

## Detailed feasibility study completed: Thar coal mining project technically viable

ISLAMABAD: The Sindh Engro Coal Mining Company (SECMC) has reportedly completed the detailed feasibility study of coal mining project with the capacity to produce 6.5 million tons per annum coal from Block-II of Thar coalfield, as per schedule.

"The project is technically viable. However, to ensure its economic viability it is essential to have in place the required fiscal incentives and infrastructure related to Thar coal development which has to match the timelines of the project," official sources told Business Recorder.

The Sindh government is of the view that no investor can achieve financial close for a project of this level without required incentives and provision of robust infrastructure. Provision of infrastructure is the responsibility of the government; hence, it requires appropriate commitment on the part of the government to attract, and retain, investment.

Sindh-Engro Joint Venture is a pioneering project, which is progressing on fast track, which explains why the first phase of the detailed feasibility has been completed in a record time of eight months.

SECMC further stated that to sustain this momentum of the project it is essential that enabling environment should be provided so as to meet the project timelines. The SECMC is now planning to approach the lenders for project financing, for which approved fiscal incentives and approval of infrastructure projects, with financing arrangements, is required.

These include provision of water, effluent disposal system, transmission lines, road and railway network, etc. The Chief Executive Officer has requested the Sindh government to expeditiously act with regard to infrastructure and other allied matters.

Furthermore, the Council of Common Interests (CCI) in its meeting on July 18, 2010, had decided that the Ministry of Water and Power should develop a scheme, with foreign funding, for development of infrastructure to support early completion of Thar coal project.

Similarly, during his visit to Karachi on July 22 and 23, 2010, President Asif Ali Zardari, in a special meeting on Thar coal had emphasised on the federal and provincial governments to expedite the work on infrastructure development projects relating to Thar coalfield to facilitate the upcoming coal-based power projects.

The infrastructure schemes, which are necessary for Thar coal project, are as follows: (i) construction of canal water carrier with capacity of 300 cusecs (Makhi Farash Link Canal Project, Chotiari Phase-II); (ii) construction of 50 cusecs drainage and wastewater effluent channel from mining area of Thar coalfield Block No.II; (iii) improvement and widening of road network from seaport Karachi to Thar coalfields (360 km); (iv) laying of transmission network up to Thar coalfields; and (v) establishment of broad gauge railway link up to Thar coalfields.

Details of the proposed schemes include construction of canal water carrier with capacity of 300 cusecs (Makhi Farash Link Canal Project, Chotiari Phase-II).

The scope of Thar coal mining and power generation projects is to meet initial demand of 300 cusecs fresh canal water. In this regard, Irrigation and Power Department has prepared a project for supply of canal water from Nara canal system. The project envisages construction of a water carrier. Thar coal water carrier will be constructed in two phases. The first phase includes CC lining of Makhi Farash Link Canal from RD 0+000 to 304+000, construction of 100 cusecs CC linked channel from Farash regulator to Nabisar through Dhoro escape natural water way about 40 miles in length and further by providing two pumping pipelines of 4ft dia each with suitable pumps and intermediate reservoirs from Nabisar to Vajihar, about 31 miles in length, with carrying capacity of 100 cusecs discharge each, in order to support system with auxiliary arrangement. As the natural contour limits the gravity flow with very mild gradient, it has been proposed to provide velocity booster (Persian wheels) at appropriate intervals in CC lined channel. The main reservoir at Nabisar Thar, which is a historical depression lake, having surface of about 202 acres, will be converted for retention. Further, the silt-free water will be pumped through proposed spiral steel pipelines.

It has also been proposed to construct a metalled road along the proposed CC lined channel, which will provide additional supporting strength to the embankment of CC channel in Dhoro Escape, and bifurcate the natural waterway and leave sufficient waterway to Dhoro ecology. In addition, this will also provide communication link to the adjoining settlements, and facilitate the monitoring/operational activities.

In second phase after completion of Makhi Farash Link canal project, the 200 cusecs CC lined channel will be constructed with same methodology of additional pumping pipelines arrangements. The project is planned to be completed in two years' time. The total cost of the project (PC-1) has been prepared only for construction of Phase-I, amounting to Rs 27.00 billion and is based on preliminary survey, design and cost estimated on market rates.

