BEFORE

THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

AMENDED AND RESTATED TARIFF PETITION

ON BEHALF OF

CIHC PAK POWER COMPANY LIMITED ("CPPCL")

FOR NEPRA'S APPROVAL OF REFERENCE GENERATION TARIFF FOR CPPCL'S 300 MW COAL-FIRED POWER PLANT TO BE SETUP

AT

GWADAR, BALOCHISTAN

DATED: JANUARY 12, 2018

CIHC PAK POWER COMPANY LIMITED

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LIST OF ACRONYMS

BOO	Build, Own, Operate
CAPEX	Capital Expenditure
CIHC	CCCC Investment Holding Company Limited
CIF	Cost, Insurance and Freight
COD	Commercial Operations Date
CPEC	China Pakistan Economic Corridor
CPI	Consumer Price Index
CPPA-G	Central Power Purchase Agency (Guarantee) Limited
CV	Calorific Value
EIA	Environmental Impact Assessment
ENR	Engineering News-Record
EPC	Engineering, Procurement and Construction
FOB	Free on Board
GDA	Gwadar Development Authority
GoB	Government of Balochistan
GoP	Government of Pakistan
Hrs	Hours
IDC	Interest during Construction
IRR	Internal Rate of Return
JCC	Joint Cooperation Committee for CPEC
Kcal/kg	Kilocalories per kilogram
KIBOR	Karachi Interbank Offered Rate
Km	Kilometres
kV	Kilovolts
kWh	Kilowatt Hours
LIBOR	London Interbank Offered Rate
LOI	Letter of Intent
LOS	Letter of Support
MOU	Memorandum of Understanding
MT	Metric Tons
MW	Megawatts
MWh	Megawatt Hours
NAR	Net as Received
NEPRA	National Electric Power Regulatory Authority
NEPRA Act	Regulation for Generation, Transmission and Distribution of Electric Power Act (XL of) 1997
NEPRA Rules	NEPRA Tariff Standards and Procedure Rules, 1998
NO_x	Nitrogen Oxide
NTDC	National Transmission and Despatch Company Limited
O&M	Operations and Maintenance
OBOR	One Belt, One Road
PKR	Pakistan Rupees
PPA	Power Purchase Agreement
PPIB	Private Power and Infrastructure Board
RFP	Request for Proposal

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ROE	Return on Equity
SCR	Selective Catalytic Reduction
SO_x	Sulphur Oxide
USD	United States Dollar

1. Details of Petitioner

Name and Address

CIHC Pak Power Company Limited ("**CPPCL**" or "**Project Company**")
House No. 6, Street No. 11,
Sector F-7/2,
Islamabad, Pakistan.

Authorized Representative of CPPCL

Mr. Xu Jun
Chief Executive Officer

2. Background & Regulatory Framework

2.1. Project Background

In May 2013, the Chinese Premier, Li Keqiang visited Pakistan and proposed joint development projects focusing on energy, infrastructure and agriculture later put forth as China Pakistan Economic Corridor ("**CPEC**"). Gwadar's deep-water port and its surrounding areas have become a major part of this economic development initiative. The port at Gwadar, Balochistan, is to act as the southern-most terminating point of the greater One Belt, One Road ("**OBOR**") initiative and also to serve as its sole marine outlet. Accordingly, significant increase in industrial, commercial and residential electrical load at Gwadar is expected as OBOR matures.

Currently, Gwadar depends on approximately 70 MW of electric power imported from Iran. Of this, approximately 14 MW is allocated to Gwadar, while the Makran Coastal region utilizes the remaining 56 MW. Moreover, there is no interconnection point in or close to Gwadar with the national grid. Instead, there is a relatively independent, localized, grid that connects Gwadar, Turbat, Panjgur and Pasni. The limited power supply coupled with an inefficient distribution system results in daily outages of 12 to 16 hours.

Keeping in view the strategic importance of Gwadar to CPEC and the anticipated rapid growth thereof, the Joint Cooperation Committee for CPEC (the "**JCC**"), decided in its sixth (6th) meeting, held in Beijing in December 2016, that a 300 MW imported coal fired power project (the "**Project**") must be developed on fast track basis at Gwadar. The Project is intended to not only meet the current demand for power in Gwadar and adjoining areas, but will also support future demand growth. The JCC nominated China Communications Construction Company ("**CCCC**"), a subsidiary of China Communications Construction Group ("**CCCG**"), or its nominated subsidiary to undertake this development on an expedited basis. In the 7th Meeting of the JCC held on November 21, 2017 it was decided that the Sponsor of the Project shall be CCCC Industrial Investment Holding Company Limited ("**CIHC**" or "**Sponsor**"), another subsidiary of CCCG. The Sponsor has incorporated CPPCL as the special purpose company to develop the Project under and in accordance with the requirements of the Power Generation Policy 2015 of the Federal Government ("**Power Policy**") and NEPRA Licensing (Generation) Rules, 2000 ("**Generation Licensing Rules**").

2.2. NEPRA Act & NEPRA Rules

Under the Regulation for Generation, Transmission and Distribution of Electric Power Act (XL of) 1997 (the "**NEPRA Act**"), the National Electric Power Regulatory Authority ("**NEPRA**") is responsible, inter alia, for determining tariffs and other terms and conditions for the supply of electric power services through generation, transmission and distribution activities. NEPRA is also responsible for determining the process and procedures for reviewing tariffs and recommending tariff adjustments. Further, pursuant to the enabling provisions of the NEPRA Act, the procedure for tariff determination has been prescribed in the NEPRA Tariff Standards and Procedure Rules, 1998 (the "**NEPRA Rules**"). Furthermore, the generation activities of the power producers are regulated through Generation License issued under Generation Licensing Rules.

2.3. Letter of Intent

As per the provisions of the Power Policy, the Sponsor filed a Letter of Intent ("**LOI**") application with Private Power and Infrastructure Board ("**PPIB**") and were issued a Notice to Proceed on April 12, 2017 (**Annex C**) followed by the LOI on May 26, 2017 (**Annex D**). As per the terms of the LOI, Sponsor are required to submit, within three (3) months from the date of the Notice to Proceed, petitions before NEPRA to obtain tariff determination and generation license under the NEPRA Act. The Sponsor filed the same on July 12, 2017 (**Annex E**) of which the tariff petition was admitted by NEPRA on August 28, 2017 (**Annex F**).

