



National Electric Power Regulatory Authority Islamic Republic of Pakistan

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No. NEPRA/R/TRF-299/PQEPCPL-2015/17908-17910
September 27, 2019

Subject: **Decision of the Authority in the matter of Tariff Adjustment at Commercial Operation Date (COD) of Port Qasim Electric Power Company (Private) Ltd. (PQEPCPL) [CASE No. NEPRA/TRF-299/PQEPCPL-2015]**

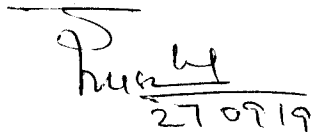
Dear Sir,

Please find enclosed herewith subject decision of the Authority (46 Pages) in the matter of Tariff Adjustment at Commercial Operation Date (COD) of Port Qasim Electric Power Company (Private) Ltd. (PQEPCPL) in Case No. NEPRA/TRF-299/PQEPCPL-2015.

2. The decision is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31 (7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

3. The Order along with Annex-I & II of the Authority's Decision shall be notified in the official Gazette.

Enclosure: As above


(Syed Safeer Hussain)

Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad

CC:

1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad.
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

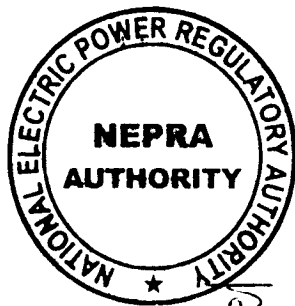


DECISION OF THE AUTHORITY IN THE MATTER OF TARIFF ADJUSTMENT AT COMMERCIAL OPERATION DATE (COD) OF PORT QASIM ELECTRIC POWER COMPANY (PVT) LIMITED (PQEPCL) CASE NO. NEPRA/TRF-299/PQEPCL-2015.

1. Introduction

National Electric Power Regulatory Authority (hereinafter "The Authority") vide its determination dated 26th June 2014 determined the Upfront Tariff for coal power projects and communicated the same to the Federal Government in terms of Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997. The same was notified by the GOP vide SRO No. 942(I)/2014 dated 5th October 2014. As per the decision of the Authority the determined levelized tariff of PQEPCL was Rs.8.1176, US Cents 8.3601/kWh.

- 1.1. Port Qasim Electric Power Company (Pvt.) Limited (hereinafter "PQEPCL") having Generation License No. IGSPL/47/2015 dated 03-02-2015 submitted application vide letter dated 7th January 2015 under Regulation of NEPRA Upfront Tariff (Approval and Procedure) Regulations, 2011 (hereinafter "Upfront Tariff Regulations") for unconditional acceptance of upfront coal tariff for upto 660MW imported coal on foreign financing determined by NEPRA with all the terms, conditions and assumptions provided therein (hereinafter "Upfront Tariff Determination"), for its proposed coal power plant of 2x660 MW capacity (1320 MW Gross) located at Port Qasim, Karachi.
- 1.2. The application was processed in accordance with the relevant provisions of Upfront Tariff Regulations and Upfront Tariff Determination. The Applicant provided all necessary and relevant information/documents and was considered eligible for grant of Upfront Tariff determination. Accordingly, the Authority vide decision dated February 13, 2015 issued the Upfront Tariff to PQEPCL.
- 1.3. The Authority further, on request of the Petitioner, through its decision no. NEPRA/TRF-299/ PQEPCL-2015/17086-17088 dated December 29, 2016 approved the EPC Contract price and the Management Consulting (Supervision) Services Contract price in aggregate amount of US\$ 226.12 million (EPC contract price US \$ 224.24 million + Management Consulting (Supervision) Service Contract price US\$ 1.88 million) for the coal unloading Jetty and channel of the Petitioner. Furthermore, the Authority through its decision no. NEPRA/TRF-299/PQEPCL-2015/2922-2924 dated February 23, 2018, approved the tariff for operations & maintenance of coal unloading Jetty channel for the Petitioner.
- 1.4. PQEPCL achieved Commercial Operation Date on 24th April 2018. Accordingly PQEPCL vide its letter no PQEPC/NEPRA/2019-12 dated April 8, 2019 submitted the request for adjustment / true up of the Upfront Tariff components i.e. Capital Cost, Custom Duties, Debt Equity Ratio, Insurance During Operation etc to NEPRA.



