was successful in getting the order for supplying dumpers through tenders that has already been floated by CIL, they would develop suitable after sale service mechanism including provision for training of HEMM operators through simulators as the contracts will be for a period of 12 years including maintenance and repair contracts of equipment. It was agreed by the first Deputy Prime Minister, Republic of Belarus. Hon'ble Minister (I/C) Coal and SPI and senior officials from the Ministry were invited to visit Belarus to have on site inspection of their equipment manufacturing facilities in Belarus.

11.8 Australia

SCCL Board during its meeting held on 4-9-2006 approved the proposal for under taking Technical Studies in association with CSIRO, Australia. and SCCL have signed collaborative Research Agreement during January, 2007. At present CSIRO, Australia is conducting the following Projects in SCCL:

1. Thick Coal Seam Extraction
2. Mine Fires Prevention and Control
3. Stability of dumps and slopes in opencast mines.

The first meeting of India Australia Coal Task Force (CTF), constituted under

India Australia Joint Working Group, was held on 08.06.2010 at Perth, Australia. The progress/status of all concerned activities was intimated to the CTF by the Indian side (copy enclosed) and also requested Australian side to expedite action on activities, pending from their side specially on the work on draft MOU between CMPDIL and CSIRO, Australia. Similarly, Australian counterpart had also reciprocated and presented their side and stressed on to more exchange of ideas and to chart the road ahead for collaboration between the two countries in the fields of energy and mineral resources.

11.9 Germany

The Joint Working Groups (International Cooperation) with US, Australia, Germany, Poland, Russia, Japan, Canada, Kazakhstan, China etc. are being operated in obtaining the relevant technologies & other strategical issues between India and the above countries.

Coal Industry Interface Germany meeting was held in November 2010 at Kolkatta, India. The agenda includes (a) Technical assistance in exploration and methods of extraction of CBM. (b) Under ground coal gasification of deep seated lignite deposits. (c) Bottom ash disposal in de-coal area of working mine (d) Application of major technology in blasting. (e) Ground water management. Minutes of the meeting have been received.

The Eighteenth Indo German Working Group meeting is likely to be held in June-July, 2011

11.10 USA

The Indo-US Coal Working Group has been actively functioning since July 2005 and several activities have been undertaken in different areas of interest. A few meetings of the Indo-US Coal Working Group (CWG) on Coal, have also taken place and progress in respect of activities under Indo-US Coal Working Group is being reviewed from time to time in the Planning Commission as well as in Ministry of External Affairs. The last (6th) meeting of the Indo-US Coal Working Group under the aegis of Indo-US Energy Dialogue was held during 22nd – 24th September, 2009 in Washington, USA.

The next CWG meeting will be held on 24.03.2011 in India. Mr. James F. Wood, United States' Deputy Assistant Secretary for Clean Coal is proposed to lead the US delegation for the CWG meeting.

11.11 Asia Pacific Partnership

India is one of the partner countries under 7 countries of Asia Pacific Partnership on Clean Coal Development and Climate (APP). India is also the Co-chair of Coal Mining Task Force (CMTF) created by policy and implementation Committee (PIC) of APP. Out of 18 projects identified initially for cooperation, India had proposed 7 projects. The 5th meeting of CMTF took place in Las Vegas, USA in Sept, 2008 in which three more new projects were proposed by CIL. As Co-Chair of CMTF, representatives of Ministry of Coal companies have also participated in the PIC meeting of APP held in Seattle, USA (May, 2008) and Vancouver, Canada (October, 2008).

7th meeting of CMTF was held from 14-16 Sept, 2010 at Whistler, British Columbia, Canada. In the meeting, Indian side presented statistics on coal industry and showed their interest in faster coal production and emphasized on clean coal technology through partnership with various countries. Flagship Activity Updates was made through information sharing on Coal Processing Technologies (India and US). Status of Indian project was informed under Task Force Project Updates. In this meeting, following decisions were taken :-

1. CMTF meeting held on 14-16 Sept, 2010 was decided to be the last meeting of CMTF. The PIL decided to phase out CMTF at Bonn, Germany.
2. In the meeting, different projects that have been completed were noted and it was agreed to transfer some of the existing projects to be completed through other bilateral forum. It was noted that all on-going projects could be covered by the proposed changeover.

11.12 Malasia

Some of the upcoming projects in ECL in collaboration with Malasia are:

- a) Kotadih Continuous Miner (capacity $0.51 + 0.09 = 0.60$ MT)
- b) Bansra Continuous Miner (New Project)
- c) Haripur Continuous Miner (new project) (estimated capacity $0.51 + 0.09 = 0.60$ MT)
- d) Madhaipur Extension (Low Height CM), (Rangamati B) (New Project)

Project Reports are under preparation for serial no- (b) to (d) and for serial no (a) action is being taken for CIL board approval.

11.13 Indonesia

An MoU between the Ministry of Coal and the Ministry of Energy & Mineral Resources of Govt. of Indonesia has been signed on 10.6.2010 on the establishment of the Working Group to cooperate in areas such as promotion of trade and investment in the coal sector, enhancing understanding of coal related energy issues, promotion of exchange of information on policies, programmes, and technologies etc.

11.14 Kazakhstan

Ministry of Coal vide letter No.14020/4/2010-CPAM, dated 11.8.2010 forwarded a copy of latter dated 28,.07.2010 from Ministry of Commerce & Industry, Department of Commerce, Govt. of India informing that in the 7th Session of India-Kazakhstan Inter-Governmental Commission it was decided to set up Joint working Group on Trade and Economic Cooperation with a view to working out strategies for promoting bilateral

commercial and economic cooperation. The India-Kazakhstan WJWG has been set up under the Co-Chairmanship of Joint Secretary (FT-CIS), Ministry of commerce & Industry, Department of commerce, from Indian side.

The Department of Commerce has proposed to the Kazakh side to hold the 1st meeting of India-Kazakhstan JWG in November, 2010 and requested Coal India Limited to furnish the following information:-

- Items proposed to be included in the discussions during the 1st meeting of India-Kazakhstan JWG.
- Draft Para to be included in the suggested protocol of the 1st meeting of India-Kazakhstan JWG.

Central Mine Planning & Design Institute Limited (CMPDIL) has informed that they have not any specific comments pertaining to the aforesaid meeting . However, CMPDI is already providing consultancy services in the field of mining and allied engineering services to CIL and outside organization. CMPDIL and CIL can collaborate on mutually identified areas in coal mining with Kazakhstan, in future.