2.4. Project Chronology

i. In May 2013, a Memorandum of Understanding ("**MOU**") was signed between the Chinese and Pakistani Governments for the joint development of projects focusing on energy, infrastructure and agriculture which later came to be known as China Pakistan Economic Corridor.

ii. In November 2014, an Agreement on the China-Pakistan Economic Corridor Energy Project Cooperation between the Government of the People's Republic of China and the Government of the Islamic Republic of Pakistan was signed.

iii. In its sixth (6^{th}) meeting, in December 2016, the Joint Cooperation Committee for CPEC nominated CCCC or its nominated subsidiary to undertake the development of 300 MW coal fired power project at Gwadar on an expedited basis.

iv. For the purpose, the Government of Balochistan ("**GoB**"), identified potential project sites to the Company. Based on that, the Sponsor conducted an initial site visit in January 2017 and identified three (3) potential project sites.

v. Following the site visits, CCCC filed a proposal on March 22, 2017 with PPIB for the issuance of a LOI.

vi. The Power Purchaser, CPPA-G, vide its letter dated April 10, 2017, communicated its consent to purchase power ("**Consent**") from the Project (**Annex G**).

vii. Following the Consent, PPIB on April 12, 2017, issued a Notice to Proceed for the Project to CCCC (**Annex C**) which was followed by an LOI, on May 26, 2017 (**Annex D**).

viii. On May 18, 2017, CCCC/CIHC confirmed its Project Site preference to the Gwadar Development Authority ("**GDA**"), which was acknowledged by GDA through its letter dated May 24, 2017 (**Annex H**).

ix. Subsequent to the Notice to Proceed, the CCCC commenced activities related to preparing a bankable feasibility study for the Project including site technical studies and an Environmental Impact Assessment ("**EIA**"). The Sponsor engaged the services of Hebei Electric Power Design & Research Institute for conducting the feasibility study for the Project.

x. Following detailed site surveys, the CCCC/CIHC identified an area approximately 207 acres for the construction of the Project at one of the potential sites. Initial site investigations were undertaken and the results of the same have been incorporated in the feasibility study.

xi. Based on the requirements of the LOI, CCCC were obligated to submit a tariff application to NEPRA within three (3) months from the Notice to Proceed i.e. April 12, 2017.

xii. Given that the Upfront Tariff determined by NEPRA dated June 26, 2014 had ceased to exist, the CCCC were required to file a cost-plus tariff petition for the Project. CCCC filed the same and the generation license application on July 12, 2017.

xiii. NEPRA vide its letter dated August 28, 2017 reviewed the tariff petition (**Annex F**), and required CCCC to provide additional information following an EPC bidding process for further processing of the petition.

xiv. For the purposes of a cost-plus tariff petition, NEPRA through SRO 350(I)/2017 dated May 19, 2017, has notified the NEPRA (Selection of Engineering, Procurement and Construction (EPC) Contractor by Independent Power Producers) Guidelines, 2017 ("**EPC Selection Guidelines**") laying down the procedure and process for the determination of an EPC price through a competitive bidding process.

xv. The Project Company initiated the bidding process through publication of an advertisement on July 21, 2017 and subsequently a Request for Proposal ("**RFP**") was provided to potential bidders.

xvi. Bids were received from four (4) bidders on October 17, 2017. Technical bids were opened on the same day, whereas following an evaluation of the technical bids, the financial bids were opened on October 29, 2017.

xvii. Bids were received from Power China, Dongfang Electric, Shanghai Electric, and a Joint Venture ("**JV**") of China Harbour Engineering Company Limited ("**CHEC**") with China Energy Engineering Group Guangdong Electric Power Design Institute Co. Ltd ("**GEDI**").

xviii. Technical and financial bid evaluation was conducted by Zeeruk International (Private) Limited and an evaluation report for the same was completed on November 4, 2017.

xix. Based on the results of the evaluation report, the Project Company entered into negotiations with the highest evaluated bidder i.e. JV of CHEC and GEDI.

xx. Following negotiations, the Project Company has finalized the contracts for engineering, procurement and construction services for the Project with the JV of CHEC and GEDI.

xxi. As per the provisions of the Baluchistan Land Acquisition Act of 1894 ("**LAA**"), the Government of Balochistan has initiated proceedings under Section 4 of the LAA, for acquisition of 207 acres of land for the Project. On November 10, 2017 the Project Company received the final demand letter from Deputy Commissioner, Gwadar / Land Collector for payment of provisionally assessed land acquisition cost, expenses and charges. For this purpose, a Land Acquisition Agreement under Section 41 of the LAA between the Government of Balochistan and the Project Company is pending approval with the Government of Baluchistan.

xxii. Sponsors have engaged a consultant to conduct the Grid Interconnection study ("**GIS**") of the Project. A request for sharing of data for the study was sent by CPPA-G to NTDC on October 17, 2017, however, no technical data has been received to date. We understand that the same is pending due to board approval of NTDC.

xxiii. As per the 7th JCC Meeting held on November 21, 2017, it was decided that the Project will be undertaken by CIHC, a subsidiary of CCCG, as the Main Sponsor and Initial Shareholder. Necessary approvals for the change are in process at the end of the Government of Pakistan / PPIB.

2.5. Submission

Pursuant to the relevant provisions of the NEPRA Act and in accordance with the Power Policy, the Project Company/Sponsor hereby submit herewith to NEPRA, for its determination, an amended and restated tariff petition (the "**Tariff Petition**") for approval of the reference generation tariff (the "**Reference Generation Tariff**") for the 300 MW (Gross) coal-fired power generation facility to be located at Gwadar, Balochistan. **This Tariff Petition supersedes the earlier tariff petition submitted by CCCC on July 12, 2017 (Annex E)**.

The tariff to be determined by the Authority ("**Tariff Determination**") will be incorporated in the Power Purchase Agreement ("**PPA**") to be entered between the Company and Central Power Purchasing Authority (Guarantee) Limited ("**CPPA-G**" or "**Power Purchaser**").

All requisite information required by NEPRA for processing the Tariff Petition has been annexed herewith; CPPCL will be pleased to submit any further information as and when required by NEPRA in connection with the determination.