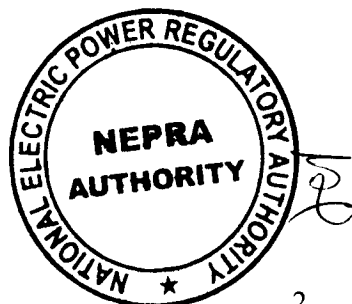
2. Project Cost Allowed in Upfront Tariff

- 2.1. The upfront tariff computed the cost for different size of coal fired project including the plant with 660 MW production capacity with technology associated with the quality of coal and the minimum efficiency thresholds:

Cost Components for each 660 MW Plant	US\$ in Million
Cost Components	
Capital Cost	767.9
Custom Duties & Cess	30.5
Sub-Total	798.4
Financial Charges:	
Financing Fees & Charges	21.0
Sino sure Fee	63.9
IDC	72.8
Sub-Total	157.7
Total	956.1

- 2.2. The Authority while determining upfront tariff had approved following upfront tariff and adjustments/indexations for PQEPCL for its Power generation complex with two units of 660 MW each on imported coal:

Reference Tariff Table		
Tariff Components	Years	
Capacity Charges (PKR/kW/Hour)	1-10	11-30
Fixed O&M - Local	0.1435	0.1435
Fixed O&M - Foreign	0.1435	0.1435
Working Capital	0.2276	0.2276
Insurance	0.1021	0.1021
Return on Equity	1.1872	1.1872
Debt Servicing	1.6691	0.0000
Total Capacity Charges	3.4731	1.8040
Energy Charges Rs./kWh		
Fuel cost Component	4.2913	4.2913
Ash Disposal	0.2200	0.2200
Lime Stone	0.0900	0.0900
Variable O&M - foreign	0.0684	0.0684
Variable O&M - Local	0.0456	0.0456
Total Energy Charges	4.7153	4.7153

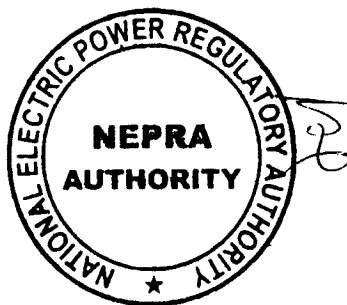


3. Following one-time adjustments were provided by the Authority in its upfront tariff determination of PQEPCPL dated June 26, 2014:
- i. Capital Cost.
 - a) Power Plant
 - a. Capital Cost
 - b. Installation of European Boiler
 - b) Jetty
 - a. EPC Cost
 - b. IDC
 - c. Custom Duties & Taxes
 - ii. Custom Duties, Cess and Withholding Tax
 - iii. Sinosure Fee
 - iv. Interest During Construction (IDC)
 - v. Financial Charges
 - vi. O&M
 - a. Power Plant
 - b. Jetty

Each of above adjustments and openers as allowed in upfront tariff are discussed below;

4. Capital Cost – Power Plant

- 4.1. The capital cost for coal based power project includes cost of Main Plant Equipment System, Boiler including Auxiliaries, STG & Auxiliaries, Balance of Plant Equipment System, Other Mechanical Equipment System, Electrical Equipment System and C&I, Coal Handling Infrastructure, Engineering & Project Management, Erection & Commissioning, land, site development and civil works, transportation and evacuation cost up to inter-connection point.
- 4.2. The capital cost of US\$ 767.868 million was determined for PQEPCPL's coal based power project and FY 2014-15 was the first year of validity period. For 2x660MW of PQEPCPL, allowed Capital Cost US \$ 1,535.800 million (Rs149,126.18 million) was as per the upfront tariff determination dated June 26, 2014.
- 4.3. The following indexation mechanism was applicable for adjustments in capital cost during the validity period with the changes in Producers Price Index (PPI) for Steel and Electrical Machinery.