## II) Effluent disposal from Thar coalfields:

In order to initiate mining activity in Thar, there is need of appropriate sized effluent disposal system. It has been assessed by RWE that bottom aquifer will involve disposal and pumping of about 25-30 cusecs from a mine of size 6.5 mtpa. In addition, 5-7 cusecs of effluent shall also be generated by power plant of the size of 1000 mw. Thus, it is expected that Thar coalfields require a robust effluent disposal system for disposal of at least 50 cusecs of effluent.

For the purpose of construction of 50 cusecs drainage and wastewater effluent channel from mining area of Thar coalfields, the Irrigation and Power Department, Government of Sindh, has prepared a PC-II for feasibility study for construction of 50 cusecs drainage and wastewater effluent channel from mining area of Thar coalfields. The PC-II has been approved by the PDWP on 16th September, 2010. The proposed feasibility study under this PC-II would identify and confirm source of disposal for wastewater and effluent drainage to fulfill the requirements and the mechanics to dispose of the same to three sources/options available i.e LBOD (Creek), Shakoore Dhandh and Rann of Katchh or any other possible source for Thar Coal power plants as well as to make a proposal if the maximum quantity of wastewater may be reused for irrigation purposes at Vajihar.

Sindh Irrigation & Drainage Authority (SIDA) has been engaged as consultants to prepare feasibility study and planning documents such as PC-I. The PC-I would be developed after completion of feasibility study i.e. within three months' time.

It is anticipated that the project entails cost of Rs 12.75 billion. The PC-II is costing Rs 20.100 million.

III) Improvement and widening of road network from seaport Karachi to Thar coalfields (360 km): Thar coal mining will involve huge machinery. This huge machinery will have to be moved from seaport to coal mine sites. It is expected that the huge machinery such as shovels, trucks, loaders and dozers as huge as 13 metres, will be used in open pit mining process. For transportation of huge mining machinery, the existing road network up to Thar coalfields requires upgradation and widening. In order to improve and widen the existing road network, the existing road will have to bear 70-ton bridges carrying capacity with a height clearance of minimum 3.2 metres and width of 7 metres.

The Government of Sindh, through Works and Services Department, has prepared a PC-I for improvement and widening of existing road network from seaport to Islamkot through Thatta-Sujawal, Badin-Nindo, Wango-Mithi, Islamkot-Thario Haelpota, having total distance of 360 km. The cost of this scheme is Rs 5 billion.

IV) Laying of transmission line up to Thar coalfields: Keeping in view the possible evacuation of 10000 MW from Thar coalfield within next 5-10 years, NTDC with the support ADB funding has initiated a feasibility study for laying of transmission line up to Thar coalfields.

NTDC has hired consultant for the feasibility study for construction of about 1300 km transmission line, initially for dispersal of 2500-3000 MW power from the coal projects to upcountry load centres.

The selection process has been completed and the report had been sent to ADB on October 3, 2009 for concurrence.

The present scope of the study, costing about \$ 3.5 million, funded by ADB, originally covered imported coal plant. This is intended to be enhanced to also cover the dispersal of power from the proposed 1000 MW Thar coal plant.

The process/configuration of transmission system (including line/grid/switching station) will actually cater for the evacuation of at least 10,000MW of power--it can also be replicated for an additional 10,000 MW.

The required transmission network along with the voltage level (HV DC or AC) would be decided, based on the outcome of the feasibility study, and the revised PC-1 will be prepared accordingly.

The timeline for completion of feasibility report is fixed as 12 months from the date of issuance of LoA.

Ministry of Water and Power through NTDC has awarded preparation of feasibility work for laying of transmission lines to SNC Lavlin. During recent meetings with NTDC, the latter had communicated that SNC Lavlin is going to complete feasibility during Nov-Dec 2010. NTDC plans to submit PC-I based on feasibility by end of 2010. Total estimated funding required for laying of transmission line is approx \$1.0 billion. Keeping in view the huge scale of funding required, Ministry of Water and Power has to expedite early preparation and approval of PC-I so that funds can be tapped from international funding agencies.

(V) Establishment of broad-gauge railway link up to Thar coalfield areas: Construction of rail link for the coalfields is essential. The Government of Sindh has approved PC-II for feasibility study for providing broad gauge railway link up to coalfield areas of Sindh at a cost of Rs 21.900 million. The feasibility study has been assigned to Pakistan Railway Advisory Consultancy Services (Pvt) Ltd (PRACS). -MUSHTAQ GHUMMAN