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3. Key Features of the Project

Project Sponsor	CCCC Industrial Investment Holding Company Limited
Project Company	CIHC Pak Power Company Limited
Power Purchaser	Central Power Purchasing Agency (Guarantee) Limited
EPC Contractor	JV of CHEC and GEDI
Project Size	300.0 MW (Gross) (Mean Site Conditions) 273.1 MW (Net) (Mean Site Conditions)
Auxiliary Consumption	8.98%
Project Configuration	2x150.0 MW (Gross at Mean Site Conditions) 2x136.5 MW (Net at Mean Site Conditions)
Project Site	Gwadar, Balochistan, 40 km from Gwadar Port
Interconnection	132/220 kV
Fuel	Imported Coal
Construction Period	30 months from Financial Close
Net Efficiency	37% (Mean Site Conditions)
Annual Availability	85%
Annual Generation	2,033 GWh
Annual Fuel Consumed	~859,669 MT (Coal CV (NAR): 5,500 kCal/kg)
EPC Cost[1]	USD 369.89 million
EPC Cost[2]	USD 410.00 million
Project Cost[1]	USD 498.22 million
Project Cost[2]	USD 542.36 million
Capital Structure	80% Debt and 20% Equity
Levelized Reference Tariff[1]	US cents 8.2513 per kWh
Levelized Reference Tariff[2]	US Cents 8.4935 per kWh

[1]*Excluding Government Duties and Taxes*
[2]*Including Government Duties and Taxes*

3.1 Project Description

3.1.1 Technology

The Project entails setting-up the Project on a build, own, operate ("**BOO**") basis based on imported coal. The Project is proposed to have two (2) units of 150 MW (gross) consisting of two (2) super-high-pressure boilers, two (2) steam turbines and two (2) generators. The boilers will be fired by pulverized coal imported from South Africa or other sources through Gwadar Port. From the Port, the coal will be trucked to the coal yards inside the complex. The Project will draw water from the Arabian Sea for cooling and other industrial and domestic uses as the site has no other water resource. Onsite desalination facilities will be provided to produce potable water, etc.

The site will have enough land for ash disposal for the life of the PPA. Onsite coal storage shall be able to store enough coal for 60 days at 100% capacity.

The complex shall be provided with black-start facilities enabling it to start on its own in the absence of grid power. The complex shall have effluent treatment facilities in order to minimize such discharges into the environment.

During construction, at peak times, site will have enough facilities for approximately 1,000 personnel in addition to infrastructure for the security team. The site shall have residential facilities for resident labour and management during the operations phase. It will also cater for temporary labour required to man annual and major outages. Given the security situation, the complex shall have accommodations for security personnel also.

Security infrastructure shall include boundary wall, topped by security fence, watchtowers, patrol road, security cameras and depending upon the security assessment, drone surveillance may also be considered. However, all such facilities shall be strictly in line with Pakistani laws and policies.

3.1.2 Environment

The project design, technology and equipment selection has been made with the intention to make the Project safe and environmentally compliant to all local laws and conventions.

SO_x shall be scrubbed by the outgoing seawater i.e. seawater desulfurization. The Project intends to use Selective Catalytic Reduction to further reduce the release of NO_x into the air.

3.1.3 Human Resources

The Project Company intends to indigenize project management and operations as quickly as possible. In order to achieve this goal, an extensive and effective training program, including training in China, will be offered to eligible local youth to become part of the project team.

3.2 Project Site

The Project is located at Gwadar, on the Arabian Sea coast, in the Southwest part of Balochistan, Pakistan. The Project will be located within the jurisdiction of the GDA, near the Surbundar area and will require 207 acres of land, to be acquired from and through the GoB. CCCC conducted a site survey in January 2017 and based on the findings of the survey, three (3) sites were chosen as site alternatives. The Project Site, was ultimately chosen as the recommended site on May 18, 2017.

The Site is mostly flat land, unsuitable for farming with sparse settlements nearby. The N-10 National Highway is to the north; the highway can connect to the Port and will become the main access. A port expressway has been planned for the east bay of the Port which will connect to the N-10. The Port lies to the southwest of the Project Site. The Project envisages using the existing jetty at the Gwadar Port and port infrastructure therein for coal receival from ocean going vessels bringing coal from South Africa and loading the coal onto trucks.

3.3 Interconnection

The complex is proposed to be connected with the 132kV infrastructure, with two loops of outgoing lines, to be built by NTDC. Interconnection point shall be the outgoing gantry of the switchyard after stepping it up to 132kV. A Grid Interconnection Connection Study ("**GIS**") is being undertaken by the Project Company in consultation and coordination with NTDCL.

3.4 Sponsor Introduction

3.4.1 CCCC Industrial Investment Holding Company Limited ("CIHC")

CIHC will be the main sponsor and the majority shareholder of the Project Company. CIHC is a wholly owned subsidiary of China Communications & Construction Group ("**CCCG**"). CCCG was formed in December 2005 as a result of a merger between China Harbour Engineering (Group) Company ("**CHEGC**") and China Road and Bridge Corporation ("**CRBC**"). CCCG is

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supervised by the State-Owned Assets Supervision and Administration Commission of the State Council.

CCCG had a consolidated annual turnover of over USD 65 billion and a consolidated asset base of over USD 140 billion in 2015. It has 12 affiliates with over 100,000 employees involved in various lines of businesses. CCCG through its affiliates is involved in general contracting of construction of ships, domestic and overseas port, channel, road and bridge construction projects (including engineering technical economic consultation, feasibility research, reconnaissance, design, construction, supervision, procurement and supply of relevant complete equipment and materials, and equipment installation), industrial and civil engineering, railway, metallurgy, petrochemical, tunnel, electric, mine, hydraulic and municipal construction. Other businesses include, but not limited to, import and export business, real estate development and management, investment and management in the sectors of transport, hotel, and tourism. Following is a list of the affiliates:

- China Communications Construction Company Limited
- Southwest Municipal Engineering Design and Research Institute of China
- CCCG Real Estate Group Co., Ltd
- CCCC Xingyu Science and Technology Co., Ltd
- CCCC Industrial Investment Holding Company Limited
- CCCC Pakistan Investment Co. Ltd
- Northeast Municipal Engineering Design and Research Institute of China
- CCCC Gas Heat Research and Design Institute Co., Ltd
- CCCC Chenzhou Road Machinery Plant
- Guangzhou Port Machinery Industrial Corporation
- China Road and Bridge (Hong Kong) Co., Ltd
- Communications Construction News Co., Ltd

4. Proposed Tariff and Indexations

4.1 A two-part tariff structure based on energy and capacity payments is proposed in accordance with Clause 10 of the Power Policy. Capacity payments shall be payable by the Power Purchaser based on availability of the Plant whereas energy payments shall be billed and be payable based on the net electrical output of the Plant.

4.2 The proposed tariff for the Project is summarized as follows:

Component	Year 1 to 12.5	Year 12.5 to 30
Fuel Cost Component	4.5196	4.5196
Variable O&M (Foreign)	0.0662	0.0662
Variable O&M (Local)	0.0717	0.0717
Energy Purchase Price (Rs./kWh)	**4.6574**	**4.6574**
Fixed O&M (Foreign)	0.4276	0.4276
Fixed O&M (Local)	0.2203	0.2203
Insurance	0.1624	0.1624
SINOSURE Fee (Average)	0.1144	0.0357
Cost of Working Capital	0.1483	0.1483
Return on Equity during Construction	0.1961	0.1961
Return on Equity	0.8095	0.8095
Debt Servicing	2.1017	0.0000
Capacity Purchase Price (Rs./kW/hr)	**4.1804**	**2.0000**
Capacity Purchase Price (Rs./kWh)	**4.9181**	**2.3529**
Total Tariff (Rs./kWh)	**9.5755**	**7.0103**
Levelized (Rs./kWh)		**8.9182**
Levelized (US cents/kWh)		**8.4935**

4.3 The following indexations will be applicable for the proposed tariff:

Component	Applicable Indexation
Fuel Cost Component	Delivered Fuel Price as per formula determined by NEPRA
Variable O&M (Foreign)	PKR/USD Rate and US CPI
Variable O&M (Local)	Pakistan CPI
Fixed O&M (Foreign)	PKR/USD Rate and US CPI
Fixed O&M (Local)	Pakistan CPI
Insurance	PKR/USD Rate on 1st day of each agreement year
SINOSURE Fee	PKR/USD Rate and 3M LIBOR
Cost of Working Capital	3M KIBOR and landed coal price
Return on Equity during Construction	PKR/USD Rate
Return on Equity	PKR/USD Rate
Principal Repayment	PKR/USD Rate
Interest Payments	3M LIBOR and PKR/USD Rate

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4.4 Reference Dates and Rates

The following reference dates/rates have been assumed with respect to the above indexations. EPC bidding date/month has been considered the relevant base for reference dates/rates.

Exchange Rate (PKR/USD)	105.00
3-Month KIBOR	6.53%
3-Month LIBOR	1.37%
US CPI	246.66
Pakistan CPI	219.61
FOB Coal Price Richards Bay (USD/MT) (NAR 5,500kcal/kg)	83.41

5. Key Factors Underlying the Calculations of the Proposed Tariff

5.1 Project Cost Assumptions

Following is the proposed capital cost of the Project:

Particulars	USD Million
EPC Cost	369.89
Custom Duties, Withholding and Sales Tax	40.11
Non-EPC Costs	10.64
Land	5.00
Project Development Costs	21.03
Company and Sponsor Costs	26.84
Insurance during Construction	3.70
O&M Mobilization	6.49
Non-reimbursable Fuel and Start-up Cost prior to synchronization	3.44
SINOSURE Fee during Construction	9.21
Financing Fees and Charges	13.12
Interest during Construction (IDC)	32.90
Total Project Cost	**542.36**

5.1.1 EPC Cost

The Engineering, Procurement & Construction ("EPC") Cost includes costs of procurement, engineering design, site preparation, construction of boundary wall, access road, bridge on river/creek, temporary facilities, main plant (incl. import, installation, erection, completion, commissioning of boiler, turbine and generator), balance of plant (electrical and mechanical equipment and systems), control and metering, civil works, coal handling system, ash handling system, on-site ash disposal system, seawater intake and outfall channels, black start generator, desalination plant, electrostatic precipitator, selective catalytic reduction ("SCR") to capture NO_x, colony, project management, erection and commissioning, security costs and security personnel accommodation.

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5.1.1.1 EPC Bidding Process ("Bidding Process")

EPC Selection Guidelines prescribe the procedure and process for the determination for an EPC price through a competitive bidding process. A chronology of events in this regard is as follows:

- On July 2017, the Bidding process was initiated by the Project Company/Sponsors through publication of an advertisement (**Annex I**). The advertisements were published in local newspapers Dawn, Business Recorder, The News and Express Tribune; international newspapers People's Daily and Reference News; as well as the tendering websites Global Tenders and Powertender.
- A total of thirteen (13) companies/JVs purchased the prequalification documents and following nine (9) submitted the prequalification documents:
    - JV of CHEC and GEDI,
    - Shanghai Electric,
    - Dongfang Electric,
    - Power China,
    - China National Electric Engineering Co., Ltd,
    - Consortium of China Gezhouba Group International Engineering Co. Ltd,
    - Consortium of Northeast Electric Power Design Institute Co. Ltd,
    - China Huadian Engineering Co. Ltd. and
    - China Sinogy Electric Engineering Co., Ltd.
- Of the 9 companies/JVs which submitted the prequalification documents, three (3) companies/JVs failed to provide the required data while two (2) failed to achieve the minimum overall score of 70%. As a result, a Request for Proposal ("RFP") was provided to and bids were received on October 17, 2017 from the following four (4) bidders:
    - JV of CHEC and GEDI,
    - Shanghai Electric,
    - Dongfang Electric,
    - Power China.
- For technical and financial bid evaluation an independent consulting firm registered with the Pakistan Engineering Council (**"PEC"**), Zeeruk International (Private) Limited ("**Zeeruk**") was appointed by the Project Company.
- As per bidding guidelines outlined in the RFP, the technical bids were opened same day following the due date of submission. The contents of the bids were evaluated for responsiveness based on completeness of bid documents and qualifications of the bidders. The following table shows the technical scores at the conclusion of the technical evaluation of the bids. A minimum score of 60 percent was required to proceed to the commercial evaluation stage.

Name	Score
Dongfang Electric	75.28
JV of CHEC and GEDI	79.56
Power China	67.39
Shanghai Electric	59.31

- At the technical evaluation stage Shanghai Electric was disqualified due to scoring less than 60 percent.
- The financial evaluation was carried out for the remaining three (3) bidders. Power China, Dongfang Electric and JV of CHEC and GEDI. EPC prices (excluding taxes) offered by the three (3) bidders were as follows:

Name	Bid (USD million)
Dongfang Electric	415.33
JV of CHEC and GEDI	394.85
Power China	445.99

- The above bid prices were adjusted for missing Bill of Quantities ("BOQ") items, net capacity and net efficiency. The adjusted bid prices were as follows:

Name	Evaluated Bid Price (USD Million)
Dongfang Electric	437.56
JV of CHEC and GEDI	402.33
Power China	463.27

- Based on the financial evaluation criteria outlined in the RFP, the following scores were awarded to the respective bidders on the financial evaluation:

Name	Score
JV of CHEC and GEDI	96.67
Dongfang Electric	87.30
Power China	80.19

- Subsequent to the financial and technical evaluation a combined score was awarded by Zeeruk based on a 40% weightage for technical evaluation and 60% weightage for financial evaluation. The final scores and rankings of the bidders on the basis is presented in the table below:

Bidder	Score	Rank
JV of CHEC and GEDI	89.83	1
Dongfang Electric	82.49	2
Power China	75.07	3

5.1.1.2 EPC Cost Break Up

Following the Bidding Process, the Project Company after extended negotiations with the lowest bidder has been recently able to finalize the EPC price at a total cost of USD 369.89 million. Indicative breakdown of EPC cost is as follows:

Offshore Supply Contract Price: USD 250.16 Million and

Onshore Construction and Services Contract Price: USD 119.73 Million.

The Project Company has recently initialled the above contracts with the respective contractors and the finalized versions along with annexes shall be shared with NEPRA. The above EPC cost represents certain attributes which are typical to the Project, its location at Gwadar and the available infrastructure for the Project's development and its subsequent operation. These include a 2-unit configuration; requirement of a desalination system for construction and potable water; black start generator due to lack of grid connectivity; seawater FGD; cost of construction inputs at Gwadar; additional cost for human resource deployment; premium for technical services; extraordinary security requirements and costs; and the need for fast track development of the Project.

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5.1.2 Custom Duties, Withholding Taxes and Sales Tax

Based on the above EPC cost breakup, the total duties and taxes for the Project amount to USD 40.11 million.

- Customs duties @ 5.00% of the offshore supply (USD 12.51 million) have been assumed in the Project cost which as per precedent will be adjusted at the time of COD on actual basis.
- The provisions of Upfront Tariff 2014 states that *"No withholding tax on local foreign contractors, sub-contractors, supervisory services and technical services provided by foreign (non-residents) entities has been assumed. Actual expenditure, if any, on this account will be included in the project cost at the time of COD on the basis of verifiable documentary evidence."* The Project Company has assumed that the provisions will apply in its case and an amount of USD 9.64 million has been budgeted for onshore construction and services in the Project cost. It is assumed that any change in the above assumption or applicability of any other tax mentioned above will be incorporated in the Project cost at COD through a one-time adjustment.
- The Project Company has assumed an amount of USD 17.96 million as provincial sales tax on onshore construction and services in the Project cost. This is essential since it is practically impossible to recover such construction period taxes in the operation period since sales tax is only levied on the energy portion of the tariff and after adjusting for inputs applicable to fuel pricing and variable O&M costs, no sales tax surplus is available to adjust the sales tax paid on capital costs during construction.

In addition, the Project Company requests any duties, charges or taxes in excess thereof (or any new taxes, charges or duties) be incorporated in the Project cost at COD through a one-time adjustment.

5.1.3 Non-EPC Cost

Non-EPC cost has been budgeted at USD 10.64 million which includes cost related to (i) private security to be arranged by the Project Company for a 30-month period (USD 5.77 million); (ii) satellite communication system at the Project site (USD 1.64 million); (iii) on-job training of 150 local engineers and personnel in China and at Project site (USD 2.33 million); and (iv) owner vehicles (USD 0.90 million).

5.1.4 Land

The total estimated land required for the Project is 207 acres, at a cost of approximately USD 5.00 million which includes land for the power complex, coal yard, ash yard, residential colony, public facilities, roads, open area etc. The land is being acquired by the Government of Balochistan under the LAA for and on behalf of the Project Company. Correspondence with GoB and details of land cost in this regard is attached as **(Annex J)**. Land utilization of 207 acres by the Project is provided in **Annex K**.

5.1.5 Project Development Costs

Project Development Costs include (i) cost of owner's engineer and project manager (USD 10 million); (ii) cost of various Project studies including feasibility study, geological study, topographic study, jetty feasibility study, flood study, seismic study, marine hydrology study, grid interconnection study, coal assessment, detailed site investigations, environmental impact assessment, testing and modeling of marine intake and outfall structure etc. (USD 6.62 million); (iii) cost of local and foreign legal, technical, financial, tax, audit and other Project consultants (USD 3.81 million); and (iv) regulator fees and charges related to NEPRA, PPIB, SECP and other government agencies (USD 0.6 million). It is requested that any fees and charges related to government agencies in excess of the aforementioned amounts be adjusted at COD through a one-time adjustment.

5.1.6 Company and Sponsor Costs

Company and sponsor costs include administrative costs expected to be incurred by the owner and sponsors during the development and construction period and have been budgeted at USD 26.84 million for a 42-month period. This includes cost related to salaries of local and expat employees, insurances, office and vehicle rentals, travel, utilities and other establishment costs.

5.1.7 Insurance during Construction

Insurance premiums (excluding SINOSURE premiums) to be incurred prior to COD have been estimated at 1.00% of EPC Cost (excluding any local taxes) and have been included as part of Project cost. The Project, in view of the PPA requirements and in accordance with the requirements typically set out by lenders funding the Project, intends to procure following insurances during the construction period:

i. Construction All Risk Insurance ("**CAR**");
ii. CAR Delay in Start-up Insurance;
iii. Marine and Inland Transit Insurance;
iv. Marine Delay-in-Start-up Insurance;
v. Comprehensive General Liability.

It is proposed that insurance will be adjusted at COD based on the finalized EPC cost.

5.1.8 O&M Mobilization Cost

About six months prior to commissioning, the O&M contractor is expected to be available on site to begin the process of acclimatizing and transitioning ownership of the complex from the EPC teams, which have been budgeted in the Project Cost at USD 6.49 million. Details of such costs are attached as **Annex L**.

5.1.9 Non-reimbursable Fuel and Start-up Cost prior to synchronization

This represents costs related to coal, diesel, consumables and other start-up costs expected to be incurred prior to the synchronization of the plant to the grid and have been budgeted at USD 3.44 million. It is proposed that such costs be adjusted at COD based on actuals.

5.1.10 SINOSURE Cost during Construction

As per requirement Chinese financial institutions are required to procure coverage under a SINOSURE insurance policy in case of overseas project lending. Similarly, state-owned enterprises undertaking overseas investments are also required to procure overseas investment insurance from SINOSURE. As per recent precedents, rate for such insurance has been assumed at 0.75% (including tax) and the insurance premium for the construction period for both debt and equity has been budgeted as part of the Project cost. In addition to the construction period, the policy will be applicable during the operations period, and a similar fee will be charged which has been discussed subsequently.

The Authority is aware that in certain cases depending on lender and sponsor requirements, the applicable SINOSURE policy may require that the entire premium be paid upfront and has

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been budgeted by the projects in the project cost. Since the terms and modalities of the SINOSURE policy are still under discussions with the lenders and SINOSURE, it is proposed that a provision may be included in the tariff where an adjustment may be allowed in case of an upfront premium payment.

5.1.11 Financing Fee and Charges

This covers arrangement, commitment and other fees payable to the lending banks as well as fees payable to legal, technical, insurance and other advisors employed by the bank for the purposes of the financing. These fees have currently been budgeted at 3.00% of the debt amount (excluding any sales or withholding taxes). The same shall be adjusted at COD on the basis of actual on production of verifiable documentary evidence.

5.1.12 Interest during Construction ("IDC")

IDC has been calculated based on a 30-month construction period, 80:20 debt to equity ratio and financing from Chinese banks. A lending rate of 3-month LIBOR of 1.37% plus a spread of 4.00% has been assumed. A detailed Project cost disbursement plan and related IDC calculation is attached as **Annex M.**

Interest during construction shall be subject to adjustments based on firm offer from lending banks and actual debt disbursement schedule. In addition, IDC shall be subject to adjustment for variation in the 3-month LIBOR and PKR/USD exchange rate on a quarterly basis.

5.2 Capital Structure Assumptions

The Project is to be funded based on a debt to equity ratio of 80:20. Based on the financial structure the Sponsor shall subscribe an equity of USD 108.47 million in the project, while USD 433.89 million will be raised from Chinese lenders. A summary of the proposed capital structure is given in the table below:

Capital Structure	USD Million
Equity	108.47
Debt	433.89
Total Project Cost	542.36
Debt: Equity	80:20

Whereas the Project Company has assumed a debt to equity ratio of 80:20, discussions are still underway with the Project lenders on the terms of the financing. As per precedent, it is proposed that the Authority allow an adjustment in the debt to equity ratio based on final term sheet with the Project lenders subject to a maximum of 30% equity.

5.3 Financing Cost Assumptions

A total loan tenor of 15 years with a loan repayment period of 12.5 years after COD has been assumed for the Project, with repayment over the debt period through 50 annuity based quarterly instalments. Based on current indications from lenders, the Project is expected to be financed based on an interest cost of 3-month LIBOR plus 4.0% per annum.

5.4 Return on Equity ("ROE")

NEPRA in its Upfront Tariff for Coal Power Projects dated 26th June 2014, allowed a 17% USD based IRR for imported coal projects. Given the strategic importance of the Gwadar project and the inherent risks of the development and operation of the Project, a similar IRR of 17% has been assumed for the purpose of calculation of the tariff. For the purposes of IRR

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calculation, a separate Return on Equity during Construction ("**ROEDC**") has been included in the proposed tariff. Calculation in this regard is attached as **Annex N**. ROEDC and ROE components are proposed to be adjusted at COD based on actual Project costs, finalized debt to equity ratio, actual equity disbursement schedule and PKR/USD exchange rate.

5.5 Fuel Cost

Fuel consumption for the plant has been based on a thermal efficiency of 37% (net). Since the Project is expected to primarily use coal from South Africa, the base coal price has been assumed for coal shipments out of Richard's Bay, South Africa. Calculation for the same is provided below:

FOB Coal Price (NAR 6,000 kcal/kg)[1]	USD 90.99/MT
Adjusted FOB Coal Price (NAR 5,500 kcal/kg)	USD 83.41/MT
Marine Freight including embarkation port charges and costs	USD 10.00/MT
Marine Insurance	0.10% of CIF Coal Price
Port Handling & Other Costs at Disembarkation Port	USD 5.50/MT
Custom Duty on Coal @ 3% of CIF coal price	USD 2.80/MT
Transportation Cost to Site	At Actual
Delivered Coal Price at Site	**USD 101.80/MT**

[1] Average API-4 index for the month of October 2017 for RB1 Coal

The Project is expected to receive coal at the nearby Gwadar Port and transport the same to the Project Site at a distance of approximately 40 km via trucks.

It is proposed that the FOB Coal Price and Marine Freight shall be adjusted based on applicable indices and formulas determined by NEPRA with a provision for discount or premium on FOB coal price. Port handling costs, port to site transportation costs, other port costs and any taxes and duties shall be claimed as part of the fuel cost at actual.

5.6 Operations and Maintenance ("O&M") Costs

The Project Company conducted a bidding process for the finalization of the O&M contractor of the Project. Five (5) companies namely SEPCO I, CHD Power Plant Operation Co. Ltd., Energy China Power Test Research Institute Co. Ltd, Si Chuan Nengtong Electric Technology Company Limited and Anhui No. 2 Electric Power Construction Company Limited were invited to bid for the Project. Bids were received from SEPCC I, CHD and Energy China and based on final evaluation, Energy China has been chosen as the O&M contractor for the Project. The total annual O&M cost budgeted for the Project is USD 12.76 million. The above amount does not include cost related to the Project Company, its employees and establishment which have been budgeted at USD 2.41 million. Security costs, typical for Gwadar, are under negotiation and are currently budgeted at USD 2.26 million. Summary of estimated O&M costs is as follows:

Item	Estimated Cost
Variable O&M Cost	USD 2.67 million
Variable O&M – Local	52%
Variable O&M – Foreign	48%
Fixed O&M Cost	USD 14.76 million
Fixed O&M – Local	34%
Fixed O&M – Foreign	66%

The Project Company is in process of finalizing the O&M contract, details of which will be shared with the Authority upon finalization. In summary, the above are expected to cover costs related to local and expatriate O&M staff, routine scheduled and maintenance, periodic overhauls, ash disposal, chemicals, consumables, tools, spare parts etc.

5.7 Insurance during Operations

Annual insurance cost during operations has been assumed at 1.00% of EPC Cost. The Project, in view of the PPA requirements and in accordance with the requirements typically set out by lenders funding the Project, intends to procure following insurances during the construction period:

i. All Risk Insurance;
ii. Business Interruption following All Risk;
iii. Machinery Breakdown;
iv. Business Interruption following Machinery Breakdown;
v. Comprehensive General Liability.

It is proposed that insurance will be adjusted at COD based on the finalized EPC cost.

5.8 Cost of Working Capital

Cost of working capital has been calculated based on a 90 days coal inventory and 30 days fuel cost receivable as has been allowed by Authority in previous cases. Interest on working capital has been calculated on the basis of 3-month KIBOR of 6.53% plus a spread of 2.00%.

5.9 SINOSURE Fee during Operations

As stated in Section 5.1.10, SINOSURE fee during operations on both debt and equity have been budgeted @ 0.75% of the insured amount of debt and equity, respectively. In case of debt, the insured amount comprises of opening debt balance and interest payable during the year, whereas in case of equity, such amount is based on equity invested by the Project Company. In case, the Project Company is required to make an upfront payment for the SINOSURE premium, no fee shall be payable during operations period.

6. One Time Adjustment

The Project Company requests NEPRA to allow a one-time adjustment on the underlying tariff assumptions at COD to the following items:

i. Total Project Cost to be adjusted based on actual Project cost and PKR/USD exchange rate applicable at the time of payment.
ii. Adjustment of debt to equity ratio of the Project as per the terms finalized with the Project lenders.
iii. Adjustment of SINOSURE premium based on actual amount payable to SINOSURE subject to a maximum of 0.75% per annum of insured amount in case of recurring payment and 7% of total debt servicing in case of upfront payment.
iv. Adjustment of debt servicing schedule based on actual debt to equity ratio, finalized Project cost and variation in LIBOR at the relevant date.
v. Adjustment of IDC on the basis of actual debt to equity ratio, debt disbursement schedule and changes in LIBOR during construction period.
vi. Adjustment of ROEDC on the basis of actual debt to equity ratio and equity disbursement schedule.

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vii. Adjustment of custom duties, withholding taxes, sales tax and any other tax, duty, levy based on actual amounts paid on production of verifiable documentary evidence to the satisfaction of the Authority.
viii. Adjustment of land cost based on actual amounts paid to GOB.
ix. Adjustment of insurance during operation and construction at COD based on finalized EPC price.
x. Adjustment of financing fees and charges on actual amounts paid subject to a maximum of 3% of debt.
xi. Adjustment of non-reimbursable fuel and start-up cost before synchronization based on actual fuel cost and consumption.
xii. Any other adjustment typically allowed by the Authority in other Projects.

7. Pass-Through Items

Authority is requested to allow following cost components as pass-through to the Project Company on the basis of actual costs reasonably incurred by the Project Company or obligated to be paid in relation to the Project pursuant to Laws of Pakistan.

i. No provision for income tax, in whatsoever form, has been accounted for in the Project tariff. If the Project Company is obligated to pay any tax, the same shall be allowed to the Project Company as pass-through item.
ii. No withholding tax on dividends has been included in the Project tariff. Authority is requested to allow payment of withholding tax on dividend as pass-through at the time of actual payment of dividend.
iii. The payments to Workers Welfare Fund and Workers Profit Participation Fund have not been accounted for in the Project tariff and have been assumed to be reimbursed as pass-through at actual by the Power Purchaser.
iv. Zakat deduction on dividends as required under Zakat Ordinance is considered as a pass-through item.
v. No tax on income of CPPCL (including proceeds against sale of electricity to CPPA/NTDC) has been assumed. Corporate tax, turnover tax, general sales tax/provincial sales tax and all other taxes, excise duty, levies, fees etc by any federal/provincial entity including local bodies as and when imposed, shall be treated as pass-through item.
vi. No Balochistan Government taxes have been assumed in the Project tariff. In case Project Company is required to pay any such taxes, same shall be treated as pass-through item.
vii. Customs duties, local withholding tax and sales tax have been assumed as per the rates specified in this petition. Any changes will be considered pass-through under the tariff or reimbursed to the Project Company as a one-time adjustment.
viii. Any costs incurred by Project Company, which are required to be incurred by Power Purchaser pursuant to provisions of PPA shall also be treated as pass-through item.
ix. If the Project Company is required to make payment of withholding tax on SINOSURE Fee or any other debt payments to the Project lenders, the same shall be treated as pass through cost of the Project Company. The Power Purchaser shall reimburse to the Project Company the actual amount paid on account of withholding tax after verification of relevant documentary evidence.
x. Any costs arising out of modifications/amendments by the Power Purchaser or any other governmental authority shall be considered pass-through to the Power Purchaser.

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xi. Heat rate degradation, output degradations as well as partial load adjustment charge shall be allowed as per the manufacturer's curves.
xii. No free start-ups have been assumed in the O&M cost. If required, the same shall be billed at actuals to the Power Purchaser.
xiii. Security Charges payable for CPEC projects have not been considered in the Project cost and if applicable, will be reimbursed either through a separate tariff component or as a pass-through item.

8. Submission

In view of the aforesaid facts and grounds, the NEPRA Authority is requested to:

i. Allow the instant Tariff Petition;
ii. Allow full cost recovery of the Project cost as per this Tariff Petition;
iii. Grant tariff and other terms and conditions as per the provisions of this Tariff Petition;
iv. Allow Indexations, Escalations and Adjustments of the tariff components as per the provisions of this Tariff Petition;
v. Afford an opportunity of being heard including personal hearing before the Authority;
vi. Permit the Petitioner to submit further oral and written submissions with necessary documentary evidence;
vii. Permit the Petitioner to amend, modify, and to add further grounds in addition to the already recorded hereto; and
viii. Allow such other reliefs which are just, fair, proper in the interest of equity and justice.

For and on behalf of CIHC

Xu Jun
Chief Executive Officer

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Annex A

Reference Tariff Table

Year	Fuel Cost Component (PKR/kWh)	Variable O&M - Foreign (PKR/kWh)	Variable O&M - Local (PKR/kWh)	Energy Purchase Price (PKR/kWh)	Fixed O&M - Foreign (PKR/kW/hr)	Fixed O&M - Local (PKR/kW/hr)	Insurance (PKR/kW/hr)	Working Capital (PKR/kW/hr)	Sinosure (PKR/kW/hr)	Return on Equity (PKR/kW/hr)	Return on Equity during Construction (PKR/kW/hr)	Principal Repayment (PKR/kW/hr)	Interest Charges (PKR/kW/hr)	Capacity Purchase Price (PKR/kW/hr)	Capacity Purchase Price @ 85% (PKR/kWh)	Total Tariff (PKR/kWh)	Total Tariff (US Cents per kWh)
1	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1774	0.8095	0.1961	1.1008	1.0010	4.2432	4.9920	9.6494	9.1899
2	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1688	0.8095	0.1961	1.1611	0.9406	4.2347	4.9820	9.6394	9.1804
3	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1598	0.8095	0.1961	1.2247	0.8770	4.2257	4.9714	9.6288	9.1703
4	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1503	0.8095	0.1961	1.2918	0.8099	4.2162	4.9602	9.6176	9.1596
5	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1403	0.8095	0.1961	1.3626	0.7391	4.2061	4.9484	9.6058	9.1484
6	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1297	0.8095	0.1961	1.4373	0.6644	4.1956	4.9360	9.5934	9.1366
7	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1186	0.8095	0.1961	1.5161	0.5857	4.1844	4.9229	9.5803	9.1241
8	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1068	0.8095	0.1961	1.5991	0.5026	4.1727	4.9090	9.5665	9.1109
9	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0944	0.8095	0.1961	1.6868	0.4150	4.1603	4.8944	9.5519	9.0970
10	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0814	0.8095	0.1961	1.7792	0.3225	4.1472	4.8790	9.5365	9.0824
11	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0676	0.8095	0.1961	1.8767	0.2250	4.1334	4.8628	9.5203	9.0669
12	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0530	0.8095	0.1961	1.9795	0.1222	4.1188	4.8457	9.5031	9.0506
13	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0387	0.8095	0.1961	1.0301	0.0208	3.0536	3.5925	8.2499	7.8571
14	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
15	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
16	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
17	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
18	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
19	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
20	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
21	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
22	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
23	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
24	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
25	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
26	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
27	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
28	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
29	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
30	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
Average																	
1-13 Years	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1144	0.8095	0.1961	1.4651	0.5558	4.0994	4.8228	9.4802	9.0288
14-30 Years	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0357	0.8095	0.1961	0.0000	0.0000	1.9998	2.3527	7.0101	6.6763
1-30 Years	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.0698	0.8095	0.1961	0.6349	0.2409	2.9096	3.4231	8.0805	7.6957
Levelized																	
1 - 30 Years	4.5196	0.0662	0.0717	4.6574	0.4276	0.2203	0.1624	0.1483	0.1062	0.8095	0.1961	1.0536	0.4978	3.6217	4.2608	8.9182	8.4935

Annex B

Debt Service Schedule (PKR Million)

Gross Capacity	300.00 MWs	US$/PKR Parity	105.00	
Net Capacity	273.06 MWs	Debt	433.89	US$ Million
LIBOR	1.37%	Debt in Pak Rupees	45,558.37	Rs. Million
Spread over LIBOR	4.00%			
Total Interest Rate	5.37%			

Period	Principal PKR Million	Principal Repayment PKR Million	Interest PKR Million	Balance PKR Million	Debt Service PKR Million	Principal Repayment PKR/kW/hr	Interest PKR/kW/hr	Debt Servicing PKR/kW/hr
1	45,558.37	645.17	611.69	44,913.20	1,256.86			
2	44,913.20	653.83	603.03	44,259.37	1,256.86			
3	44,259.37	662.61	594.25	43,596.76	1,256.86			
4	43,596.76	671.51	585.36	42,925.26	1,256.86			
1st Year		**2,633.11**	**2,394.33**		**5,027.45**	**1.1008**	**1.0010**	**2.1017**
5	42,925.26	680.52	576.34	42,244.73	1,256.86			
6	42,244.73	689.66	567.20	41,555.08	1,256.86			
7	41,555.08	698.92	557.94	40,856.16	1,256.86			
8	40,856.16	708.30	548.56	40,147.86	1,256.86			
2nd Year		**2,777.40**	**2,250.05**		**5,027.45**	**1.1611**	**0.9406**	**2.1017**
9	40,147.86	717.81	539.05	39,430.04	1,256.86			
10	39,430.04	727.45	529.41	38,702.59	1,256.86			
11	38,702.59	737.22	519.64	37,965.38	1,256.86			
12	37,965.38	747.12	509.75	37,218.26	1,256.86			
3rd Year		**2,929.59**	**2,097.85**		**5,027.45**	**1.2247**	**0.8770**	**2.1017**
13	37,218.26	757.15	499.71	36,461.12	1,256.86			
14	36,461.12	767.31	489.55	35,693.80	1,256.86			
15	35,693.80	777.61	479.25	34,916.19	1,256.86			
16	34,916.19	788.06	468.81	34,128.13	1,256.86			
4th Year		**3,090.13**	**1,937.32**		**5,027.45**	**1.2918**	**0.8099**	**2.1017**
17	34,128.13	798.64	458.22	33,329.50	1,256.86			
18	33,329.50	809.36	447.50	32,520.14	1,256.86			
19	32,520.14	820.23	436.63	31,699.91	1,256.86			
20	31,699.91	831.24	425.62	30,868.67	1,256.86			
5th Year		**3,259.46**	**1,767.98**		**5,027.45**	**1.3626**	**0.7391**	**2.1017**
21	30,868.67	842.40	414.46	30,026.27	1,256.86			
22	30,026.27	853.71	403.15	29,172.56	1,256.86			
23	29,172.56	865.17	391.69	28,307.39	1,256.86			
24	28,307.39	876.79	380.07	27,430.60	1,256.86			
6th Year		**3,438.07**	**1,589.37**		**5,027.45**	**1.4373**	**0.6644**	**2.1017**
25	27,430.60	888.56	368.30	26,542.04	1,256.86			
26	26,542.04	900.49	356.37	25,641.54	1,256.86			
27	25,641.54	912.58	344.28	24,728.96	1,256.86			
28	24,728.96	924.84	332.03	23,804.13	1,256.86			
7th Year		**3,626.47**	**1,400.97**		**5,027.45**	**1.5161**	**0.5857**	**2.1017**
29	23,804.13	937.25	319.61	22,866.87	1,256.86			
30	22,866.87	949.84	307.02	21,917.04	1,256.86			
31	21,917.04	962.59	294.27	20,954.45	1,256.86			
32	20,954.45	975.51	281.35	19,978.93	1,256.86			
8th Year		**3,825.19**	**1,202.25**		**5,027.45**	**1.5991**	**0.5026**	**2.1017**
33	19,978.93	988.61	268.25	18,990.32	1,256.86			
34	18,990.32	1,001.89	254.98	17,988.43	1,256.86			
35	17,988.43	1,015.34	241.52	16,973.09	1,256.86			
36	16,973.09	1,028.97	227.89	15,944.12	1,256.86			
9th Year		**4,034.81**	**992.64**		**5,027.45**	**1.6868**	**0.4150**	**2.1017**
37	15,944.12	1,042.79	214.08	14,901.34	1,256.86			
38	14,901.34	1,056.79	200.07	13,844.55	1,256.86			
39	13,844.55	1,070.98	185.89	12,773.58	1,256.86			
40	12,773.58	1,085.36	171.51	11,688.22	1,256.86			
10th Year		**4,255.90**	**771.54**		**5,027.45**	**1.7792**	**0.3225**	**2.1017**
41	11,688.22	1,099.93	156.93	10,588.29	1,256.86			
42	10,588.29	1,114.70	142.16	9,473.59	1,256.86			
43	9,473.59	1,129.66	127.20	8,343.93	1,256.86			
44	8,343.93	1,144.83	112.03	7,199.10	1,256.86			
11th Year		**4,489.12**	**538.33**		**5,027.45**	**1.8767**	**0.2250**	**2.1017**
45	7,199.10	1,160.20	96.66	6,038.90	1,256.86			
46	6,038.90	1,175.78	81.08	4,863.12	1,256.86			
47	4,863.12	1,191.57	65.30	3,671.55	1,256.86			
48	3,671.55	1,207.56	49.30	2,463.99	1,256.86			
12th Year		**4,735.11**	**292.33**		**5,027.45**	**1.9795**	**0.1222**	**2.1017**
49	2,463.99	1,223.78	33.08	1,240.21	1,256.86			
50	1,240.21	1,240.21	16.65	-	1,256.86			
13th Year		**2,463.99**	**49.73**		**2,513.72**	**1.0301**	**0.0208**	**1.0509**

CHC PAK POWER COMPANY LIMITED