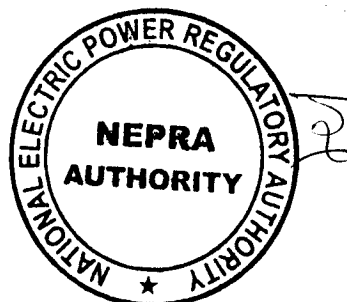
$CC_{(n)}$	=	$(CC_{(0)} * 51\% * \Delta SI) + (CC_{(0)} * 38\% * \Delta EI) + (CC_{(0)} * 11\%)$
Where:		
$CC_{(n)}$	=	Capital Cost at the time of opting the tariff during the validity period
$CC_{(0)}$	=	Capital Cost at the beginning of the validity period
ΔSI	=	Variation in US PPI for Steel i.e. $SI_{(n)}/SI_{(0)}$
$SI_{(n)}$	=	PPI Steel at the time of opting the tariff
$SI_{(0)}$	=	PPI Steel for the month of June 2014
ΔEI	=	Variation in US PPI for Electrical Machinery i.e. $EI_{(n)}/EI_{(0)}$
$EI_{(n)}$	=	PPI Electrical Machinery at the time of opting the tariff
$EI_{(0)}$	=	PPI Electrical Machinery for the month of June 2014

- 4.4. Incremental cost of European boiler @ US\$ 0.1 million per MW had been assumed in the overall project cost on account of capital cost, financing fees & IDC. PQEPCL was required to submit verifiable documentary evidence at the time of COD regarding installation of European boiler for entitlement of this cost.
5. Capital Cost Indexation Mechanism
- 5.1. PQEPCL claimed US\$ 1,545.029 Million (Rs. 178,296.336 million) at COD against Capital Cost. PQEPCL claimed adjustment in capital cost during the validity period with the changes in Producers Price Index (PPI) for Steel and Electrical Machinery. The above indexation mechanism in the Order provided for 51% of the Capital Cost to be indexed to US PPI for Steel, 38% with US PPI for Electrical Machinery and the remaining 11% of Capital Cost is to remain unindexed.
- 5.2. The PQEPCL had opted for the Upfront Tariff on 13-2-2015, consequently the index values for the purpose of Capital Cost indexation have been used from U.S. Bureau of Labor Statistics ("BLS") Report for the month of January 2015.
- 5.3. The Petitioner submitted that the Authority had not mentioned the product code of the PPI for both Steel and Electrical Machinery in the Order, therefore Electrical Machinery has only one relevant PPI in the detailed report published by the BLS i.e. Electrical Machinery and Equipment with Product Code: 117, which has been considered by PQEPCL. Steel has several indices with different applications/relevance but there is only one PPI for Steel which relates specifically to power projects being the PPI for "Steel Power Boilers (stationary and marine), parts and attachments (excluding for nuclear application)" with Product Code: 332410-5. As a result, PQEPCL has accounted the above code for the indexation related to the Steel Component of the Capital Cost.
- 5.4. The indices and their applicability on the claimed Capital Cost and the adjusted claimed Capital Cost is provided in table as below:



Particulars	Unit	Capital Cost
Base Capital Cost determined by NEPRA – June 2014	USD Mln	767.868
Less Adjustment for Chinese Boiler	USD Mln	---
Adjusted Capital Cost – June 2014	USD Mln	767.868
<u>Indexation:</u>		
US PPI for Electrical Machinery		
Electrical Machinery and Equipment PPI -June 2014		113.6
Electrical Machinery and Equipment PPI – January 2015		114.1
Capital Cost Indexed to Electrical PPI		38%
Weighted Change in Capital Cost	USD Mln	2.569
US PPI for Steel		
Steel Power Boilers PPI - June 2014		244.6
Steel Power Boilers PPI – January 2015		246.7
Capital Cost Indexed to Steel PPI		51%
Weighted Change in Capital Cost	USD Mln	6.724
Total Change in Capital Cost	USD Mln	9.293
Indexed Capital Cost on March 2015 – 660 MW	USD Mln	772.510
Indexed Capital Cost on March 2015 – 1320 MW	USD Mln	1,545.02

- 5.5. During the verification of the indexation, it has been observed that the correct PPI to use is Iron & Steel (Group: Metal and Metal product). The Iron & Steel index has been consistently used for different analysis of upfront coal (Imported/Thar) capex both internally and as well during the China Power Hub Generation Company Limited motion for leave for review against its upfront coal determination. The same index was also used by the Authority to adjust the Capex of Thar Coal while announcing second Thar upfront tariff on July 27, 2017 (ref para 14 of the Thar Coal determination1) and also for COD adjustment of Sahiwal coal power project (Huaneng Shandong Ruyi (Pakistan Energy (PVT.) LTD (HSR)
- 5.6. Consistent to earlier decisions, Authority decided PPI index to be used are (a) Electrical Machinery and Equipment (b) Iron & Steel (Group: Metal and Metal product). The reference value for PPI Iron & Steel is 232.6 (June 2014). The revised value is to be the date of opting of tariff which in the instant case is February 2015. This Index in February 2015 was at 209.2. Similarly the correct PPI index of Electrical Machinery and Equipment (group Electrical machinery and equipment) reference value for June 2014 is 113.6 and revised values on February 2015 is 114.1. Accordingly the indexed capital cost on account of (a) Electrical Machinery and Equipment and (b) Iron & Steel (Group: Metal and Metal product) is as under:



$$\text{Base Capex} = \text{US\$ } 767.868 \text{ million} \times 2 = \text{US\$ } 1535.73 \text{ million}$$

Indexation formula

$$\text{CC}(n) = (\text{CC}(0) \times 51\% \times \Delta \text{SI}) + (\text{CC}(0) \times 38\% \times \Delta \text{EI}) + (\text{CC}(0) \times 11\%)$$

Revised Indexed Capex =

$$1535.73 \times 51\% \times (209.2/232.6) + 1535.73 \times 38\% \times 114.1/113.6 + 1535.73 \times 11\%$$

$$= \text{US\$ } 1459.51 \text{ million.}$$

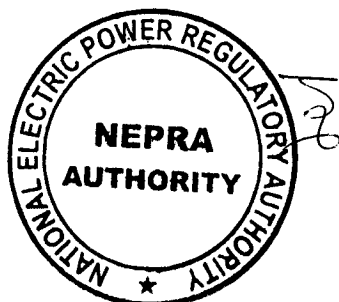
Particulars	Unit	Capital Cost
Base Capital Cost determined by NEPRA – June 2014	USD Mn	767.868
Less Adjustment for Chinese Boiler	USD Mn	-
Adjusted Capital Cost – June 2014	USD Mn	767.868
Indexation:		
US PPI for Electrical Machinery		
Electrical Machinery and Equipment PPI -June 2014		113.6
Electrical Machinery and Equipment PPI – Feb 2015		114.1
Capital Cost Indexed to Electrical PPI		38%
Weighted Change in Capital Cost	USD Mn	1.284
US PPI for Steel		
Iron & Steel (Group : Metal and Metal Product-June 2014		232.6
Iron & Steel (Group : Metal and Metal Product-Feb 2015		209.2
Capital Cost Indexed to Steel PPI		51%
Weighted Change in Capital Cost	USD Mn	(39.397)
Total Change in Capital Cost	USD Mn	(38.113)
Indexed Capital Cost on Feb 2015 – 660 MW	USD Mn	729.755
Indexed Capital Cost on Feb 2015 – 1320 MW	USD Mn	1,459.51

5.7. Keeping in view the documentary evidence submitted by PQEPC, the Authority has decided to allow the verified/adjusted amount of Capital Cost for US\$ 1,459.51 Million (Rs. 154,314.058 million).

6. Installation of European Boiler

6.1. PQEPCPL submitted that it has procured and installed a European Boiler. In support thereof the Petitioner submitted documentary evidences as per following;

- 1) Technical Basic Design and Services Subcontract with Doosan Babcock (European Manufacturer)



2) Performance Guarantee from Doosan Babcock (European Manufacturer)

6.2. Documentary evidences submitted by the Petitioner were considered and reviewed thoroughly. During the review of the documents, an information direction vide letter No. NEPRA/TRF-299/PQEPCL-2015/14433 dated August 7, 2019 was issued to the Petitioner to clarify the following observations:

- i) Main contract between Harbin Electric and SEPCO III for the design, supply, support to erect and commissioning of the Port Qasim Power Plant.
- ii) Technical Agreement defining the scope of works to be undertaken by Dosaan Babcock.
- iii) Detailed Heat Rate Test Report at COD prepared by Independent Engineer.
- iv) Joint Venture Contract between Harbin Electric and Dosaan Babcock.
- v) License Agreement between Harbin Electric and Dosaan Babcock.
- vi) Signed EPC Contract of the subject power plant with all schedules.
- vii) Reconciliation of Interest During Construction with Financial Statements.
- viii) Breakup of Finance cost incurred by PQEPCL as declared by Final Accounts FY 2017-18 & FY 2018-19.
- ix) Relevant Information on the Producer Price Index (PPI).

6.3. In response, the Petitioner submitted the required information vide its letter No. PQEPCL/NEPRA/2019-34 dated August 22, 2019 and another letter No. PQEPCL/NEPRA/2019-37 dated August 27, 2019.

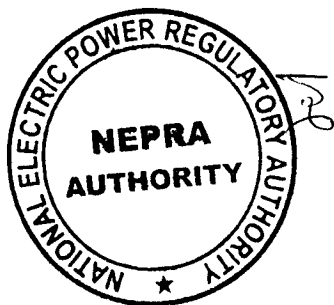
6.4. The relevant provisions of the Authority's Upfront Tariff for Imported Coal power plants pertaining to European boiler are as reproduced as under:

Para 27 of Imported Coal Upfront Tariff Determination 26.6.2014

"..... The allowance of US\$ 0.1 million is further added on account of European boiler cost,"

Para 140 of Determination of the Authority regarding imported Coal Upfront Tariff dated 21.11.2014

"Some of the commentators pointed out that unlike Thar coal tariff determination, European boiler is not defined in the decision. Therefore, they requested to also include such definition. The Authority considers it is a reasonable suggestion and hereby clarifies that any boiler will be categorized as European boiler regardless of its place of manufacturer if it is designed by the European boiler manufacturer and installed under its warranty and under the European Company's nameplate. It is further clarified that the boiler will be regarded as European if it is manufactured by the European boiler manufacturer through any joint venture partnership with other local companies as long as if it is designed by

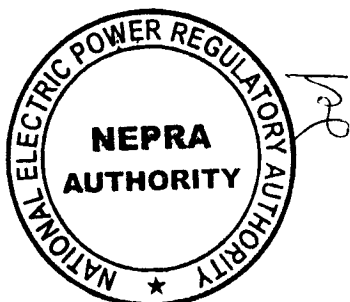


European boiler manufacturer and installed under its warranty and under the European Company's nameplate."

- 6.5. Keeping in view reply of the Petitioner and in accordance with Para 140 under of Upfront Tariff decision dated 21.11.2014, justifications and documents submitted by the Petitioner, the Authority considers that Port Qasim coal power plant's European boiler broadly fulfills the requirements of the determination. However, the Authority could not clearly establish the contractual arrangements on the boiler. Therefore the Authority decided to allow the US\$ 0.1 million/MW provisionally and conditionally on the basis of provision of legal arrangements and financial trail by the Petitioner within (1) one month of the issuance of this COD decision by the Authority failing which the same shall be adjusted accordingly from the true up COD cost of the Petitioner.

7. Capital Cost – Jetty

- 7.1. As stated above, on January 7, 2015, the Petitioner submitted an application for unconditional acceptance of upfront coal tariff determined by the Authority through its decision dated June 26, 2014 (hereinafter referred as the "Decision"). The Authority, vide its decision dated February 13, 2015 granted approval of upfront tariff to the Petitioner. The approved tariff included a notional cost of US\$ 9.46 per Ton for use of a common jetty facility. Para 49 of the Authority's Decision dated June 26, 2014 and Para 106 of the Authority's Decision in the matter of Review Motion filed by Asad Umar dated November 21, 2014, provide the provision of construction of self-use/ standalone jetty instead of using a common jetty facility. The cost of such jetty was required to be determined and allowed by the Authority on case to case basis subject to provision of verifiable documents to the satisfaction of the Authority. In such a case, the cost of a common use jetty eliminated and replaced with the cost of a self-use jetty. The instant project i.e. PQEPCL has constructed a self-use jetty.
- 7.2. Port Qasim Electric Power Company (Pvt.) Limited, vide its letter No. PQEPC/NEPRA/2015-20, dated December 29, 2015, filed a request for confirmation of US\$ 238.55 million as the contract price of EPC of coal unloading Jetty and Channel including Rs. 14.313 million for taxes at the rate of 6%. The Petitioner also requested confirmation of US\$ 1.88 million as the price for Management Consulting (Supervision) Services Contract of the coal unloading jetty. The Petitioner stated that Para 7.6 of the Authority's decision dated December 29, 2015 be read with Approval of Upfront Tariff awarded to the Petitioner vide No. NEPRA/TRF-299/PQEPCL-2015/1839-1841, Dated February 13, 2015. In view thereof, the Petitioner claimed that the adjustment of cost of Jetty falls under upfront tariff regime. The Petitioner stated that considering the decision in Upfront mode allowed amount of US \$ 226.12 million has been claimed even through actual cost on this account has been incurred as US\$ 228.801 million.
- 7.3. The scope of work for EPC of coal unloading Jetty and Channel as prescribed within Section 1 of the Bidding Documents include the following;



- a. Construction of a coal-unloading Jetty of 70,000 DWT, approach bridge, revetment and associated auxiliary facilities
 - b. 50,000 DWT approach channel works
 - c. Preliminary ground improvement to the reclamation of power plant.
 - d. Other necessary and relevant works
- 7.4. The following capital cost for PQEPCP's Jetty had been determined by the Authority vide decision dated December 29, 2015:

EPC Cost	US\$ 224.24 million.
Management Consulting (Supervision Service Contract)	<u>US\$ 1.88 million</u>
	US\$ 226.12 million.

- 7.5. As per paragraph 7.5 of the Decision dated December 29, 2015:

"7.5 In the light of the above and considering the fact that the Authority did not receive any adverse comments/ objections with regards to the EPC cost of the coal offloading jetty, the Authority has decided to approve the EPC Contract price of US\$ 224.241 million net of taxes and Management Consulting (Supervision) Service Contract price of US\$ 1.880 million for the coal unloading Jetty and Channel. Taxes, if any actually paid shall be treated as pass through subject to provision of verifiable documentary evidence for the payment with a maximum cap of US\$ 14.313 million."

- 7.6. The claim of the Petitioner was not justified since Jetty cost was required to be adjusted under cost plus regime. Accordingly in response to the claimed cost of the Petitioner, the following information direction vide letter dated June 13, 2019 was issued to the Petitioner:

- a. Statement of EPC Cost of Jetty approved by NEPRA.
- b. Statement of EPC Cost incurred by PQEPCPL.
- c. Complete detail of all payments made to the appointed/selected EPC Contractor.
- d. Documentary evidences of payment to the EPC Contractor i.e. Bank Payment Voucher, Bank instrument, Bank Statement, EPC Contractor Acknowledgement, transmitting bank, receiving bank, beneficiary accounts etc.
- e. Statement of specifications approved by NEPRA for construction of Jetty in comparison with actual specifications highlighting any deviation along with reasons.
- f. Complete reconciliation of approved versus actual costs along with EPC Contracts and pending payments if any.

- 7.7. The Petitioner vide letter dated June 16, 2019 submitted the requisite information. The Petitioner submitted that EPC Contract was signed between PQEPCPL and Sinohydro Harbour Co., Ltd, on August 11, 2015 for the construction of Jetty. In support thereof the Petitioner submitted various documents as an evidence to the claimed cost of Jetty i.e. EPC Contract, Invoices for supplies and services, Interim payment certificates, Certificate of



Independent Engineer, CCC, Payment approval, Bank instruments i.e. TT documents, Bank instruments, Approval of state bank, Handing/taking over certificate by PQA, Certificate of successful commissioning in respect of terminal/jetty by PQA, Confirmation of dredging work for the coal jetty of the complex by PQA etc. The Petitioner submitted that the construction of Jetty started on November 11, 2015 and completed on 21-5-2017 i.e. 18 months and 10 days. The Petitioner stated that it paid an amount of US\$ 224.24 million to the EPC Contractor accordingly. Payment start date for Jetty was 27-12-2015 and last day of payment as 29-5-2018. Retention money was also paid on 18-1-2019. The Petitioner provided the following details:

- i. Handing/taking over certificate by PQA dated 11-8-2017.
- ii. Certificate of successful commissioning in respect of terminal/jetty by PQA dated 20-10-2017.
- iii. Confirmation of dredging work for the coal jetty of the complex by PQA dated 17-1-2019.

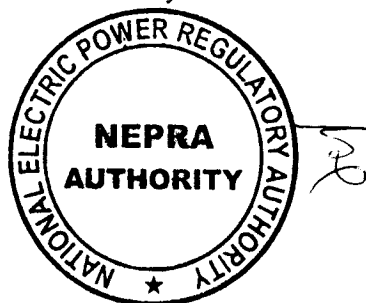
7.8. The Petitioner further submitted that for Management Consulting (Supervision Service Contract), Consultant & Construction Supervision Co., Ltd of CCCC Second Harbor Consultants Co., Ltd selected through bidding process. The Contract was signed between PQEPCL and CCCC L on December 10, 2015 for US\$ 1.88 million. Further the Petitioner submitted Invoices, Bank Statements, Certificate of successful commissioning dated August 22, 2017. In support of the claim of the cost, the Petitioner also submitted an auditor's certificate from A-F Ferguson & CO dated June 25, 2019 for payments made under EPC contract for construction of coal unloading jetty and channel works.

7.9. Keeping in view the submission of the Petitioner and scrutiny of the documents, it is verified that an amount of US\$ 224.24 million has been paid to Sinohydro Harbour Co., Ltd, on account of construction of Jetty and further US\$ 1.88 million paid to CCCC against its management fee. The Authority therefore decided to allow US\$ 226.120 million aggregate for construction of Jetty and Management Fee to the Petitioner.

8. Custom Duties, Cess and Withholding Tax

8.1. In the tariff determination, PQEPCL was allowed duties and taxes of US \$ 61.00 million (Rs. 5,923.10 million). The relevant provision at Para 3(II)(viii) of the Authority's decision with respect to Custom Duties, Cess and Withholding Tax is as under:

"Customs duties & cess @ 5.95% of the 66.75% of the capital cost has been assumed in the project cost which will be adjusted at the time of COD on actual basis. 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."



- 8.2. In the tariff determination of Jetty dated December 2015, PQEPCL was allowed duties and taxes of US \$ 14.313 million (Rs. 1,389.79 million). The tariff determination provided at Para 7.5 stated as follows:

"7.5 In the light of the above and considering the fact that the Authority did not receive any adverse comments/ objections with regards to the EPC cost of the coal offloading jetty, the Authority has decided to approve the EPC Contract price of US\$ 224.241 million net of taxes and Management Consulting (Supervision) Service Contract price of US\$ 1.880 million for the coal unloading Jetty and Channel. Taxes, if any actually paid shall be treated as pass through subject to provision of verifiable documentary evidence for the payment with a maximum cap of US\$ 14.313 million."

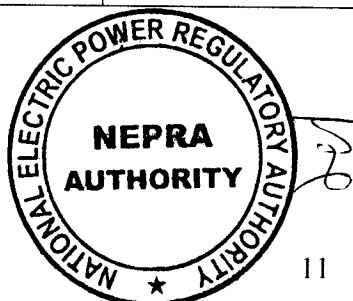
- 8.3. PQEPCL claimed duties and taxes of Rs. 7,074.956 million (US\$ 67.056 million) at COD and provided following break-up of its claim:

Description	CAPEX (in US\$)	Jetty (in US\$)	Total (in US\$)	Total (in PKR)
Custom Duties	33,105,967	1,500,098	34,606,065	3,647,723,120
Regulatory Custom Duty	448,019	455,872	903,891	95,839,716
Sindh Inf. Surcharge	9,022,694	100,330	9,123,024	956,943,680
Withholding Tax	14,532,038	4,269,294	18,801,332	1,987,840,860
Duties and Taxes Land	3,041,170	-	3,041,170	323,830,949
Sales Tax (Un-adjustable)	580,816	-	580,816	62,777,417
Total Claim	60,730,705	6,325,594	67,056,298	7,074,955,743

9. