SECMC

Sindh Engro Coal Mining Company

PETITION FOR REFERENCE COAL TARIFF DETERMINATION FOR CONTRACT STAGE TARIFF

SUBMITTED TO

THAR COAL AND ENERGY BOARD

FOR OPEN CAST LIGNITE MINING PROJECT IN THAR BLOCK-II DISTRICT THARPARKAR, SINDH

For Development & Operations of 3.8 Mt/a up to 6.5 Mt/a Mine

SUBMITTED BY

SINDH ENGRO COAL MINING COMPANY

On 30th December 2014

SINDH ENGRO COAL MINING COMPANY LIMITED

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SECMC
Sindh Engro Coal Mining Company

December 30, 2014

The Registrar
Thar Coal & Energy Board,
1st Floor, State life Building No.3,
Dr. Ziauddin Ahmed Road, Opp: CM House
Karachi

Ref: SECMC-640-12-2014

SUBJECT: **PETITION FOR DETERMINATION OF CONTRACT STAGE TARIFF FOR SECMC MINE OF 6.5 MILLION TONS PER ANNUM AT BLOCK II, DISTRICT THARPARKAR, SINDH, PAKISTAN**

Dear Sir,

I, Shamsuddin A. Shaikh, Chief Executive Officer of Sindh Engro Coal Mining Company is duly authorized representative having its registered office at 4th Floor, The Harbor Front Building, HC-3, Marine Drive, Block 4, Clifton, Karachi, by virtue of Board Resolution and mining lease granted by Government of Sindh vide Letter No. DMD/S/Ex-P-Coal(18)/11/2391(attached thereto for reference), hereby submit to the Thar Coal & Energy Board, for determination of Contract Stage Tariff, adjustment/indexation provisions and other terms and conditions for supply of 6.5 million tons per annum (Phase 1 is of 3.8 million tons per annum and Phase 2 is of 6.5 million tons per annum).

Attached is a **Pay Order No. 248494** dated December 29, 2014 drawn on Sindh Bank in the sum of Rs.10,000,000/= (Pak Rupees ten millions only) being the Tariff Petition Fee in accordance with Schedule I of Thar Coal Tariff Determination Rules, 2014.

We request that applications may kindly be processed to meet up the timeline, in case any further clarification or information is required by the Authority to process the subject application for determination of Contract Stage Tariff, may kindly be intimated promptly.

Yours Sincerely,

Shamsuddin A. Shaikh
Chief Executive Officer

Encl: One original and two copies of Tariff Petition

IN MEMORY OF SHAHEED MOHTARMA BENAZIR BHUTTO

SINDH BANK
POWER TO THE PEOPLE

Clifton Branch, Karachi.

PAYEE'S A/C ONLY

29/DEC/2014

PO No: 248494

NOT OVER PKRS ****10,000,000.00

PKRS | ******10,000,000.00**

Pay to the order of THAR COAL AND ENERGY BOARD

On Account of SINDH ENGRO COAL MINING LIMITED

The sum of PAKISTANI RUPEES Ten Million Only

Payable at any Branch of SINDH BANK LTD

VALID FOR SIX MONTHS From THE DATE OF ISSUE

P.O. 0248494

Authorized Signature

Authorized Signature

⑈0248494⑈043030 2⑆0000000000⑈020⑈

Advice For Purchaser

To the debit of IBAN. PK32SIND0003020021426100 of SINDH ENGRO COAL MINING LIMITED

Pay Order No. 248494 Issued Date 29/Dec/2014 as per details given below:

Favouring: THAR COAL AND ENERGY BOARD

PKRS | ******10,000,000.00**

The sum of PAKISTANI RUPEES Ten Million Only

Pay Order Amount	PKRS	10,000,000.00
Charges	PKRS	115.00
Account Debited	PKRS	10,000,115.00

P.O. 0248494

This is computer generated advice and does not require signatures

1. INTRODUCTION

1.1 PETITIONER DETAILS

Company
Sindh Engro Coal Mining Company
4th Floor, The Harbor Front Building,
HC # 3, Marine Drive, Block 4, Clifton, Karachi
Tel: +92-21-35297501-10
Fax: +92-21- 35296018

Petitioner's Representatives
Shamsuddin A. Shaikh – Chief Executive Officer
Mohammad Saqib – Chief Financial Officer
Shahab Qader – General Manager Commercial
Syed Abul Fazl Rizvi – Director - Mining

1.2 LIST OF ABBREVIATIONS

1	BCM	Bank Cubic Meters
2	BoD	Board of Directors
3	CEDD	Coal & Energy Development Department
4	CSA	Coal Supply Agreement
5	DFS	Detailed Feasibility Study
6	EPC	Engineering, Procurement and Construction
7	GoS	Government of Sindh
8	HSE	Health Safety & Environment
9	ICC	In-pit Coal Crushing and Conveying System
10	JPCL	Jamshoro Power Company Limited
11	JV	Joint Venture Company
12	KIBOR	Karachi Interbank Offer Rate
13	LBOD	Left Bank Outfall Drainage Canal
14	LIBOR	London Interbank Offer Rate
15	MDO	Mine Developer and Operator
16	Mt/a	Million ton per annum
17	NEPRA	National Electric Power Regulatory Authority
18	NIC	National Insurance Company Limited
19	O&M	Operation and Maintenance
20	PMC	Project Management Cost
21	PPIB	Private Power Infrastructure Board
22	SCA	Sindh Coal Authority
23	SECMC	Sindh Engro Coal Mining Company
24	SECP	Securities and Exchange Commission of Pakistan
25	SEPA	Sindh Environmental Protection Agency
26	SIDA	Sindh Irrigation and Drainage Authority
27	TCEB	Thar Coal & Energy Board
28	USD	United States Dollar

Note: All project cost and coal tariff numbers in this petition have been taken from Financial Model which has been provided to TCEB along with this petition. These numbers have been rounded off to the nearest decimal places

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1.3 DEFINITIONS

Unless otherwise defined herein or if the context otherwise requires, all capitalized terms used in this petition shall have the meanings assigned to them hereunder:

"Board" means the Thar Coal and Energy Board established under section 3 of the TCEB Act;

"Coal Reserve" means a mineral formed below earth's surface and includes anthracite, bituminous coal, sub-bituminous coal and lignite;

"Coal Supply Agreement(s)" or **"CSA"** means the agreement(s) signed by the Petitioner with Coal Purchaser(s) for the sale of Coal/ Lignite;

"Coal/Lignite" means the lignite reserves in Thar Block-II;

"Coal Purchaser(s)" means the company(ies) that have entered into the Coal Supply Agreement(s) with the Petitioner;

"Commercial Operation Date" or **"COD"** means start of commercial supply of Lignite to the Coal Purchaser(s) from the 3.8 Mt/a Mine as per specifications agreed in the Coal Supply Agreement;

"ECC" means Economic Coordination Committee of Government of Pakistan;

"Environment & Safety Laws" means any Laws concerning:

- human health or safety or social issues, including minimum labor standards and laws prohibiting forced labor or harmful child labor;
- the environment, any emission or substance which is capable of causing harm to any living organism or the environment; or
- Hazardous Materials;

"Environmental Requirements" means all Environmental Standards issued by the Sindh Environmental Protection Agency;

"External Infrastructure" means the roads, utilities & effluent network, transmission line, communication network, rail network outside the Thar Block-II but connected or associated with the Mine, Lignite stockyard, Outside Dump, Interconnections etc.;

"**Financial Closing**" or "**Financial Close**" means the financial close of the Project on which all the conditions precedents to availability of financing from lenders to the Project have been met, deferred or waived;

"GoS" means Government of Sindh;

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"**GoS Implementation Agreement**" means the GoS implementation agreement to be entered into and between the GoS and the Petitioner;

"GoP" means Government of Islamic Republic of Pakistan;

"Hazardous Material" means any pollutant, contaminant, solid waste, hydrocarbon product, toxic or hazardous substance, materials or waste, any flammable, explosive or radioactive materials defined, listed, classified or regulated as such in or under, or subject to, any applicable Laws (including environmental Laws) including:

- any petroleum or petroleum products (including gasoline or crude oil or any fraction of them, but excluding small quantities of lubricating greases), flammable explosives, radioactive materials, asbestos in any form that is or could become friable, urea formaldehyde foam insulation and polychlorinated biphenyl;

- any chemicals, materials or substances defined as or included in the definition of "hazardous substances", "hazardous wastes", "hazardous materials", "extremely hazardous wastes", "restricted hazardous wastes", "toxic substances", "toxic pollutants", "contaminants" or "pollutants", or words of similar import, under any applicable environmental Law;

- any other chemical, material or substance, exposure to or release of which is prohibited, limited or regulated by any Relevant Authority; and

- any hazardous material or substance identified as such or otherwise regulated under the environmental standards applicable in Pakistan;

"IFC" means the International Finance Corporation;

"Inside Dump" means the waste material dump created by the dumping of Overburden and interburden by re-filling the void created below the surface by the removal of Overburden and Coal;

"Interconnections" means all interconnections between the Mine, MSF, Mine Infrastructure, mine mouth power plant, township and external infrastructure;

"Interburden" means all material that lies between the coal seams and or found associated with the Coal;

"Implementation Agreement(s)" or **"IA"** is the agreement entered by the Petitioner with GoS/ GoP and any other Relevant Authority or a Public Sector Entity;

"KIBOR" means the average "ask side" Karachi Inter-Bank Offer Rate for a period equal to three (3) months or six (6) months which appears on the appropriate page of the Reuters service at or about 11:30 a.m. in Karachi on the last available business day prior to the beginning of the relevant period, or in the event that the Reuter's service, or any successor thereto, no longer provides such information, such other service as agreed to by the parties that provides the average "ask side" Karachi Inter-Bank Offer Rate for Rupee deposits in the Karachi interbank market;

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"Law" or **"Laws"** means any applicable statute, ordinance, rule, decree, notices, requirement, national, provincial or local legislation, statutes, ordinances and other laws and regulations including Mines Act 1923, Mines Act 1954, Sindh Mining Concession Rules 2002, labor laws, health, safety, environment laws, bye-laws, rules, orders, decrees, judicial decisions, delegated legislation, directives, guidelines (to the extent mandatory) policies or code of GoS/GoP or any Public Sector Entity or Relevant Authority or agency, whether federal, provincial, municipal, local or other government subdivision of Pakistan, or of any legally constituted Relevant Authority, as amended from time to time;

"LIBOR" means the British Bankers Association Interest Settlement Rate for Dollar deposits for a period equal to three (3) months or six (6) months which appears on the appropriate page of the Reuters service at or about 11:00 a.m. in London on the last available London Banking Day prior to the beginning of the relevant period, or in the event that the Reuter's service, or any successor thereto, no longer provides such information, such other service as agreed to by the Parties that provides the British Bankers Association Interest Settlement Rate for Dollar deposits in the London interbank market;

"Mine" or "Mining Facility" means the open cast lignite mine at Thar Block-II and associated Mine Surface Facilities, Mine Infrastructure, Lignite stockyard, Interconnections, Outside Dump, Inside Dump, surface and mine drainage system, floods prevention dams, dust suppression system and any other system required for Operations & Maintenance of the Mining Facility;

"Mine Surface Facilities" or **"MSF"** means the facilities required for the safe, sustainable and cost effective operations and maintenance of the mining facility including office buildings, workshop, motor pool, training center, utilities, ware house etc.;

"Mine Infrastructure" means the roads, utilities & effluent network, electric network, transmission line, communication network, mine & production planning & control system and other requisite infrastructure within Thar Block-II associated with the Mine, stock, Outside Dump, Interconnections etc.;

"Operations & Maintenance" or **"O&M"** means removal, transfer and dumping of Overburden/Interburden, production, loading and dispatch of lignite, construction and maintenance of ramps, benches, and mine service roads, construction and maintenance of surface water prevention dams, installation, maintenance and operations of surface drainage system, installation, operations and maintenance of all other temporary and permanent works required for safe, sustainable and most cost-effective operations of mine and production of lignite;

"**Outside Dump"** means the area where the overburden and interburden will be dumped during the initial years of mining;

"Overburden" or **"OB"** means the top soil / all materials above the Coal which are required to be removed to expose the coal seams and allow extraction of the Coal as per the mine production plan;

"Petitioner" or **"SECMC"** means Sindh Engro Coal Mining Company Limited;

"Project" means Open Cast Lignite Mine in Thar Block-II with an initial capacity of 3.8Mt/a

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in phase – I and expanding to 6.5 Mt/a in Phase – II;

"Project Cost" means the total cost incurred on the Project including Project Development Cost, EPC Contract Cost, Non EPC Cost including all expenses incurred for Petitioners Consultancy, Project Management, Project Supervision, Financing, Insurances, Infrastructure Development Cost, Financial Advisor Fees, Legal Advisor Fee, Duties, Taxes any other Relevant Authority or Public Sector Entity, Land Acquisition Cost and all other associated costs till the COD of the Project as declared by the Petitioner;

"Project Development Cost" means all costs incurred/to be incurred by the Petitioner till Financial Close of the Project

"Prudent Mining & Construction Practices" means the degree of skill and judgment and the use of equipment, practices, techniques, standards and methods that are generally expected of skilled and experienced engineering, construction and mining firms in the international independent construction and mining industry. Employing high standards in respect of the design, engineering, construction, commissioning and testing of works similar in nature and extent to the work involved in the Project including as required to comply with applicable industry codes, standards, and regulations in Pakistan;

"Public Sector Entity" means (a) The GoP, the GoS, any subdivision of either, or any local governmental authority with jurisdiction over the Petitioner, the Project, or any part thereof, (b) any department, authority, instrumentality, agency, or judicial body of the GoP, the GoS or any such local governmental authority, (c) courts and tribunals in Pakistan, and (d) any commission or regulatory agency or body having jurisdiction over the Petitioner, the Project or any part thereof;

"Required Commercial Operations Date" or **"RCOD"** – The date that is forty-eight (48) months following the date on which Financial Closing occurs, as such date may be extended pursuant to any provision of this Petition, including but not limited to Section 3.7.1(a)(xvi) of this petition;

"Relevant Authority (ies)" means the department, authority, agency or other relevant entity from which consent is to be obtained and any authority, body or other person having jurisdiction under the Laws of Pakistan with respect to the Project;

"Scheduled Commercial Operations Date" means the date reasonably estimated by the Petitioner as the Commercial Operations Date based on the then-existing construction schedule, as notified to the Board, as such date may be modified by the Petitioner from time to time by way of written notice to the Board by the Petitioner;

"Tariff" means the price of coal and shall include rates, charges, terms and conditions for the off take of coal extracted from Thar;

"TCEB Act" means the Thar Coal and Energy Board Act No XX of 2011; and

"Thar" means the region comprising of districts Tharparkar, Umarkot and Mirpurkhas.

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1.4 Applicable Law & Policy

Under the TCEB Act, **TCEB** has been set up as a one window facility in matters relating to Coal mining projects being established in region of Thar, Sindh, Pakistan. Pursuant to Section 5 of TCEB Act, TCEB is mandated to determine and control the tariff of Thar Coal, subject to the need to comply with guidelines, not inconsistent with the provisions of the TCEB Act, laid down by the GoP.

TCEB is also responsible for determining the process and procedures for reviewing tariff and recommending tariff adjustments. In accordance with the requirements of the TCEB Act and rules and regulations made thereunder, the Petitioner hereby submits this petition, in accordance with Determination Rules for tariff determination for its Mining Facility located at Thar Block - II.

This petition is being filed under Part III (Tariff Determination Procedure) of Thar Coal Tariff Determination Rules, 2014 ("**Determination Rules**"). Tariff has been prepared on the basis of the guidelines presented in Part IV (Standards and Guidelines) of the Determination Rules and ECC approved incentive package for the Project and information required to be filed is included in and /or with this petition.

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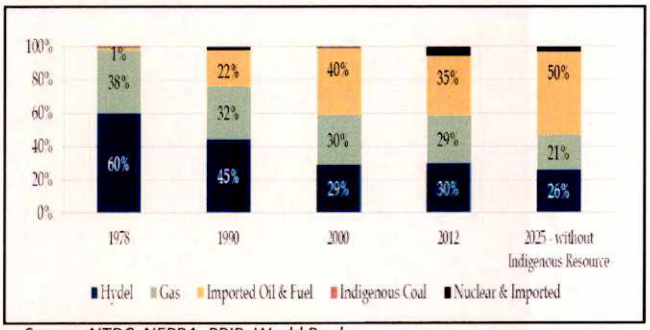
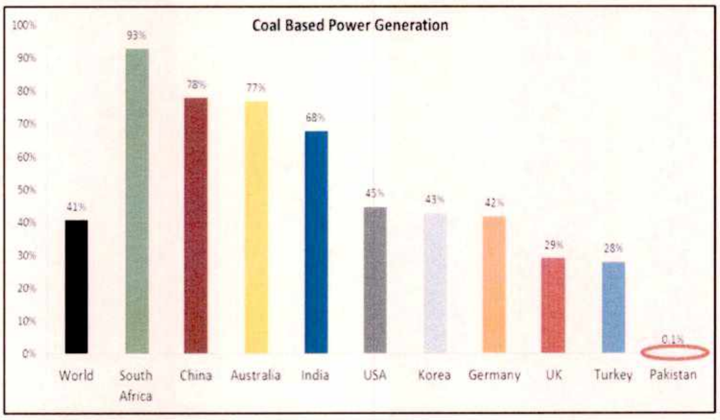
1.5 Grounds and Facts Forming a Basis for the Tariff Petition

1.5.1 Project Background:

Currently, Pakistan's total installed power generation capacity stands at 23,538 MW[1]. According to National Transmission and Dispatch Company ("**NTDC**"), electricity demand growth rate is forecasted to hover around 5-6% over the next ten years. By 2020 the demand in peak hours would reach over 36,000 MW. Almost 35% of power generation in the country is currently based on expensive imported oil – such heavy dependence on a high cost imported energy resources is neither sustainable nor affordable for an economy like Pakistan.



Source: NTDC, NEPRA, PPIB, World Bank



Source: IEA, Electricity Information

Generation of power from indigenous resources is always the best option, and in this case, coal offers immense potential. The world on-average produces 46% of power from coal and most importantly, almost 80% of the coal used globally comes from indigenous resources. Pakistan, on the other hand, is blessed with massive 185 Billion tons of coal reserves, including 175 Billion tons at Thar, the 7th largest coal reserves of the world, which to-date remains unexploited. A crucial point to note is that only 0.1% of Pakistan's power generation is based on indigenous Coal.

The Thar coalfield is spread over an area of 9100 km^2 and the region has been divided into 12 blocks with a total area of ~1000 km^2.

In May 2008, GoS invited proposals for the development of Thar Coal reserves through public private partnership basis. In June 2009, Engro Powergen Limited ("**EPL**") was selected through a competitive bidding process as the preferred joint venture partner for the development of Coal mining project in Thar Block-II. On September 08, 2009 Petitioner was established as a joint venture company on the basis of 60% and 40% shareholdings between

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[1] Source: NEPRA State of Industry Report -2012 [2] Subject to adjustment with Pre-COD revenues.

EPL and GoS respectively.

Immediately after the establishment of the joint venture, the Petitioner embarked upon the Detailed Feasibility Study ("**DFS**") for an Open Cast Lignite Mine in Thar Block-II i.e. the Project. A team of renowned international consultants (RWE Germany, Sinocoal China, North East Coal Bureau China, and SRK Consultants UK) was engaged for the development and finalization of DFS which was completed on Aug 31, 2010. The DFS proved that the Project was technically and commercially viable in all respects. The results of DFS were approved by the technical committee of the Sindh Coal Authority on October 1, 2010.

A detailed Environmental and Social Impact Assessment Study ("**ESIA**") was carried out by Hagler Bailly Pakistan ("**HBP**"), meeting all Environmental and Safety Laws and applicable Environmental Requirements. The ESIA study indicated no major environmental and social implications as a result of the development of the Project. A public hearing meeting for ESIA was held on November 12, 2012 by SEPA in Islamkot, District Tharparkar to identify concerns of key stakeholders including local community, NGOs, academia, media etc. All stake holders were briefed in detail about the mitigation which the Petitioner plans to undertake during Project execution and operations. SEPA issued a no-objection certificate to the Petitioner on March 13, 2013.

In July, 2011 the Petitioner engaged RWE Germany to develop a 'Competent Persons Report' as per Australian Guidelines for Estimating and Reporting of Coal Resources" (the "**JORC Standard**"). The report verified the total reserves of Block-II as 2 Billion Tons with 1.57 Billion Tons of mineable reserves.

On August 05, 2011 Mines and Minerals Department of GoS issued a 30 years Mining Lease ("**Mining Lease**") for Thar Block-II (79.6 sq. km) to the Petitioner for construction and operation of the Project. The Mining Lease is extendable to another 30 years through mutual agreement. Subsequently, additional area of 15.9 sq. km adjacent to the already granted area has been approved by Mines and Minerals Department, taking total lease area to 95.5 sq. km.

In October, 2010 the ECC approved a 'Fiscal Incentives Package' for Indigenous Coal Mining and Power Projects ("**Thar Incentive Package**"). The Thar Incentive Package has been used as the basis for the coal pricing and business model.

In April 2013, RWE was contracted for conducting the '*Review of the Project Management Approach and Project Cost for the Development of a Lignite Mine at Thar Block II*' for optimization of mine size and cost estimates ("**RWE Project Cost Study**"). After detailed review, RWE has approved the Revised Project Execution Strategy developed by the Petitioner and its consultants, based on which the total mining Project Cost has been estimated at USD 800 M to set up a 3.8 Mt/a mine in 3.5 years. The RWE Project Cost Study, on an indicative basis, stated that the mine can be expanded to reach 6.5 Mt/a in 5 years with an additional capital expenditure of USD 120 M.

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GoS is pursuing the development of critical infrastructure for mining. Detailed design for the effluent disposal scheme has been finalized by consultants acting on behalf of GoS and tendering process is in progress in respect of such effluent disposal scheme. Rehabilitation of road network from Thatta to Tharparkar is underway and construction of Airport in Islamkot is also in progress.

The Petitioner has completed two comparative studies confirming the suitability of Thar Coal vs. imported Coal/Indonesian Coal for use in new Coal based power plants and planned conversion of Residual Fuel Oil ("**RFO**") based power plants to Coal.

The Petitioner has also completed the following studies confirming the possibility of Lignite transportation from Thar Block-II to Jamshoro.

- i- Mitigations Measures for Safe Transportation of Lignite by RWE, Germany
- ii- Setting up a Railway Link from Thar Block-II to Hyderabad - Munabao existing rail network via Kunri
- iii- Pre-Feasibility Study for Transportation of Thar Lignite via Trucks from Thar to Jamshoro Power Plant
- iv- Thar Coal Logistics Study prepared by Supply Chain Capacity Development Initiative

The GoP is setting up a 1200 MW Coal fired power plant in Jamshoro, Sindh. In line with the Council of Common Interest's decision dated 23rd January 2014, this proposed power project will use imported coal which will be blended with 20% Thar Coal. Asian Development Bank is providing financing for this project and it is expected that the construction of the same shall commenced in 2015.

GoS has engaged a consultant for the development of Land Use/Ownership Plan and Resettlement Framework for Thar Coal Fields. A Draft Resettlement Policy Framework has been issued by GoS.

On the financing front, significant progress has been made. On October 3rd 2012, Prime Minister of Pakistan chaired a special board meeting of TCEB and approved sovereign guarantee for financing for the debt portion of Project, amounting to USD 700 Million. On 8th March 2013, the ECC approved the proposal by Finance Division of the Ministry of Finance of GoP regarding the provision of sovereign guarantee for Petitioner.

To comply with GoP's requirement for issuance of sovereign guarantee for debt portion, the Petitioner's shareholding structure has been changed and now GoS holds majority shareholding in SECMC; however, management of the project will remain with EPL and its affiliates as per the JV agreement executed between EPL, Engro Corporation and GoS.

On 29th January 2014, meeting with Honorable Prime Minister was held in which most of the

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challenges pertaining to Thar were resolved. Prime Minister has declared Thar as project of national importance & assured GoP's whole hearted support to this project. On 31st January 2014, Prime Minister Nawaz Sharif along with former President Asif Zardari performed ground-breaking for this mega project where Petitioner promised to complete the project by end 2017 subject to achievement of Financial Close by Q1 2015.

On the financing front, the Project has been listed as "Prioritized Project" among the Early Harvest Projects under the China-Pakistan Economic Corridor, several meetings have been held with International Financial Institutions as well as local banks and all the lenders/institutions require ***Contract Stage Tariff*** from the TCEB for their legal due diligence and approvals of term sheets. This tariff will be pre-requisite for finalization of dependent contracts including but not limited to Coal Supply Agreement, Power Purchase Agreement, Implementation Agreement, etc. power tariff for Thar projects is already announced for Thar coal based power projects. However, investors interested in power projects in Thar are unable to proceed towards firming up offtake obligations due to unavailability of Coal tariff.

1.5.2 BENEFITS OF THAR COAL:

This Project offers a unique proposition for Pakistan, which will not only address the severe power shortage crisis in medium to long term but also bring energy security to the country by saving precious foreign exchange.

Initially, with the commercial operation of the initially Mine the power tariff will be slightly higher than imported coal but as the Mine expands to optimum capacity, the power tariff is likely to be as low as ~6 USc/kWh. In addition to this, Thar Coal will not only produce cheap power but also provide an inflation hedge as the price will be regulated by internal authorities, thus saving billions of dollars in foreign exchange. This would be finally addressing the circular debt issue that has been plaguing the power sector.

Development of Project and integrated power projects will contribute to economic and social uplift of the Thar which presently ranks lowest on all socio-economic development indicators in Sindh. The development of the Project would result in some of the following benefits to the region:

- Project will be developed in Pakistan's most backward region, opening up immense economic opportunities for the deprived region
  - At optimum Mine capacity, Mine would provide employment to around 10,000 skilled and unskilled labor
  - And will lead to creation of social assets i.e. education institutions, medical facilities, infrastructure development etc.
- Project will help development of the indigenous mining industry and act as a catalyst for future mining projects, which shall come on-board once this project kicks-off
- Potential for downstream industries in petro-chemical and fertilizer products

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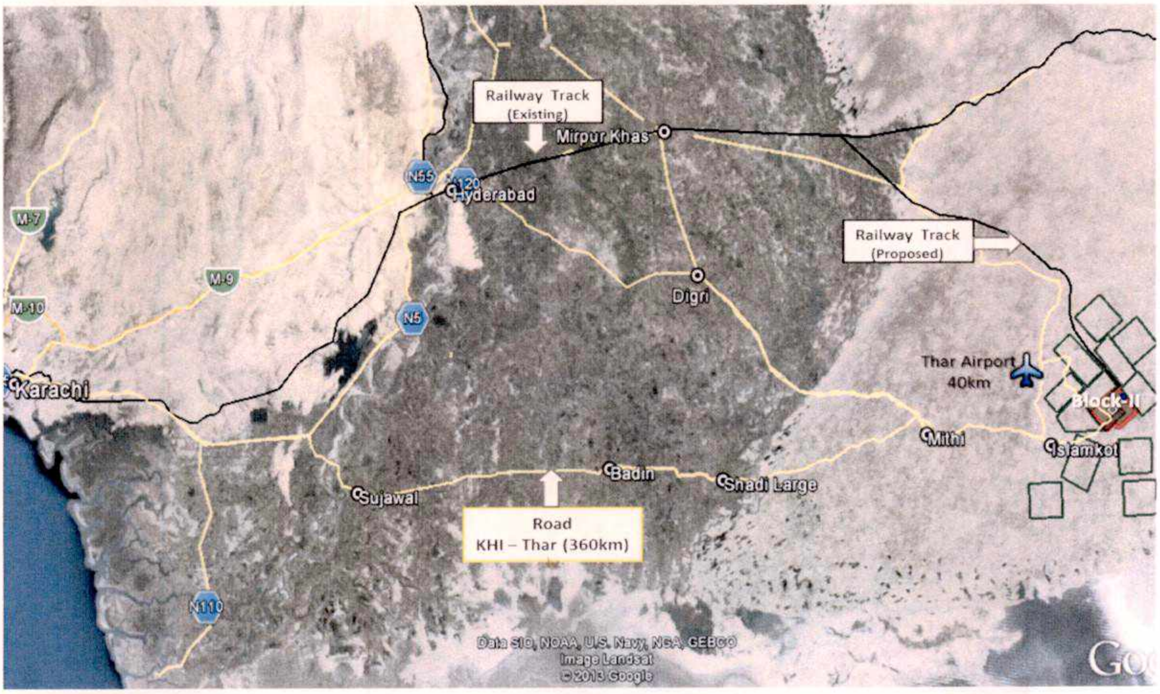
2. PROJECT DETAILS

2.1 PROJECT LOCATION

The location of the project is Block-II in Thar Coalfields which is set out in the map below:



Map 2.1.1 'Project Location'

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2.2 PROJECT INFORMATION AND DEVELOPMENT ACTIVITIES

2.2.1 BUSINESS PLAN:

The Petitioner intends to develop 6.5Mt/a initially in two phases:

(a) *PHASE I*:

In Phase-I, a **3.8 Mt/a (which will support 02x 330MW Power Plant)** capacity mine will be set-up which will be expanded to 6.5 Mt/a in Phase – II. The construction period for 3.8 Mt/a mine is 42 months after Financial Close (expected by Q1 2015). The techniques of Open Cast Mining and conventional shovel & truck methodology will be used through an internationally reputed EPC contractor.

A Coal Supply Agreement for 30 years will be signed with Engro Powergen Thar (Pvt.) Limited ("**EPTL**") which is setting up a mine-mouth 02 x 330MW power plants at Thar Block-II which will utilize the lignite mined by Petitioner.

(b) *Phase II*:

In Phase II of the Project, the size of the mine will be expanded to 6.5Mt/a. The offtake arrangements for the additional 2.7 Mt/a are set out as follows:

(i) A 01x 330MW Mine-mouth power plant at Thar Block-II with coal requirement of 1.9 Mt/a in respect of which we have been approached by various investors; and

(ii) the abovementioned 1,200 MW coal-based plant at Jamshoro – 20% blending having Thar coal requirement of 0.8 Mt/a which is being established.

2.2.2 SELECTION OF TECHNOLOGY & OPTIMUM MINE SIZE

There are two basic methods for Open-cast Mining:

(a) *SPECIALIZED / CONTINUOUS MINING: USING BUCKET WHEEL EXCAVATORS – BWE:*

This type of Mining technology involves procurement of highly capital intensive, automated, large scale mining equipment including Bucket Wheel Excavators ("**BWE**"), conveyors, spreaders, etc. and requires highly skilled manpower for operations and maintenance of this specialized mining equipment. The technology is more suitable to mine size > 10-15 Mt/a (e.g., Inden 28 Mt/a & Hambach 40Mt/a, in Germany and Neyveli, India 15 Mt/a, etc.). The operator must be experienced in open cast mining & use of specialized equipment. The specialized mining technology requires substantial amount of electricity for its operation and is usually less flexible in terms of changing mine capacity. Standard lead time for procurement of a BWE is 04 years, after ordering.

(b) *CONVENTIONAL MINING:*

Conventional Mining, which uses shovels & dump trucks for overburden removal, is less capital intensive versus Specialized Mining and more manpower intensive. The technology is well-suited for mine sizes smaller than 10-15 Mt/a and provides more flexibility in term of expanding the Mine. It is more suitable for places like Pakistan where labor cost is less expensive and availability of capital is limited.

TECHNOLOGY ADOPTED:

For Thar Block II Mine, Conventional Mining system using Shovel & Truck technology has been adopted after carrying out detailed technical & commercial comparison between the two technologies. To expose the lignite seam, continuous excavation of overburden will be done during project construction phase and subsequently for the life of the mine in order to achieve the desired lignite production rate.

2.2.3 MINE SIZE AND COAL PRICE

In Thar, the Lignite seam is buried ~ 135 m below the surface. To safely reach the lignite seam and produce the required quantity of coal, detailed feasibility study carried out by world-renowned experts & consultants concluded that a minimum box cut width of 600m (at the bottom of mine) has to be established. Continuous excavation of overburden will be done during project construction phase and subsequently for the life of the mine in order to achieve the sustained lignite production rate. An estimated 113M BCM (million bank cubic meters) of overburden has to be removed during the initial construction period to reach the main lignite seam and achieve capacity of 3.8Mt/a of mine production. The initial overburden volume estimated at 113M BCM will have to be removed regardless of the mine production capacity.

The total Project Cost for a 3.8 Mt/a mine is estimated at ~ USD 789.1 Million. As mine expands, there will be a significant reduction in coal price as incremental cost of expansion in mining capacity is very low. For instance, if the coal production capacity of the mine increase from 3.8 Mt/a to 6.5 Mt/a, the incremental capital cost will be ~ USD 124.7 Million.

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2.2.4 COAL QUALITY

Coal sampling and testing work was mainly done by North East Coal Bureau of China in 2002-03. Detailed Quality tests and analysis were done in Thar Block II. A total of 1,618 Samples were tested and analyzed for different quality parameters. The results of the all the samples have been compiled in a quality database based on which the block model was formed. The yearly coal quality was estimated from the same block model.

Summary of the coal quality data is shown in the following table, whereas the year-wise coal quality is attached in Annexure 1.0.

Thar Block-II Coal Quality			
		Average	**Min / Max**
Calorific Value	GCV.ar (Kcal/kg)	3128	2781 / 3484
	GCV.ar (MJ/kg)	13.1	11.6 / 14.6
	GCV.ar (KJ/kg)	13,096	11,643 / 14,587
	LCV.ar (Kcal/kg)	2767	2463 / 3036
	LCV.ar (MJ/kg)	11.6	10.3 / 12.7
	LCV.ar (KJ/kg)	11,587	10,312 / 12,771
Proximate Analysis	Moisture.ar (%)	47.7	44.0 / 50.2
	Ash.ar (%)	7.5	5.1 / 10.8
	Volatile Matter (ar)	24.9	24.1 / 26.0
	Fixed Carbon (ar)	19.8	19.1 / 20.3
Ultimate Analysis	Carbon.daf (%)	72.7	71.8 / 74.2
	Hydrogen.daf (%)	5.1	4.4 / 5.8
	Nitrogen.daf (%)	0.7	0.65 / 0.72
	Oxygen.daf (%)	19.0	17.5 / 20.2
	T. Sulfur.daf (%)	2.5	2.0 / 3.2
	Total Sulfur.ar (%)	1.1	0.7 / 1.5
Ash Composition	Silica(as Sio2) (%)	25.2	15.3 / 34.6
	Alumina(as Al2O3) (%)	15.3	8.2 / 22.1
	Titanium oxide(as TiO2) (%)	1.9	1.0 / 2.7
	Iron oxide(as Fe2O3) (%)	11.8	4.5 / 20.4
	Calcium oxide(as CaO) (%)	14.3	6.7 / 21.9
	Magnesium oxide(as MgO) (%)	6.4	3.8 / 8.8
	Sodium oxide(as Na2O) (%)	2.7	1.9 / 3.4
	Potassium oxide(as K2O) (%)	0.4	0.2 / 0.7
	Sulphur oxide(as SO3) (%)	13.2	6.8 / 20.0
Ash Fusion Temp.	Deformation Temp. (^{o}C)	1075 - 1250	
	Softening Temp. (^{o}C)	1090 - 1300	
	Fluid Temp. (^{o}C)	1110 - 1300	
Grindibility Index	Handgrove Grindability Index (HGI)	70 - 80	

ar: as received basis
daf: dry ash free basis

2.3 PROJECT COST

The total Project Cost for 3.8 Mt/a Mine has been estimated at USD 789.1 Million. The Project Cost has been calculated based on firm turnkey EPC contract price subject to the adjustments provided therein.

The main components of the Project Cost are given in Table 2.3.1.

Project Costs Heads	USD M
EPC Cost (Based on EPC contract)	438.7
Non-EPC Cost	202.9
Insurance Cost (% of EPC)	6.6
Sub-Total	**648.3**
Financing & LC Charges (Including Sinosure Fee)	45.3
Interest During Construction*	95.5
Withholding tax on interest income, Duties & Taxes & DSRA Coverage	-
Total Project Cost for Tariff Petition	**789.1**

*Based on 70%:30% - Debt : Equity ratio

Total Debt – USD 552.3M and Total Equity – USD 236.7M

33% Foreign Debt assumed – USD 182.3M @ LIBOR (0.50%) + Spread (4.00%) and 67% Local Debt assumed – USD 370.1M @ KIBOR (9.62%) + Spread (3.00%)

Exchange Rate used – PKR/USD = 101.75, RMB/USD = 6.1

Table 2.3.1 'Project Cost for 3.8Mt/a Mine'

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2.3.1 EQUIPMENT, PROCUREMENT AND CONSTRUCTION CONTRACT: – AT ESTIMATED COST USD 438.7M:

(a) The Petitioner initiated an international competitive bidding process to select a turnkey EPC contractor for carrying out inter alia the design, engineering, procurement, and construction of the mine. In this context, after a detailed prequalification process, Request for Proposal ("**RFP**"), along with a draft EPC contract and other technical documentation, was sent to prequalified companies including:

(i) JV of China Coal Technology & Engineering Group Corp. ("**CCTEG"**), China Railway 19th Group & Coal Mine Construction Company of CPI Mengdong Energy Group Co. Ltd. ("**CMCC**").

(ii) JV of Frontier Works Organization ("**FWO**") & NRW PTY LTD, Australia.

(iii) China Machinery Engineering Corporation ("**CMEC**").

(iv) PT Bukit Makmur Mandiri Utama ("**BUMA"**), Indonesia.

(v) China Tianchen Engineering Corporation ("**TCC"**).

(vi) JV of Bilal General Transport LLC. & Ozdogan Group.

(vii) Sinohydro-ZDRI Consortium.

(b) The pre-qualified contractors were asked to bid for construction and operations of 3.8Mt/a mine with option to expand to 6.5Mt/a mine capacity. Final bids were received from CMEC and CCTEG.

(c) After detailed evaluation by the Petitioner's team along with its consultants and RWE, China Machinery Engineering Corporation (CMEC) has been selected as the preferred EPC contractor based on its technical capabilities and better commercial bid.

2.3.2 NON-EPC COMPONENT (OTHER THAN INSURANCE COST) – USD 202.9M

(a) Components of Non-EPC cost includes:

(i) Consultancy and Studies – USD 21.2M

Includes charges for consultancy services, exploration studies, coal testing, feasibility studies, geotechnical investigations and topographic surveys and hydrological studies.

(ii) Capital Items – USD 30.3M

Includes capital items including coal blending, measurement and quality assurance system, office construction, site vehicles, office and other equipment, furniture fixtures and software.

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(iii)Legal & Professional Services Charges – USD 5.0M

Includes charges for legal services by internal and external legal counsel for Project related matters, review and expert advice on contracts, agreements and commercial documents, Audit Fees, Tax Advisory Services, Professional Taxes, Fees for SEPA and other fees paid to other relevant authorities and Public Sector Entities.

(iv) Utility System – USD 8.3M

This includes the payment of water use charges, utilization of effluent disposal system, supply of water to the mine and disposal of underground water from the Project.

(v) Salaries, Wages & Benefits – USD 32.8M

This component includes the salaries, wages & benefits of the Petitioner's management team.

(vi) Operating Expenses – USD 21.7M

Includes expenses related to office, travel, office equipment maintenance, telecommunication, security expenses, information systems running expenses, vehicles, and consumables, janitorial services, repair and maintenance of office and residential buildings, roads maintenance.

(vii) Land Acquisition & Village Relocation – USD 62.0M

Includes annual rent for Block-II lease, registration & stamp duty charges, cost of land acquisition for thirty (30) years of mining operations, relocation cost of two villages (Senhri dars and Thareo Halepoto) of GoS and cost of rehabilitation of land that has been excavated & mined. The cost estimates are based on the detailed feasibility study.

(viii) Project Development Cost – USD 21.6M

Includes all costs incurred/to be incurred by the Petitioner till Financial Close of the Project. This estimated figure will be adjusted at the time of Financial Close.

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The following Non-Controllable Non-EPC Costs would be subject to true-up at Commercial Operations Date based on the actual costs incurred:

Controllable Costs	Non-Controllable Costs
Capital Items	Legal & Professional Services Charges
Utility System	Land Acquisition and Village Relocation
Salaries, Wages & Benefit	
Operating Expenses	
Consultancy and Studies	

Table 2.3.2.1 'Break-up of Non-EPC cost for 3.8Mt/a Mine'

(b) **INSURANCE – USD 6.6M**

Insurance of the Project is required during construction to ensure the following risk coverage:

(i) Marine and Air Cargo Cover: All materials, equipment, machinery, spares and other items for incorporation in the mine against all risks of physical loss or damage while in transit by sea or air from country of origin anywhere in the world to the site in Pakistan, or vice versa, from the time of the insured items leaving warehouse or factory for shipment to the site. Cover to institute cargo clauses (air), institute war clauses (air), (sendings by post), institute strikes clause (cargo, air cargo) or equivalent.

(ii) Loss of Revenue Profits (following Marine incident) Cover: Against loss of revenue following delay in start of commercial operations of the Project as a direct result or physical loss or damage to the materials, equipment, machinery and other items in transit by sea or air to the site, to the extent covered under the marine cargo insurance.

(iii)Contractors' All Risks Cover: The contract works executed and in the course of execution, materials and temporary works, while on the site, against all risks of physical loss or damage other than war and kindred risks, nuclear risks, unexplained shortage, cost of replacing or repairing items which are defective in workmanship, material or design; penalties; consequential losses; cash; vehicles; vessels; aircraft. Cover shall provide the equivalent terms, conditions and perils/causes of loss provided under an Erection All Risks insurance policy.

(iv)Loss of Revenue (following C.A.R.) Cover: Against loss of revenue following delay in start of commercial operations as a direct result of physical loss of or damage to the works during construction or operational testing to the extent that such loss or damage is covered under the Contractors' All Risks policy.

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(v) Public (Third Party General) Liability Cover: Legal liability of the insured for damage to property of third parties or bodily injury to third parties arising out of the ownership, operation and maintenance of the Mine.

(vi) Terrorism Physical Loss or Damage Cover: In respect of property damage as a result of terrorism and/or sabotage to the insured's physical assets including permanent and temporary works, materials, buildings, structures, machinery and equipment supplies and all other property for incorporation into the construction of the Project.

(vii) Miscellaneous Coverage: Other insurance as is customary, desirable or necessary to comply with local or other requirements including, but not limited, the requirements by lenders, such as workmen compensation insurance in relation to all workmen employed in the construction of the Project and motor insurance on any vehicle.

Based on indicative estimates from similar projects (such as power projects) and discussion with international insurance brokers, insurance has been assumed at USD 6.6M per annum for the construction phase of 3.5 years which is equal to 1.5% of EPC cost. However, considering mining is being done for the first time in Pakistan, risk coverages may differ from the traditional risk coverage package available to IPPs. Hence, this will be adjusted at actual on Commercial Operations Date.

(c) FINANCING, SINOSURE COVERAGE FEE & LC CHARGES – USD 45.3M

No firm/detailed term sheet has been received from any of the lenders to-date and hence it is difficult to accurately forecast the financing and LC charges. Moreover, with Chinese financing being sought for the first time for corporate sector project finance, it creates further challenge with respect to assumptions about financing charges. Petitioner has used estimates based on its own experience about project finance obtained by the EPL and other affiliates. These costs will be actualized at Commercial Operations Date.

This includes the costs related to the debt financing of the Project. Such costs include, inter alia, the lenders' up-front, arrangement fee, lenders' monitoring fee, commitment fee; charges related to various letters of credit to be established in favor of various contracting parties (other than L/C confirmation charges); fees payable and stamp duty applicable on the financing documents; agency fee; security trustee fee; monitoring fee and the fees for the lenders' various advisors.

Sinosure Coverage Fee has been included in the project cost; as per discussions with Chinese banks, Chinese lending will only be available if Sinosure provides Insurance Guarantee. Formula used in tariff for calculation of Sinosure fee is appearing below:

Total Sinosure fee cost = Sinosure Fee * Total Debt Servicing

- One time Sinosure Fee is assumed at 7% to be adjusted at actual.

- Total Debt Servicing is aggregate of (i) total principal repayments and (ii) total interest payments during construction and operation phase calculated at 4% over long term LIBOR/Fixed Swap Rate of 3% (notional number only which will be adjusted as per calculations provided by Sinosure).

For clarity, principal repayments and interest payments mentioned above are only limited to Foreign financing.

The following tables show the assumptions and cost break-ups:

Cost Break-up	Basis	Total USD M
Arrangement Fee	2.0% of Loan Amount	**11.0**
Commitment Fee	0.5% of outstanding total debt amount	**4.6**
Debt Security Trustee Fee	0.1% of Loan Amount per year	**1.9**
SBLC	2.0% of installment per year of total loan	**3.1**
Sinosure Fee	7% of Total Debt Servicing Component on Foreign Financing as defined above	**19.5**
Total		**40.2**

Table 2.3.2.2 'Break-up of Financial Charges'

Cost Break-up	M USD	Basis & Frequency of Payment
Arrangement Fee	2.0	0.5% of Total LC amount USD 400M – payment upfront
LC Service Charges	3.1	0.25% per quarter on outstanding EPC amount (excluding CAPEX & HSD Amount) USD 209M – payments quarterly
Total LC Charges	**5.1**	

Table 2.3.2.3 'Break-up of LC Charges'

(d) **INTEREST DURING CONSTRUCTION (IDC) – USD 95.5 M**

(i) This has been calculated on the basis of the following assumptions:

(I) assumed project cost outflows and drawdown of equity and Debt with 33% foreign financing and 67% local financing mix.

(II) debt : equity ratio has been assumed at 70 : 30.

(III) equity drawdown has been assumed at 75% upfront on account of Project Development Costs and advance payments to EPC contractor. Remaining 25% equity is drawn out in end of the project once all debt

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has been utilized. This is based on the assumption that the lenders usually require the same. Depending on the finalization of the financing arrangements including the timing of injection of equity, the IDC component of the Project Cost would be trued up at Financial Close.

(ii) The table below shows the assumptions and year-wise break-up of IDC:

Interest Rate (%)	Amount in USD M				
	Yr. 1	**Yr. 2**	**Yr. 3**	**Yr. 4**	**Total**
LIBOR (0.50%) + Spread (4.00%) = 4.50%	0.9	3.2	6.1	4.1	14.3
KIBOR (9.62%) + Spread (3.00%) = 12.62%	5.3	18.1	34.6	23.1	81.2
Total IDC	6.3	21.3	40.7	27.2	95.5

Table 2.3.2.4 'IDC Profile'

Drawdown of equity will be adjusted after agreement with lenders and hence will be trued up at Financial Close. Petitioner's existing assumption of mix of local and foreign currency loan is based on preliminary discussions with local and Chinese lenders, however, in the absence of firm term sheets and financing amounts, local and foreign currency loan mix is best estimate as of now. Once petitioner has firmed up amounts in terms of local and foreign currency loans, TCEB will provide adjustments as given in next section.

(iii) *ADJUSTMENTS AT FINANCIAL CLOSE*:

In view of the foregoing, the IDC component of the Project Cost should be further adjusted for the following immediately prior to Financial Close:

(I) agreed spread;

(II) funding requirement i.e. timing and extent of draw-downs;

(III) changes in the Project Cost otherwise permitted under the Tariff; and

(IV) actual amount of foreign and local debt.

The Petitioner has the option to apply for the aforesaid adjustment following the Commercial Operations Date rather than at the Financial Close.

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(iv) *ADJUSTMENTS AT COMMERCIAL OPERATIONS DATE*:

In view of the foregoing, the IDC component of the Project Cost should be further adjusted for the following at the Commercial Operation Date:

(I) actual amount of foreign and local debt;

(II) variation in their benchmark rate;

(III) funding requirement i.e. the timing and extent of draw-downs;

(IV) changes in the Project Cost otherwise permitted under the Tariff; and

(V) variation in PKR/USD exchange rate.

(e) **WITHHOLDING TAX ON INTEREST TO FOREIGN LENDERS – NIL**

As per Pakistani tax laws, borrower is required to deduct 10% withholding tax on interest payments to foreign lenders unless those lenders are specifically exempted in Schedule 2 (Part 1) of Income Tax Ordinance, 2001. As of now, no such tax has been taken in Project Cost (i.e. under interest during construction cost) under the assumption that Chinese Banks will be notified as exempt entities from provision of this withholding tax. This is in line with the understanding given to Chinese Banks in Economic Corridor meetings held in Beijing and Islamabad.

(i) *Adjustment at Commercial Operations Date*:

If such exemption is not given then any grossing up of withholding tax on interest payments to any non-exempt foreign lender will be allowed as admissible project cost and hence will be trued up as per actual upon Commercial Operations Date.

(f) **DUTIES & TAXES – NIL**

Custom, taxes, duties and cess (including sales tax); taxes and customs duty have been calculated in accordance with the Fiscal Incentives Package approved by ECC for development of Thar Coal & power projects.

(i) *Adjustment at Commercial Operations Date*:

Any incidence of duties and taxes would be pass- through at Commercial Operation Date.

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(g) **DSRA COVER– NIL**

No provisions for DSRA have been kept in the Project Cost.

(i) *Adjustment at Financial Close*:

Any requirement of DSRA by the lenders will be allowed as admissible project cost and hence will be trued up immediately prior to Financial Close. The Petitioner also has the option to true-up such costs at Commercial Operations Date.

(ii) *Adjustment at Commercial Operations Date*:

Any requirement of DSRA by the lenders will be allowed as admissible project cost and hence will be trued up as per actual upon Commercial Operations Date.

(h) **TOTAL PROJECT COST**

Incorporating all the costs mentioned above, the total Project Cost comes out to be USD 789.1 M.

2.4 CAPITAL STRUCTURE

The capital structure of the Petitioner has been envisaged at the following Debt: Equity ratio:

	%age	Amount in USD M
Equity	30%	236.7
Debt	70%	552.3
Total	**100%**	**789.1**

Table 2.4.1 'Proposed Capital Structure'

If capital structure is changed, then we request that TCEB allows revised capital structure within the band of 20-30% equity which will be actualized at the time of Commercial Operations Date.

2.4.1 EQUITY

The disbursement of equity has been assumed to be 75% upfront. Remaining 25% equity will be drawn in final months of the projects once all debt has been drawn. Drawdown of equity will be adjusted after agreement with lenders and hence will be trued up at financial close and then later at Commercial Operations Date in accordance with the tariff.

Return on equity ("**ROE**") and Return on Equity during Construction ("**ROEDC**") will be calculated on 20% USD based IRR for the Project as the Financial Close is expected to be achieved before 31st Dec, 2015. Equity will be invested in equivalent PKR, since equity returns are USD based, indexation based on PKR-USD exchange rate parity will apply on determining return on equity.

2.4.2 DEBT

Total debt has been assumed at USD 552.3M with 33% (USD 182.3M) foreign financing (at 0.50% LIBOR + 4.00% Spread) and 67% (USD 370.1M) local financing mix (at 9.62% KIBOR + 3.00% Spread). Tenor of the loan shall be ten years with quarterly or semi-annual repayments on annuity basis, from the Commercial Operations Date, excluding the grace period of the construction period for the Project.

As per decision of Prime Minister of Pakistan and confirmed by ECC decision dated 8th March 2013, debt portion of up to USD 700M will be covered by Sovereign Guarantee provided by Ministry of Finance, GoP. Security Package against the loan will include customary charge/mortgage on all assets and assignment of key contract to be provided to the debt providers for securing obligations to them.

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The following table shows the expected drawdown of the total project cost over the construction period:

	Amount in M USD					
Construction Period (Yrs)	**Upton Financial Close**	**1**	**2**	**3**	**3.5**	**Total**
Equity	21.6	155.9	0.0	0.0	59.2	**236.7**
Debt	-	126.4	164.4	220.8	40.7	**552.3**
Total Cost	**21.6**	**282.3**	**164.4**	**220.8**	**99.9**	**789.1**

Table 2.4.2 'Details of Project Cost Drawdown – Equity & Debt'

(a) *Adjustment at Financial Close*:

Both the debt & equity components of project cost shall be subject to following adjustments prior to Financial Close:

(i) Adjustment on account of actual project cost based on true-ups mentioned in other Sections (including, but not limited to, Section 3.5) of this petition;

(ii) Adjustment in ROEDC due to changes in drawdown of equity as agreed with the lenders;

(iii) Change in spread on both local and foreign currency loans as agreed with the lenders;

(iv) Current structure assumes 33% foreign currency debt and 67% local currency debt, this structure will also be actualized based on final agreement with foreign and local currency lenders on the available amount;

(v) Moreover, there may be multiple local and foreign currency debts with varying benchmarks and spreads, same shall be actualized at time of COD; and

(vi) Debt and equity components of the project cost shall be adjusted on the actual debt: equity ratio as agreed with the lenders subject to band of 20-30% equity.

(b) *Adjustment at Commercial Operations Date*:

Both the debt & equity components of project cost shall be subject to following adjustments at Commercial Operations Date:

(i) Adjustment on account of actual project cost based on true-ups mentioned in other Sections (including, but not limited to, Section 3.5) of this petition.

(ii) Adjustment in ROEDC due to changes in drawdown of equity as per actual

(iii) Change in spread on both local and foreign currency loans as agreed with the lenders

(iv) Current structure assumes 33% foreign currency debt and 67% local currency debt, this structure will also be actualized based on final agreement with foreign and local currency lenders on the available amount.

(v) Moreover, there may be multiple local and foreign currency debts with varying benchmarks and spreads, same shall be actualized at time of COD.

(vi) Debt component of Project Cost assumes existing level of LIBOR & KIBOR, therefore IDC shall be adjusted based on actual LIBOR & KIBOR cost incurred by Petitioner during the construction period.

(vii) Debt and equity components of the Project Cost shall be adjusted based on actual variations in PKR / USD exchange rate as Project Cost has been calculated in USD.

(viii) Debt and equity components of the project cost shall be adjusted on the actual debt: equity ratio as agreed with the lenders subject to band of 20-30% equity.

3. TARIFF SUMMARY

3.1 KEY TARIFF ASSUMPTIONS AND BASIS

3.1.1 As per the Fiscal Incentives Package, a Guaranteed IRR pricing regime (similar to the one being practiced in the power sector by PPIB / NEPRA) has been used by the Petitioner for determination of coal price for Thar coal. Tariff has been calculated using a constant USD model. Coal tariff will be determined and applicable for the entire concession period of the Project. Coal tariff has been determined on cost-plus mechanism to cover (a) guaranteed USD based return for equity holders, (b) cost pass through of debt servicing, and (c) operational costs pass through.

3.1.2 For the purpose of calculating levelized tariff, a discount rate of 10% has been used. Tariff stream comprises of debt servicing component for the first ten (10) years of the project life and the remaining period without debt servicing. Coal tariff has been calculated on the basis of fiscal incentives as approved by GoP and any subsequent changes will be processed as pass through.

3.1.3 The following basis has been used for calculation of Coal tariff:

(a) 20.5% IRR on equity assuming Financial Close of the Project will be achieved before 31st Dec 2014; in case, Financial Close is not achieved by 31st Dec 2014 but before 31st Dec 2015, 20.0% IRR on equity shall be applied;

(b) Zero percent (0%) custom duties on import of Coal mining equipment and machinery, including vehicles for site use;

(c) Exemption on withholding tax to shareholders on dividends for initial thirty (30) years;

(d) Exemption on withholding tax on procurement of goods and services during Project construction and operations;

(e) Exemption for thirty years on other levies, including Special Excise Duty, Federal Excise Duty, WPPF, and WWF;

(f) In addition to the aforesaid incentives, Thar Coal Mining Project have been granted same incentives, concessions, protections and security package as that available to Independent Power Producer ("**IPPs**") developed pursuant to Policy for Power Generation Projects 2002 (as amended from time to time) including but not limited to exemption from Corporate Tax, Minimum Turnover Tax etc.; and

(g) All other fiscal benefits as given to Special Economic Zones will be applicable to Thar Block-II Mining Project in the Special Economic Zone of Thar.

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3.1.4 In case any or all of the above assumption change any time or any provincial or federal tax, levy, duties or surcharge is paid by the project company resulting in increased project cost and/or Coal Tariff, the total Project Cost and/or Coal Tariff would be true-ed up accordingly to take into account any additional tax or duty payable by the Petitioner.

Furthermore, NEPRA in its determination on Thar Coal based power plants have asked TCEB **to notify price on delivered coal cost at mine mouth power plant battery limit** and determine transportation losses thereof, hence, transportation charges (USD 0.27/ton/km adjusted as per reference HSD price) will be added on ex-mine price based on feasibility studies conducted by RWE for mine-mouth power plants (Module 7 – section 6.6.1.2 attached as Annexure 2.0) and 0.2% transportation losses will be accounted for on Variable Production Payments as follows:

(a) *Transportation Cost:*

This cost will be treated as variable cost and will be added on per ton basis for every ton of coal delivered at power plant stockyard adjusted for the distance.

(b) *Transportation Losses:*

To account for transportation losses the following formula will be used for adjustment of Production (Variable) Payments:

$$\text{Adjusted Production Payment (USD/ton)} = \frac{Indexed\ Production\ Payment_{x}(USD/ton)}{(100\% - 0.2\%)}$$

$$where\ \ production\ (variable)\ payment\ is\ the\ indexed\ value\ as\ per\ the\ agreed\ indexationbenchmarks\ for\ the\ month\ x\ after\ COD$$

3.1.5 Any commercial sale of coal to power plant prior to COD will be made at in-line with NEPRA's decision. The net revenue from sale of pre-COD coal, if any, will be adjusted against the total Project Cost at Commercial Operations Date.

3.1.6 Phase I of the Project has been designed to meet the demand for coal of a 660MW gross capacity power plant operating at 85% availability as communicated to the Petitioner by the power company. Coal demand shall be finalized at the commercial operations date of the power project and the Coal tariff shall be adjusted accordingly. In case final off-take requirements by power plant are higher than 3.8Mt/a then Petitioner may require additional capex/cost which shall be adjusted in the tariff at Commercial Operations Date.

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3.2 COAL TARIFF STRUCTURE

3.2.1 The petitioner has quoted the coal tariff in two parts:

(a) **Production (Variable) Payments (PKR/ton)** – will cover variable costs incurred during operations. This component will be paid based on the actual amount of coal sold to the power plant(s)

(b) **Capacity (Fixed) Payments (PKR/ton/month)** – will cover fixed costs incurred during operations and the entire Project cost incurred for setting up the plant. This part will be paid provided the Mine is available for dispatch to standards defined in the CSA.

3.2.2 The components of the coal price are as follows:

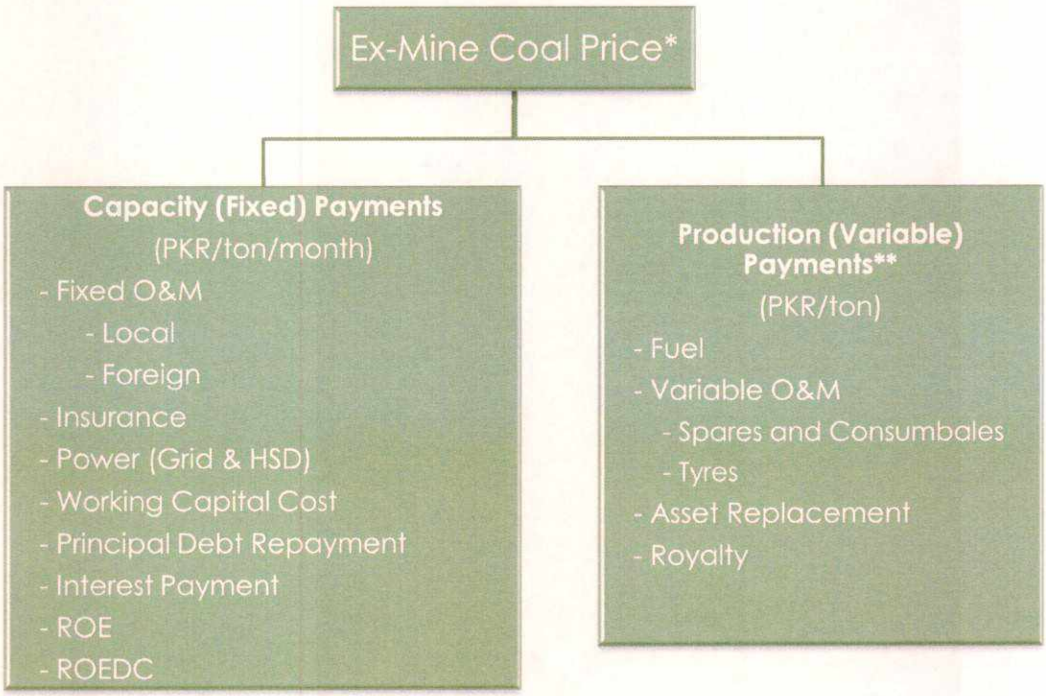

Diagram 3.2.1 'Coal Tariff Structure'

**For Delivered Coal Price to mine-mouth power plants, transportation cost will be added over Ex-Mine Coal Price*

***To account for transportation losses, the formula provided in Section 3.1 will be used to calculate revised Production (Variable) payments*

3.3 TARIFF COMPONENT DETAILS

The descriptions of various components of the tariff are provided below.

3.3.1 PRODUCTION (VARIABLE) PAYMENTS:

(a) Fuel Cost

This component includes the cost of diesel required for all the equipment utilized for Coal extraction & Overburden removal. The main equipment includes Dump Trucks & Shovels, Loaders, Dozers, Crawlers, Auxiliary Equipment, Emergency & Rescue Vehicles, Buses, and Wagons & Cars for transportation of the workers and staff to & from the mine site and any other equipment operated on diesel fuel used in mining operations. The cost is based on a diesel price of 0.943 USD/liter (Diesel rate for ISLAMKOT CITY DIST.MITHI as notified by OGRA on 1st Dec 2014). This cost component is based on the O&M bid of 4.5 years, and the same numbers has been used for the 30 years cost, which will be actualized and adjusted under the Multi Year Framework, and indexed, as provided under the tariff.

(b) Variable O&M Cost

This component includes the cost of annual maintenance i.e. cost of tyres, spares/consumables of all mining and auxiliary equipment. The Petitioner plans to award the O&M contract for 4.5 years initially, which will be extended further. This cost component is based on the O&M bid of 4.5 years, and the same numbers has been used for the thirty (30) years cost, which will be actualized and adjusted under the Multi Year Framework, and indexed, as provided under the tariff.

(c) Asset Replacement Cost

The life of equipment/vehicles used for Mining varies depending on the type, make and manufacturer. In order to replace the mining equipment when it reaches end of its useful life, an Asset Replacement Reserve needs to be established which will be utilized when the actual expense is made. The Asset Replacement Reserve component has been built into the tariff calculation. Entire Asset Replacement Reserve stream over the 22 year period of mining operations has been estimated as annuity in cycles based on the depreciated life provided by OEM 0.25% discount rate has been assumed based on long-term USD saving rate. Based on the life of the main equipment, the cycles for the Asset Replacement Reserve have been optimized as per the size of the Mine.

(d) Royalty

Royalty payments to the GoS will also be part of the tariff in respect of any coal disposed (sold, bartered or donated) off by the Petitioner. Rate of royalty is yet to be indicated by GoS; hence no royalty has been assumed. Petitioner recommends that no royalty should be added till the time Thar Coal is expensive than international coal.

3.3.2 CAPACITY (FIXED) PAYMENTS:

(a) O&M Cost

The Petitioner will engage a reputable & qualified mining contactor for the O&M of the Mine after 3.5 years of construction. Initially the O&M contract will be for 4.5 years for which petitioner has already received bids from the shortlisted contractor. Under the term of EPC contract, Petitioner has the option to award O&M contract to selected EPC contractor at COD. This cost component is based on the O&M bid of 4.5 years, and the same numbers has been used for the thirty (30) years cost, which will be actualized and adjusted under the Multi Year Framework provided under the tariff.

i. Fixed O&M (Foreign)

The foreign fixed O&M component includes overheads. Details are as follows:

I. Contractor's Charges

Contractor overheads including Project Supervision, Crush Stone for Haul Roads Construction, Engineering & Mine Planning, travelling expenses, financial and legal charges, and all other overhead costs. Based on O&M bid.

II. Labor

The human resource costs include salaries, wages & benefits for O&M contractor. Based on O&M bid.

ii. Fixed O&M (Local)

The local fixed O&M Component includes owners overheads and rehabilitation cost. Details are as follows:

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I. Site Operating Expenses

Includes expenses related to office and mess supplies, travel, office equipment maintenance, telecommunication, information systems running expenses, vehicles, and consumables, janitorial services, repair and maintenance of office and residential buildings, roads, trainings and equipment rentals, etc.

II. Utility Systems

This includes the payment of water use charges, utilization of effluent disposal system, supply of water to the mine and disposal of underground water from the Mine and O&M of the effluent disposal scheme.

III. Consultancy & Technical Studies

Includes charges for consultancy services, exploration expenses, coal testing, data acquisition, feasibility studies, geotechnical investigations and topographic surveys, hydrological studies.

IV. Legal & Professional Services

Includes charges for legal services by internal and external legal counsel for project related matters, review and expert advice on contracts, agreements and commercial documents; Audit Fees, Tax Advisory Services, Professional Taxes, Fees for SEPA and other fees paid to other Relevant Authorities and Public Sector Entities.

V. Capital Items

Includes capital items including; office and other equipment, furniture fixtures, software, vehicles. Also includes cost of leasing, maintenance & repairs, rentals and other services.

VI. Land Lease related Expenses

Includes annual rent for Block-II lease, other land lease related fees, stamp duty and registration charges paid to GoS, SCA, Mines and Minerals Department, Revenue Office Mithi, Survey and Settlement Department Hyderabad/ Mirpurkhas and other departments or division of Government of Sindh.

VII. Salaries, Wages & Benefits

This component includes the salaries, wages & benefits of the Petitioner's management team

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VIII. Land Rehabilitation

It is the cost of rehabilitation of land that has been excavated & mined. The cost estimates are based on the detailed feasibility study.

IX. Operating Expenses-Head Office

These include expenses to be incurred by the Petitioner at head office. These includes rent, utilities, travel and boarding lodging, office expenses such as stationary, printing expenses, security, training, BoD remunerations, food etc.

X. Financial Charges

Includes SBLC Fee (3% of total installment), Senior Lender Security Trustee Fees (0.2% of Loan Amount), Portfolio Supervision Fee (0.1% of Loan Amount), Renewal Fee of Working Capital Lines (0.5% of Local Loan Amount) and other bank charges including LC and swift charges (USD 0.2M per annum). Except for renewal fee of working capital lines and other bank charges including LC and Swift Charges all other charges have been incorporated for tenor of the loan.

(b) Insurance

Insurance of the Mine is required during operations to ensure the following risk coverage:

(i) All Risks Insurance - Fixed Assets Cover: All building contents, machinery, stock, fixtures, fittings and all other personal property forming part of the mine against "All Risks" of physical loss or damage, including (but not limited to) those resulting from fire, lightning, explosion, spontaneous combustion, storm, wind, tempest, flood, hurricane, water damage, riot, strikes, malicious damage including act of terrorism and sabotage, earthquake, tsunami, collapse and/or loss of contents of tanks.

(ii) Consequential Loss Following All Risks Cover: Loss of revenue due to loss of capacity and/or loss of output as a direct consequence of loss of or damage to the mine and caused by a peril insured under paragraph above (i).

(iii) Machinery Breakdown Cover: All machinery and ancillary equipment forming part of the mine operations against sudden and unforeseen physical loss or damage resulting from mechanical and electrical breakdown or derangement, explosion or collapse of permanent structures and pressure vessels, electrical short circuits, vibration, misalignment, excessive current or voltage, abnormal stresses, centrifugal forces, failure of protective or regulating devices, overheating, entry of foreign bodies, impact, collision and other similar causes.

(iv) Consequential Loss following Machinery Breakdown Cover: Loss of revenue due to loss of capacity and/or loss of output as a direct consequence of loss or damage to the mine caused by a peril insured under paragraph above (iii).

(v) Public (Third Party General) Liability Cover: Legal liability of the insured for damage to property of third parties or bodily injury to third parties arising out of the ownership, operation and maintenance of the mine.

(vi) Terrorism Physical Loss or Damage Cover: In respect of property damage as a result of terrorism and/or sabotage to the insured's physical assets including permanent and temporary works, materials, buildings, structures, machinery and equipment supplies and all other property during operations.

(vii) Miscellaneous Coverage: Other insurance as is customary, desirable or necessary to comply with local or other requirements, such as workmen compensation insurance in relation to all workmen employed in the construction of the Project and motor insurance on any vehicle.

For the operations phase, recurring cost of insurance assumed at 1.5% of EPC cost per annum after Commercial Operations Date. Insurance cost will be paid through adjustment in coal tariff at anniversary of insurance policies mentioned above.

(c) Power Cost

This component includes the cost of electricity required for running all the electrical equipment such as: coal handling system, MSF, Underground & Surface Water Pumps, Lighting & Illumination networks, Telecommunications, Water Treatment System, Diesel Handling & Storage System, Sewerage Treatment System, Fire, Raw & Potable Water Systems, etc. Power required for all the infrastructure facilities including township is also included under this head. The above cost is based on the power cost at the industrial rate of 0.16 USD/kWh. This component includes cost of 80% of all power generation required, remaining 20% power generation has been assumed through diesel power generation (price of 0.943 USD/liter for diesel assumed as per diesel rate for ISLAMKOT CITY DIST.MITHI as notified by OGRA on 1st Dec 2014). The power generation mix shall be actualized quarterly based on actual grid availability.

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(d) Cost of Working Capital

Working capital loan facility is required in order to finance the following four costs:

(i) 60 days of accounts receivables
(ii) 30 days of coal inventory
(iii) 21 days of diesel Inventory
(iv) 02 years of strategic spares worth USD 18.8M
(v) 01 month advance for O&M contractor of USD 7.2M as per O&M bid

The cost of working capital has been calculated at 11.84% - 01-Mth KIBOR (9.84%) + Spread (2.0%).

(e) Debt Servicing (Principal Debt Repayment and Interest Payment)

This is the principal & interest payment of debt portion of project cost which is USD 552.3M. Grace period will be of 42 months (which is equivalent to the construction period of the project) and the loan repayment period is assumed to be 10 years (beginning from the 1st year of operations).

Based on the assumptions highlighted above, the yearly annuity comes out to be USD 89.0M (USD 22.8M on foreign financing and USD 66.2M on local financing) over 10 years. Withholding tax on interest payment to Chinese/other foreign banks is presently not covered in tariff; however, it will be part of interest payment component of foreign debt if exemption is not available for any such foreign lender. Please refer to Annexure 3.0 for Debt Schedule.

This component would be adjusted in terms of this petition on the Commercial Operations Date.

(f) Return on Equity

This component has been calculated to achieve 20% IRR for the Project as the Financial Close is expected to be achieved before December, 2015.

To ensure 20% IRR for the investors, this component comprises of:

(i) **Return on Equity:** Any equity invested PKR will be converted to USD based on the prevailing exchange rate on date(s) of injection of equity.

(ii) **Return on Equity During Construction (ROEDC):** Since investors will not be getting any return during construction of the Project therefore Petitioner has included ROEDC in the tariff petition which shall be determined and allowed at the time of tariff true up after Commercial Operations Date based on the actual

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equity injection timeframe (including actual drawdown and timeframe of equity injection of Project Cost).

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3.4 PROJECT BASIS/ASSUMPTION SUMMARY

Description	Basis
Mine Capacity	3.8 Mt/a
Location	Thar Block – II
Construction Time	42 Months
Total Project Cost	USD 789.1M
Project Cost Drawdown	38.5%, 20.8%, 28.0%, 12.7%
Debt : Equity Ratio	70% : 30%
Total Equity	USD 236.7M
Equity IRR	20.00%
Equity Drawdown	75% upfront and remaining 25% in the last year when all debt has been utilized
Total Debt	Total Debt – USD 552.3M 33% Foreign Debt assumed – USD 182.3M @ LIBOR (0.50%) + Spread (4.00%) 67% Local Debt assumed – USD 370.1M @ KIBOR (9.62%) + Spread (3.00%)
EPC Cost	USD 438.7M
Non EPC Cost	USD 202.9M
Insurance during Construction	USD 6.6M
Financing Charges (including Sinosure Fee)	USD 45.3M
Arrangement Fee	2% of Loan Amount - USD 11.0M
Commitment Fee	0.5% of outstanding total debt amount – USD 4.6M
Debt Security Trustee Fee	0.1% of Loan Amount per year – USD 1.9M
SBLC	2.0% of installment per year of total loan – USD 3.1

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Sinosure Fee	7% of Total Debt Servicing Component on Foreign Financing – USD 19.5M
LC Charges	USD 5.1M – 0.5% of Total LC amount USD 400M – payment upfront and Service Charges of 0.25% on outstanding EPC contract payments
Interest during Construction	USD 95.5M
Withholding Tax on interest payment to foreign lenders	Nil - In case exemption is not given then any grossing up of withholding tax on interest payments to any non-exempt foreign lender will be allowed as admissible project cost and hence will be trued up as per actual upon COD
Duties & Taxes	Nil except sales tax on diesel assumed in per unit liter cost; Any incidence of duties and taxes would be trued-up at Commercial Operation Date.
Provision for DSRA Account	Nil - No provisions for DSRA have been kept in the project cost. In case such requirements are raised by the lenders; project cost will be adjusted at Financial Close which will be actualized at Commercial Operations Date.
Fuel - Diesel Cost	USD 0.943/liter
Royalty	0% assumed
Insurance during operations	1.5% of EPC cost – USD 6.6M
Power Cost	USc 0.16/kWh - during construction all power based on Diesel Generators. During operations, 80% power from HESCO grid and remaining 20% based on Diesel Generators
Working Capital Requirements	60 days - Accounts Receivables 30 days - Coal Inventory 21 days - Diesel Inventory 02 years - spares worth USD 18.8M 01 month advance for O&M Contractor – USD 7.2M
Cost of Working Capital	11.84% - 01 Month KIBOR (9.84%) + Spread (2.0%)
30 years Levelized Coal Tariff	USD 69.22/ton

3.5 TARIFF SNAPSHOT

(a) Coal Tariff in USD/ton for 3.8Mt/a mine capacity

Tariff Component	Average (1-10 Years)	Average (11-30 Years)	Levelized (1-30 Years)
PRODUCTION (VARIABLE) PAYMENTS	**USD/Ton**	**USD/Ton**	**USD/Ton**
Fuel Cost	7.02	6.57	6.92
Variable O&M			
➢ Tyres	1.70	1.59	1.68
➢ Spares/Consumables	2.61	2.44	2.58
Asset Replacement Cost	1.95	1.38	1.89
Royalty	0.00	0.00	0.00
	13.28	**11.99**	**13.06**
CAPACITY (FIXED) PAYMENTS			
Fixed Operation & Maintenance			
➢ Foreign	6.97	6.84	6.96
➢ Local	7.20	6.39	6.93
Insurance	1.73	1.73	1.73
Power Cost - By Grid (80%)	1.50	1.49	1.50
Power Cost - By Diesel (20%)	0.66	0.66	0.66
Cost of Working Capital	1.26	1.21	1.25
	19.31	**18.33**	**19.03**
DEBT & ROE			
Principal Debt Repayment	14.54	0.00	8.79
Interest Payment	8.89	0.00	6.47
ROE	12.51	12.51	12.51
ROEDC	9.35	9.35	9.35
	45.28	**21.86**	**37.13**
Ex-Mine Coal Price	**77.88**	**52.18**	**69.22**

Table 3.5.1 'Tariff Snapshot for 3.8Mt/a coal off-take in USD/ton'

Refer to Annexure 4.1 for Yearly Tariff Profile (in USD/ton) of 3.8Mt/a coal off-take for 30 Years.

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(b) Coal Tariff in PKR/ton for 3.8Mt/a mine capacity

Tariff Component	Average (1-10 Years)	Average (11-30 Years)	Levelized (1-30 Years)
PRODUCTION (VARIABLE) PAYMENTS	**PKR/Ton**	**PKR/Ton**	**PKR/Ton**
Fuel Cost	714	669	704
Variable O&M			
➢ Tyres	173	162	171
➢ Spares/Consumables	266	249	262
Asset Replacement Cost	199	141	192
Royalty	0	0	0
	1,351	**1,220**	**1,329**
CAPACITY (FIXED) PAYMENTS			
Fixed Operation & Maintenance			
➢ Foreign	709	696	708
➢ Local	732	650	705
Insurance	176	176	176
Power Cost - By Grid (80%)	152	152	152
Power Cost - By Diesel (20%)	67	67	67
Cost of Working Capital	128	124	127
	1,965	**1,865**	**1,936**
DEBT & ROE			
Principal Debt Repayment	1,479	0	895
Interest Payment	904	0	659
ROE	1,273	1,273	1,273
ROEDC	951	951	951
	4,607	**2,224**	**3,778**
Ex-Mine Coal Price	**7,924**	**5,309**	**7,043**
*Exchange Rate used - USD 1 = PKR 101.75			

Table 3.5.2 'Tariff Snapshot for 3.8Mt/a coal off-take in PKR/ton'

Refer to Annexure 4.2 for Yearly Tariff Profile (in PKR/ton) of 3.8Mt/a coal off-take for 30 Years.

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3.6 ADJUSTMENTS AT FINANCIAL CLOSE:

3.6.1 The petitioner may request adjustment in the project cost at the time of financial close due to change in financial assumptions. The following components of the Project Cost may be adjusted at the Financial Close:

(a) EPC cost based on agreed indexations with the contractor; further adjustment may be done at Commercial Operations Date;

(b) Any change in EPC cost due to change interim production plan as mentioned in 3.7.1(a)(IV)

(c) Project Development Cost;

(d) Insurance during construction;

(e) Spread on foreign and local financing;

(f) Break-up of Local and Foreign Currency loan financing

(g) Financing costs (including Sinosure Fee and DSRA); further adjustments may be done at Commercial Operations Date; and

(h) Capital Structure i.e. Debt and Equity ratio will be adjusted along with percentage of foreign and local debt; further adjustments may be done at Commercial Operations Date.

3.6.2 The Petitioner has the option to undertake any of the above the adjustments at Commercial Operations Date rather than at Financial Close.

SUMMARY OF REQUIRED PROJECT COST ADJUSTMENTS AT FINANCIAL CLOSE PROVIDED BELOW:

Project Cost Component	Required Adjustment
EPC cost	Project Cost to be adjusted as per agreed indexations accordingly; further adjustment may be done at COD
Project Development Cost	Project Cost to be adjusted with actual Project Development Cost
Insurance during construction	Project Cost to be adjusted as per actual insurance cost.
Spread on foreign and local financing	Project Cost to be adjusted as per the spread in firm term sheets
Break-up of Local & Foreign Currency loan	Project Cost to be adjusted as per break-up of Local and Foreign Currency loan financing
Financing Costs (including Sinosure Fee and DSRA requirements)	Project Cost to be adjusted with financing costs as per lender requirements
Capital Structure	Project Cost to be adjusted based on capital structure agreed with lenders

Table 3.6.2.1 'Summary of Required Project Adjustments at Financial Close'

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3.7 ADJUSTMENTS AT COMMERCIAL OPERATIONS DATE (COD):

3.7.1 At Commercial Operations Date, the project cost will be adjusted and trued-up based on following provisions:

(a) **STEP – I: Adjustments in Project Cost at Commercial Operations Date**

EPC contract cost shall be adjusted for the following:

(I) Variations in Overburden Volumes

- Current Overburden volume assumes 113M BCM at USD 2.5/BCM plus any additional capex cost to reach initial mine capacity of 3.8Mt/a. Petitioner may need to pay USD 2.5/BCM plus any additional capex cost for any overburden volume above 113M BCM for reaching production capacity of 3.8Mt/a. This will be actualized at Commercial Operations Date.

(II) Variations in Dewatering Volumes

- EPC contract assumes ~30 cusecs of dewatering which is part of lump sum contract price. These volumes are based on hydrological study of Block - II. However, they may also vary depending on recharge rate of water specially the third aquifer. This cost will be actualized at Commercial Operations Date.

(III) Blasting Requirement

- EPC contract assumes that there is no blasting required as per the data available. However in case of blasting requirement cost will be adjusted as per actual.

(IV) Pre-COD coal production

- Considering severe shortage of power, NTDC may allow EPTL to supply power at partial load of one unit prior to COD. CSA will have a provision of early production of coal in such case. Accordingly, SECMC may be required to amend EPC contract for early production of coal at lower capacity prior to achieving its COD. Any additional revenues and cost will be adjusted in Project Cost and coal tariff at COD.

(ii) All Foreign currency related costs are fixed at PKR/USD parity of PKR 101.75/USD. All foreign currency costs will be adjusted based on PKR/USD rate on the date of each payment – reference rate 1USD = 101.75 PKR. Debt and equity components will be adjusted accordingly.

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(iii) EPC portion excluding diesel component of USD 128.1M is contracted in USD and is fixed at RMB/USD parity of 6.1/USD. EPC cost will be adjusted based on RMB/USD rate on the date of each payment to EPC contactor. This would be actualized at Commercial Operations Date.

(iv) Escalations will be allowed on components as per agreed indexation mechanism

(I) For labor, spare parts and tyres – US CPI (Consumer Price Index for All Urban Consumers (CPI-U) for September 2014 as per EPC Contract - http://www.bls.gov/cpi/) to be used as benchmark

(II) For diesel – HSD price to be used as benchmark.

(v) No custom duty has been assumed for import of all kinds of equipment by Petitioner in line with ECC incentive package which states "zero percent (0%) custom duties on import of Coal mining equipment and machinery, including vehicles for site use". In case any custom duty on imports due to decision of custom authorities on any imports of mining equipment is paid, same will be allowed as addition to project cost including requisite adjustments in IDC.

(vi) Zero withholding tax on all payments made to contactors has been assumed. Similarly no incident of sales tax (excluding diesel) and Infrastructural CESS has been assumed. This is in line with ECC incentive package which states;

(I) Exemption on withholding tax on procurement of goods and services during Project construction and operations;

(II) Exemption for thirty years on other levies, including Special Excise Duty, Federal Excise Duty, WPPF, and WWF.

At Commercial Operations Date, the Petitioner will submit evidence of any withholding tax/sales tax/Infrastructural CESS grossed up in payment to contractors; same will be allowed as addition to project cost including requisite adjustments in IDC.

(vii) Insurance cost, financing costs (including provisions for Sinosure Coverage Fee and DSRA) and withholding tax on interest income to be actualized as per actual.

(viii) Actualization of all construction and pre-commissioning expenses borne by the developer, including but not limited to capital spares, initial diesel inventory, operators' training, site supervision, overheads including but not limited to audit fees, contingency, and establishments costs etc.

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(ix) Costs incurred for land acquisition will be actualized based on announcement of award by GoS. Costs of resettlement of villages will be actualized as per the resettlement action plan approved by GoS.

(x) Non-EPC Cost is broken down into Controllable and Non-Controllable Costs. Non-Controllable component of the Non-EPC will be trued up at the time of COD based on actual cost incurred by the Petitioner.

(xi) Prevailing LIBOR and KIBOR rate has been assumed for IDC calculation. At Commercial Operations Date, the Petitioner will submit details of actual LIBOR and KIBOR rates applicable for each interest payments made to foreign and local lenders during project constructions. Therefore, IDC will be adjusted due to change in base rates of local and foreign currency financing.

(xii) Spread of 4.0% over LIBOR for foreign currency loan and spread of 3.0% over KIBOR for local currency has been assumed for IDC calculation. At Commercial Operations Date, petitioner will submit details of actual spread agreed with both foreign and local currency lenders. Therefore, IDC will be adjusted due to actual spread paid to lenders.

(xiii) Increase in project costs due to changes in law or non-implementation of ECC incentives (as mentioned in Section 3.1 – Key Tariff Assumption and Basis) for the Project shall be treated as pass-through. Moreover, any delay in any payment due to Petitioner from any Government owned institution beyond 06 month will be allowed as additional cost to be compensated through adjustment in tariff.

(xiv) Actualization of hedging costs, if applicable, two types of hedging instruments may be used by the petitioner for mitigating:

(I) Interest rate risk by swapping floating benchmark interest rate for fixed rate; and

(II) Exchange rate variation risk for variation between USD and RMB.

(xv) Royalty payments as notified by GoS – Petitioner recommends that no royalty should be added till the time Thar Coal is expensive than international coal.

(xvi) The Project Cost mentioned in the petition is based on a scheduled Commercial Operations Date of 42 months. However, the TCEB is requested to true-up Project Cost and related tariff components up to RCOD of 48 months in case the COD is achieved by the RCOD.

(xvii) The Required Commercial Operations Date of 48 months is extendable due to the following reasons:

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- Variation in overburden removal volumes, dewatering volumes and blasting requirements;
- Delay in Coal off-take by power plant;
- Delay in transmission line by NTDC;
- Failure by the GoS to comply with its obligations under the GoS Implementation Agreement;
- Force majeure events (including, but not limited to, change in law) as defined in the GoS Implementation Agreement; or
- Non-implementation of ECC incentives for the Project.

SUMMARY OF REQUIRED PROJECT COST ADJUSTMENTS AT COD PROVIDED BELOW:

Project Cost Component	Rationale	Required Adjustment
EPC Contract Cost	Variation in Overburden Volumes - 113M BCM agreed in contract @ USD 2.5/BCM plus any additional capex cost	Change in Cost = (Overburden Volume – 113M BCM) x 2.5 plus any additional capex cost
	Variation in Dewatering Volumes – ~30 cusecs agreed in contract	To be actualized at COD
	Blasting requirement in case of hard strata is encountered	As per actual
	Early production of coal at lower capacity prior to achieving its COD	To be actualized at COD[2]
Exchange Rate Variation	**PKR vs. USD** All Foreign currency related costs are fixed at PKR/USD parity of PKR 101.75/USD **RMB vs. USD** EPC portion excluding diesel component of USD 128.1M contracted in USD and fixed at RMB/USD parity of 6.1/USD	**PKR vs. USD** All foreign currency costs will be adjusted based on PKR/USD rate on the date of each payment – Reference Rate 1USD = 101.75 PKR. Debt and equity components will be adjusted accordingly. **RMB vs. USD** EPC cost will be adjusted based on RMB/USD rate on the date of each payment to EPC

[2] Subject to adjustment with Pre-COD revenues.

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		contactor – Reference Rate 1USD = 6.1 RMB
Escalations during construction	Labor, spares and tyres	To be actualized at COD
	Diesel	To be actualized at COD
Custom Duties for import of all kinds of equipment	Based on ECC incentive package – zero custom duties assumed on import of all kinds of equipment	In case custom duties are paid on imports due to decision of custom authorities on any imports of mining equipment, same will be allowed as addition to project cost including requisite adjustments in IDC
Withholding Tax, sales tax and Infrastructural CESS	Based on ECC incentive package - zero withholding tax on all payments made to contactors and no sales tax/infrastructural CESS assumed	Any withholding tax/sales tax/infrastructural CESS grossed up in payment to contractors; same will be allowed as addition to project cost including requisite adjustments in IDC
Insurance cost, Financing costs (including provisions for Sinosure Coverage and DSRA) and Lender's withholding tax on interest income during construction	Insurance assumed at 1.35% of EPC cost based on IPP experience Financing Cost assumed as per initial discussions with lenders	Will be actualized at COD
All Construction and Pre-commissioning expenses borne by the Petitioner	Including but not limited to capital spares, initial diesel inventory, operators' training, site supervision, overheads including but not limited to audit fees, contingency, and establishments costs etc.	Will be actualized at COD
Land Acquisition and Village Resettlement Costs	Land Acquisition cost based on announcement of award by GoS. Costs of Resettlement of villages as per the Resettlement Action Plan approved by GoS	Will be actualized at COD

Non-Controllable Cost in Non-EPC	Non-Controllable component of the Non-EPC as provided by the Petitioner	Will be trued up at the time of COD based on actual cost incurred by the Petitioner.
LIBOR & KIBOR benchmark rates	Prevailing LIBOR (0.5%) and KIBOR (9.62%) assumed	At COD, actual LIBOR and KIBOR rates applicable for each interest payments during project constructions to be actualized. IDC will be adjusted due to change in base rates of local and foreign currency financing
Spreads over relevant LIBOR & KIBOR benchmark rates	4.0% spread assumed over LIBOR for foreign currency and 3.0% over KIBOR for local currency assumed	At COD, based on actual spread agreed with foreign and local lenders, IDC will be adjusted due to actual spread paid by lenders
Increase in project costs due to changes in law or non-implementation of ECC incentive package for Thar	Project Cost based on ECC incentive package for Thar (as mentioned in Section 3.1 – Key Tariff Assumption and Basis) Moreover, any delay in any payment due to Project Company from any govt. owned institution beyond 06 month will be allowed as additional cost to be compensated through adjustment in tariff.	Will be treated as pass-through
Hedging Costs	No costs assumed in Project Costs; two types of hedging instruments may be used by the petitioner to mitigate i- Interest Rate Risk by swapping floating benchmark interest rate for fixed rate ii- Exchange rate variation risk for variation between USD and RMB	Will be treated as pass-through if any incurred
Royalty Payments to	No costs assumed in Project Costs	Will be treated as pass-through

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GoS		if any incurred
Project Cost till RCOD	Project Cost mentioned in the Petition is based on the SCOD of 42 months	TCEB is requested to true-up Project Cost and related tariff components up to RCOD of 48 months in case the SCOD is on the RCOD.
Cost over-runs due to time-over runs (i.e. time over run above scheduled Commercial Operations Date at 48 months)	Required Commercial Operations Date of 48 months is extendable due to the following reasons: ➢ Variation in overburden removal volumes, dewatering volumes and blasting requirements; ➢ Delay in Coal Off-take by Power Plant ➢ Delay in Transmission Line by NTDC; ➢ Failure by the Government of Sindh to comply with its obligations under the GoS Implementation Agreement; ➢ Force majeure events (including, but not limited to, change in law) as defined in the GoS Implementation Agreement; or ➢ Non-implementation of ECC incentives for Thar Mining Project.	Project Cost to be adjusted accordingly

Table 3.7.1.1 'Summary of Required Project Adjustments at COD'

(b) **STEP – II: Adjustments in Project Capital Structure and Debt Structuring at COD**

(i) After determination and true-up of project cost adjustments as mentioned above, IDC, ROEDC and Financing Cost shall be adjusted along with debt and equity components of the Project Cost on the actual debt : equity ratio; and

(ii) Current structure assumes 33% foreign currency debt and 67% local currency debt, this structure will also be actualized based on final agreement with foreign and local currency lenders on the available amount. Moreover, there may be multiple local and foreign currency debts with varying benchmarks and spreads; same shall be actualized at time of Commercial Operations Date.

(c) **STEP – III: Adjustments in Coal Tariff at Commercial Operation Date**

(i) After the above changes have been incorporated, at Commercial Operations, the coal tariff components will be adjusted by the agreed indexation benchmarks including inflation factors and reference exchange rates, as the case may be, as defined and described herein.

(ii) Debt service (including IDC), ROE and ROEDC will be adjusted on account of actual variation in exchange rate, debt equity drawdown, actual benchmark interest rate during construction and adjustments to Project Cost. Once adjusted, the debt servicing and ROE (including ROEDC) components will be updated according to the relevant indexations. For debt servicing, ROE (including ROEDC) component, following adjustments will be made:

- Debt and equity components of the project cost shall be adjusted based on actual variations in PKR / USD exchange rate as project cost has been calculated in USD;

- Debt and equity components of the project cost shall be adjusted based on actual variations in project cost and debt : equity drawdown;

- Adjustment in ROEDC due to changes in drawdown of equity as agreed with the lenders; and

- Debt component of Project Cost assumes existing level of LIBOR and spread of 4.0% on foreign currency loan and existing level of KIBOR and spread of 3.0% on local currency loan, therefore debt servicing component will be adjusted based on prevailing LIBOR & KIBOR at COD for the actual amount of foreign and local currency loans and spreads as agreed with lenders.

(iii) Mine Capacity – variation in coal off-take quantity owing to power plant final capacity and efficiency variations - In case final off-take requirements by power plant are higher than 3.8Mt/a then Petitioner may require additional capex/cost which shall be adjusted in the tariff.

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(iv) The Variable & Fixed Components of Coal price will be adjusted at the time of Commercial Operation Date as per applicable indices/rates. These components will be further indexed during the life of the Project on a quarterly basis.

Tariff Components	Indexation/Adjustments	Reference Benchmark
Production (Variable) Payments		
Fuel Cost	Diesel price as notified	USD 0.943/Ltr
Variable O&M (Tyres, spares/consumables)	US CPI & USD/PKR exchange rate & RMB/USD exchange rate	US CPI* - 238.031 1 USD – 101.75 PKR 1 USD – 6.1 RMB
Asset Replacement Cost	US CPI & USD/PKR exchange rate & RMB/USD exchange rate	US CPI* - 238.031 1 USD – 101.75 PKR 1 USD – 6.1 RMB
Royalty	As notified by GoS	PKR 0.00/ton
Capacity (Fixed) Payments		
Fixed O&M – Local	Local CPI	Local CPI** - 198.80
Fixed O&M – Foreign	US CPI & USD/PKR exchange rate & RMB/USD exchange rate	US CPI* - 238.031 1 USD – 101.75 PKR 1 USD – 6.1 RMB
Insurance	As per actual	
Power Cost***	➢ Industrial rate of Electricity as notified ➢ Diesel price as notified	USD 0.16/kWh USD 0.943/Ltr
Cost of Working Capital	➢ KIBOR rate ➢ Coal Inventory - Coal Production Payments ➢ Diesel Inventory - Diesel Price ➢ Spares – US CPI & USD/PKR exchange rate ➢ Receivable - Coal Production Payments ➢ 1 Month Opex Advance – US CPI & USD/PKR exchange rate	KIBOR – 9.84% Coal Production Price - USD 14.42/ton Diesel - USD 0.943/Ltr US CPI* - 238.031 1 USD – 101.75 PKR
Principal Debt Repayments	USD/PKR exchange rate (in case of Foreign Financing)	1 USD – 101.75 PKR
Interest Payments	Local/Foreign Benchmark rate & USD/PKR exchange rate (in case of Foreign Financing)	LIBOR – 0.5% KIBOR – 9.62% 1 USD – 101.75 PKR

ROE/ROEDC	USD/PKR exchange rate	1 USD – 101.75 PKR
Transportation Cost	Diesel price as notified	USD 0.943/Ltr

*US CPI is Consumer Price Index for All Urban Consumers (CPI-U) for September 2014 as per EPC Contract published on http://www.bls.gov/cpi/

** Local CPI is Consumer Price Index – Pakistan for November 2014 published on http://www.pbs.gov.pk/cpi

***Power cost is assumed on 80% supply of power from the grid, if power supply is reduced due to load shedding, then diesel based power will be used and coal price will adjusted through supplemental tariff

Table 3.7.1.2 'Summary of Required Adjustments of Variable & Fixed Components of Coal price at COD'

3.8 INDEXATIONS AND ADJUSTMENTS DURING OPERATIONS

3.8.1 During operations, Quarterly adjustments/indexations for local inflation, foreign inflation and exchange rate variations will be made on 1st July, 1st October, 1st January and 1st April of each calendar year based on latest available data. For debt servicing, interest rate variations and exchange rate adjustments/indexations will be made on 1st July and 1st January of each calendar year for semi-annual payments or on 1st July, 1st October, 1st January and 1st April of each calendar year for quarterly payments as the case may be based on latest available data. Whereas for components for which price is notified by Relevant Authority will be adjusted as and when notified.

(a) The method of indexation will be as follows:

Tariff Components	Indexation/Adjustments
Fuel Cost*	Diesel price as notified
Variable O&M (Tyres, spares/consumables)*	US CPI & USD/PKR exchange rate & RMB/USD exchange rate
Asset Replacement Cost*	US CPI & USD/PKR exchange rate & RMB/USD exchange rate
Royalty	As notified by GoS
Fixed O&M – Local*	Local CPI
Fixed O&M – Foreign*	US CPI & USD/PKR exchange rate & RMB/USD exchange rate
Insurance	As per actual
Power Cost**	Industrial rate of Electricity as notified Diesel price as notified
Cost of Working Capital*	➢ KIBOR rate ➢ Coal Inventory - Coal Production Payments ➢ Diesel Inventory - Diesel Price ➢ Spares – US CPI & USD/PKR exchange rate ➢ Receivable - Coal Production Payments ➢ 1 Month Opex Advance – US CPI & USD/PKR exchange rate
Principal Debt Repayments	USD/PKR exchange rate (in case of Foreign Financing)
Interest Payments	Local/Foreign Benchmark rate & USD/PKR exchange rate (in case of Foreign Financing) For foreign interest payments, Lender Tax will be actualized
ROE/ROEDC	USD/PKR exchange rate
Transportation Cost	Diesel price as notified

* For indexation purpose, yearly reference numbers will be used as there is variation in yearly price
**Power cost is assumed on 80% supply of power from the grid, if power supply is reduced due to load shedding, then diesel based power will be used and coal price will adjusted through supplemental tariff
US CPI is Consumer Price Index for All Urban Consumers (CPI-U) published on http://www.bls.gov/cpi/
Local CPI is Consumer Price Index – Pakistan for November 2014 published on http://www.pbs.gov.pk/cpi

Table 3.6.1 'Indexations during Operations'

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(b) Production (variable) payment price will also be trued up on quarterly basis for any variation in heating value. Petitioner has taken average coal quality for estimating annual coal supply as follows:

i. Year 01-08 : 11.3 MJ/kg (LHV)
ii. Year 09-30 : 11.6 MJ/kg (LHV)

However, as provided in the yearly coal quality table attached as Annexure – 1.0, the annual coal quantity requirement of power plant may vary which will adjusted in the yearly tariff respectively. In case of additional investment required due to coal quality, tariff will be adjusted.

(c) Any variation is geotechnical properties of rock/change in Overburden volume will be adjusted in Tariff.

(d) Blasting requirement in case of hard strata is encountered during overburden removal will be adjusted in Tariff.

(e) Variation in dewatering volumes will be adjusted in Tariff.

(f) Any variations, changes in the fiscal incentives, including changes in the duties/taxes and levy of new duties and taxes will be treated as pass-through items and it will be paid as supplementary tariff in a twelve (12) months period.

(g) Variable O&M Component, Asset Replacement Cost Component and the Fixed O&M Component - Foreign is contracted in USD and fixed at RMB/USD parity of 6.1/USD. Therefore, Variable O&M Component and the Fixed O&M Component - Foreign will be adjusted based on RMB/USD rate quarterly – Reference Rate 1 USD = 6.1 RMB. In case the petitioner opts for hedging, any applicable cost shall be adjusted through Multi Year framework. In case the Coal Purchaser does not purchase 3.8 tonnes (or following commercial operations of Phase II, 6.5 tonnes) of Coal in any year (in case of the first year, commencing from the Commercial Operations Date and ending at the annual anniversary thereof and in case of every year thereafter, commencing on the day after the expiry of the last year and expiring on the annual anniversary thereof), then, the tariff would be adjusted in the next year to take into account the tariff not recovered through the failure by the Coal Purchaser to off-take the coal in the previous year.

(h) Moreover, any delay in any payment due to the Petitioner from any government owned institution beyond six (6) months will be allowed as additional cost to be compensated through adjustment in tariff.

(i) No provision for withholding tax on dividends, Workers Welfare Fund and Workers Profit Participation Fund has been kept in the tariff as per ECC Incentives Package. However, in future, if there is any such obligation, it shall be treated as Pass-Through under Coal Supply Agreement to be reimbursed in twelve (12) months as supplementary tariff.

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(j) As a Multi-Year Tariff ("**MYT**") framework with truing up of the cost will be adopted - Under the MYT framework, payments are made on the basis of an agreed base-and-escalation trajectory. The truing up process includes both recurring capex and opex (no true up for ROE and debt servicing will be done) - in case actual costs exceed the expected trajectory, the Petitioner should have the freedom to file for a tariff petition at any time within the MYT period. It is hereby clarified that pursuant to a petition under the MYT framework would allow the Petitioner to recover costs already incurred in respect of the Project which otherwise are not addressed (fully or partially) under this tariff petition.

(k) The tariff will also be adjusted for any costs incurred by the Petitioner due to:

- Delay in or failure by the off-taker to pay for the Coal delivered;
- Failure by the Government of Sindh to comply with its obligations under the GoS Implementation Agreement;
- TCEB (including any delay by TCEB in determining the tariff);
- Force majeure events;
- Changes in law or non-implementation of ECC incentives for the Project; or
- any duties, charges, fees, cess, withholding tax, income tax, sales tax, Sindh infrastructure duty, Sindh sales tax, custom duties or any tax payable by the Petitioner that is not otherwise a pass through under any other provision of this petition.

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4. PHASE – II EXPANSION PLAN

4.1 PROJECT COST FOR 6.5MT/A MINE CAPACITY

4.1.1 Mine will be expanded to 6.5 Mt/a in 1.5 years after firm off-take commitment of from another 330 MW power plant and blending requirement for Jamshoro ADB power plant.

4.1.2 For 6.5 Mt/a Mine expansion following will be done:

(a) Mine boxcut will be expanded to 1000m, which would require additional Overburden removal of 18M BCM;

(b) Stockyard of additional 150,000 tons capacity of Lignite storage will be constructed.

4.1.3 The total additional equipment and boxcut expansion will cost around USD 124.7M in 02 years (06 months for procurement during last 06 months of 3.8Mt/a construction phase and 18 months construction) subject to the adjustments below and a firm EPC contract in respect of the same.

4.1.4 The detailed Project Cost break-up for Mine expansion to 6.5 Mt/a is given below:

Project Costs Heads	USD M
EPC Cost (Based on EPC contract)	84.5
Non-EPC Cost	22.0
Insurance Cost (% of EPC)	1.3
Sub-Total	**107.8**
Financing & LC Charges (Including Sinosure Fee)	12.4
Interest During Construction*	4.6
Withholding tax on interest income, Duties & Taxes & DSRA Coverage	-
Total Project Cost for Tariff Petition	**124.7**

*Based on 70%:30% - Debt : Equity ratio

Total Debt – USD 87.3M and Total Equity – USD 37.4M

100% Foreign Debt assumed – USD 87.3M @ LIBOR (0.50%) + Spread (4.00%)

Exchange Rate used – PKR/USD = 101.75, RMB/USD = 6.1

Table 4.14.1 'Incremental Project Cost for 6.5 Mt/a Mine Capacity'

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4.1.5 Project Cost of 6.5 Mt/a will consist of following:

(a) **FINANCING, SINOSURE COVERAGE FEE & LC CHARGES – USD 12.4M**

No firm/detailed term sheet has been received from any of the lenders to-date and hence it is difficult to accurately forecast the financing and LC charges. Moreover, with Chinese financing being sought for the first time for corporate sector project finance, it creates further challenge with respect to assumptions about financing charges. Petitioner has used estimates based on its own experience about project finance obtained by EPL and other affiliates. These costs will be actualized at Commercial Operations Date.

This includes the costs related to the debt financing of the Project. Such costs include, inter alia, the lenders' up-front, arrangement fee, lenders' monitoring fee, commitment fee; charges related to various letters of credit to be established in favor of various contracting parties (other than L/C confirmation charges); fees payable and stamp duty applicable on the financing documents; agency fee; security trustee fee; monitoring fee and the fees for the lenders' various advisors.

Sinosure Coverage Fee has been included in the project cost; as per discussions with Chinese banks, Chinese lending will only be available if Sinosure is willing to provide Insurance Guarantee; hence, Sinosure fee has been added resulting in higher project cost and tariff. Formula used in tariff for calculation of Sinosure fee is appearing below:

Total Sinosure fee cost = Sinosure Fee * Total Debt Servicing

- One time Sinosure Fee is assumed at 7% to be adjusted at actual.
- Total Debt Servicing is aggregate of (i) total principal repayments and (ii) total interest payments during construction and operation phase calculated at 4% over long term LIBOR/Fixed Swap Rate of 3% (notional number only which will be adjusted as per calculations provided by Sinosure).

For clarity, principal repayments and interest payments mentioned above are only limited to Foreign financing.

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The following tables show the assumptions and cost break-ups:

Cost Break-up	Basis	Total USD M
Arrangement Fee	2.0% of Loan Amount	**1.7**
Commitment Fee	0.5% of outstanding total debt amount	**0.3**
Debt Security Trustee Fee	0.1% of Loan Amount per year	**0.2**
SBLC	2.0% of installment per year of total loan	**0.2**
Sinosure Fee	7% of Total Debt Servicing Component on Foreign Financing as defined above	**9.1**
Total		**11.5**

Table 4.1.5.1 'Break-up of Financial Charges'

Cost Break-up	M USD	Basis & Frequency of Payment
Arrangement Fee	0.5	0.5% of Total LC amount USD 100M – payment upfront
LC Service Charges	0.3	0.25% per quarter on outstanding EPC amount (excluding CAPEX & HSD Amount) USD 34.2M – payments quarterly
Total LC Charges	**0.8**	

Table 4.1.5.2 'Break-up of LC Charges'

(b) **INTEREST DURING CONSTRUCTION (IDC) – USD 4.6 M**

(i) This has been calculated on the basis of the following assumptions:

(I) assumed project cost outflows and drawdown of equity and Debt with 100% foreign financing.

(II) debt : equity ratio has been assumed at 70 : 30.

(III) equity drawdown has been assumed at 75% upfront on account of Project Development Costs and advance payments to EPC contractor. Remaining 25% equity is drawn out in end of the project once all debt has been utilized. This is based on the assumption that the lenders usually require the same. Depending on the finalization of the financing arrangements including the timing of injection of equity, the IDC component of the Project Cost would be trued up at Financial Close.

(ii) The table below shows the assumptions and year-wise break-up of IDC:

Interest Rate (%)	Amount in USD		
	Yr. 1	**Yr. 2**	**Total**
LIBOR (0.50%) + Spread (4.50%) = 5.0%	1.3	3.3	4.6

Table 4.1.5.3 'IDC Profile'

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Drawdown of equity will be adjusted after agreement with lenders and hence will be trued up at Financial Close.

Furthermore, once agreements with foreign banks/lenders are finalized on the loan principal and spread, any balance debt will be financed locally.

(iii) *ADJUSTMENTS AT FINANCIAL CLOSE FOR PHASE -II*:

In view of the foregoing, the IDC component of the Project Cost should be further adjusted for the following immediately prior to Financial Close:

(I) agreed spread;

(II) funding requirement i.e. timing and extent of draw-downs;

(III) changes in the Project Cost otherwise permitted under the Tariff; and

(IV) actual amount of foreign and local debt.

The Petitioner has the option to make the aforesaid adjustment following the Commercial Operations Date for Phase – II rather than at the Financial Close for Phase -II.

(iv) *ADJUSTMENTS AT COMMERCIAL OPERATIONS DATE FOR PHASE - II*:

In view of the foregoing, the IDC component of the Project Cost should be further adjusted for the following at the Commercial Operation Date:

(I) actual amount of foreign and local debt;

(II) variation in their benchmark rate;

(III) funding requirement i.e. the timing and extent of draw-downs;

(IV) changes in the Project Cost otherwise permitted under the Tariff; and

(V) variation in PKR/USD exchange rate.

(e) **WITHHOLDING TAX ON INTEREST TO FOREIGN LENDERS – NIL**

As per Pakistani tax laws, borrower is required to deduct 10% withholding tax on interest payments to foreign lenders unless those lenders are specifically exempted in Schedule 2 (Part 1) of Income Tax Ordinance, 2001. As of now, no such tax has been

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taken in Project Cost (i.e. under interest during construction cost) under the assumption that Chinese Banks will be notified as exempt entities from provision of this withholding tax. This is in line with the understanding given to Chinese Banks in Economic Corridor meetings held in Beijing and Islamabad.

(ii) *Adjustment at Commercial Operations Date for Phase -II*:

If such exemption is not given then any grossing up of withholding tax on interest payments to any non-exempt foreign lender will be allowed as admissible project cost and hence will be trued up as per actual upon Commercial Operations Date for Phase - II.

(f) **DUTIES & TAXES – NIL**

Custom, taxes, duties and cess (including sales tax); taxes and customs duty have been calculated in accordance with the Fiscal Incentives Package approved by ECC for development of Thar Coal & power projects.

(ii) *Adjustment at Commercial Operations Date for Phase - II*:

Any incidence of duties and taxes would be pass- through at Commercial Operation Date for Phase - II.

(g) **DSRA COVER– NIL**

No provisions for DSRA have been kept in the Project Cost for Phase - II.

(iii) *Adjustment at Financial Close for Phase - II*:

Any requirement of DSRA by the lenders will be allowed as admissible project cost and hence will be trued up immediately prior to Financial Close for Phase -II. The Petitioner also has the option to true-up such costs at Commercial Operations Date for Phase - II.

(iv) *Adjustment at Commercial Operations Date*:

Any requirement of DSRA by the lenders will be allowed as admissible project cost and hence will be trued up as per actual upon Commercial Operations Date for Phase -II.

Incorporating all the costs mentioned above, the incremental project cost for expanding the mine capacity to 6.5Mt/a comes out to be USD 124.7M. Same

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assumptions as used for 3.8Mt/a project cost calculations have been used for 6.5Mt/a Project Cost. Refer to Section 2.4 of the petition.

4.1.6 The capital structure of the company has been envisaged at the following Debt: Equity ratio:

	%age	Amount in USD M
Equity	30%	37.4
Debt	70%	87.3
Total	**100%**	**124.7**

Table 4.1.6.1 'Proposed Capital Structure'

If Capital Structure is changed then TCEB will allow revised capital structure within the band of 20-30% equity which will be actualized at the time of Financial Close of Phase II and then Commercial Operations Date for Phase II.

(a) EQUITY

The disbursement of equity has been assumed to be 75% upfront. Remaining 25% equity will be drawn in final months of the projects once all debt has been drawn. Drawdown of equity will be adjusted after agreement with lenders and hence will be trued up at Financial Close.

Return on equity (ROE) and Return on Equity during Construction (ROEDC) has been calculated on 20% USD based IRR for the expansion Project. Equity will be invested in equivalent PKR, since Equity returns are USD based, indexation based on PKR-USD exchange rate parity will apply on determining return on equity.

(b) DEBT

Total debt has been assumed at USD 87.3M with 100% foreign financing (at 0.5% LIBOR + 4.00% Spread). In actual, once agreements with foreign banks/lenders are finalized on the loan principal and spread, any balance debt will be financed locally. Actual amount of foreign and local debt, variation in their benchmark rate, spread as agreed and resulting IDC will be trued-up at COD. Tenor of the loan shall be ten years with quarterly or semi-annual repayments, from the Commercial Operations Date, excluding the grace period of the Mine construction phase. Please refer to Annexure 5.0 for Debt Schedule.

As per decision of Prime Minister of Pakistan and confirmed by ECC decision dated 8^{th} March 2013, debt portion of up to USD 700M will be covered by sovereign guarantee provided by Ministry of Finance, GoP. Security package against the loan will include customary charge/mortgage on all assets and assignment of key contract to be provided to the debt providers for securing obligations to them.

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4.1.7 The following table shows the expected drawdown of the total project cost over the construction period:

	Amount in M USD		
Construction Period (Yrs)	**1**	**2**	**Total**
Equity	28.1	9.4	37.4
Debt	**51.5**	**35.8**	87.3
Total Cost	**79.6**	**45.2**	**124.7**

Table 4.1.7 'Details of Project Cost Break-up'

Both the debt & equity components of project cost shall be subject to following adjustments at Commercial Operations Date for phase II:

i. Adjustment on account of actual project cost based on true-ups mentioned in Section 3.5 of this petition.

ii. Adjustment in ROEDC due to changes in drawdown of equity as agreed with the lenders.

iii. Change in spread on both local and foreign currency loans as agreed with the lenders.

iv. Current structure assumes 100% foreign currency debt , this structure will also be actualized based on final agreement with foreign and local currency lenders on the available amount. Moreover, there may be multiple local and foreign currency debts with varying benchmarks and spreads, same shall be actualized at time of COD.

v. Debt component of Project Cost assumes existing level of LIBOR, therefore IDC shall be adjusted based on actual LIBOR & KIBOR cost incurred by the Petitioner during the construction period.

vi. Debt and Equity components of the project cost shall be adjusted based on actual variations in PKR / USD exchange rate as project cost has been calculated in USD.

vii. Debt and Equity components of the project cost shall be adjusted on the actual debt : equity ratio as agreed with the lenders subject to band of 20-30% equity.

It is hereby clarified that the debt (Interest and Principal) servicing streams and the ROE (ROE and ROEDC) streams for phase I of the Project shall remain intact and shall not be affected and will be in addition to the debt (Interest and Principal) servicing and ROE (ROE and ROEDC) streams of phase II of the Project.

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4.2 TARIFF FOR 6.5MT/A MINE CAPACITY

(a) Coal Tariff in USD/ton for 6.5Mt/a mine capacity

Tariff Component	Average (1-10 Years)	Average (11-30 Years)	Levelized (1-30 Years)
PRODUCTION (VARIABLE) PAYMENTS	**USD/Ton**	**USD/Ton**	**USD/Ton**
Fuel Cost	5.85	5.72	5.84
Variable O&M			
➢Tyres	1.46	1.43	1.46
➢Spares/Consumables	2.24	2.19	2.23
Asset Replacement Cost	1.73	1.20	1.67
Royalty	0.00	0.00	0.00
	11.28	**10.54**	**11.20**
CAPACITY (FIXED) PAYMENTS			
Fixed O&M			
➢Foreign	5.58	5.45	5.57
➢Local	5.78	5.32	5.66
Insurance	1.21	1.21	1.21
Power Cost - By Grid (80%)	0.87	0.87	0.87
Power Cost - By Diesel (20%)	0.78	0.78	0.78
Cost of Working Capital	1.13	1.11	1.13
	15.35	**14.74**	**15.21**
DEBT & ROE			
Principal Debt Repayment	9.01	0.00	5.87
Interest Payment	4.31	0.00	3.28
ROE	8.47	8.47	8.47
ROEDC	5.89	5.89	5.89
	27.69	**14.36**	**23.52**
Ex-Mine Coal Price	**54.31**	**39.64**	**49.93**

Table 4.2.1 'Tariff Snapshot for 6.5Mt/a coal off-take in USD/ton'

Refer to Annexure 6.1 for Yearly Tariff Profile (in USD/ton) of 6.5Mt/a coal off-take for 30 years.

(b) Coal Tariff in PKR/ton for 6.5Mt/a mine capacity

Tariff Component	Average (1-10 Years)	Average (11-30 Years)	Levelized (1-30 Years)
PRODUCTION (VARIABLE) PAYMENTS	**PKR/Ton**	**PKR/Ton**	**PKR/Ton**
Fuel Cost	595	582	594
Variable O&M			
➢Tyres	148	146	148
➢Spares/Consumables	227	223	227
Asset Replacement Cost	176	122	170
Royalty	0	0	0
	1,147	**1,073**	**1,140**
CAPACITY (FIXED) PAYMENTS			
Fixed O&M			
➢Foreign	567	555	566
➢Local	589	542	576
Insurance	123	123	123
Power Cost - By Grid (80%)	89	89	89
Power Cost - By Diesel (20%)	79	79	79
Cost of Working Capital	115	112	114
	1,562	**1,500**	**1,547**
DEBT & ROE			
Principal Debt Repayment	917	0	598
Interest Payment	439	0	334
ROE	862	862	862
ROEDC	600	600	600
	2,817	**1,462**	**2,393**
Ex-Mine Coal Price	5,526	4,034	5,080

Table 4.3.2 'Tariff Snapshot for 6.5Mt/a coal off-take in PKR/ton'

Refer to Annexure 6.2 for Yearly Tariff Profile (in PKR/ton) of 6.5Mt/a coal off-take for 30 Years.

The descriptions of various components of the tariff are same as provided for 3.8Mt/a Coal tariff.

For adjustments in project cost at Commercial Operations Date (COD) and indexations during operations same basis/assumptions will be used as proposed for 3.8Mt/a. Refer to Section 3.1, 3.6, 3.7 & 3.8.

5. DETERMINATION SOUGHT

In light of the foregoing submissions, TCEB is requested to approve the Petitioner's Reference Coal tariff determination for contract stage tariff for 3.8Mt/a and 6.5Mt/a mine capacities together with the pertinent indexations and COD adjustments in accordance with the Project Costs and the assumptions related thereto mentioned above for a 30-years CSA term post COD.

The Petitioner will be pleased to provide any further information, clarification or explanation that may be required by the Board during its evaluation process.

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LIST OF ANNEXURES & ATTACHMENTS

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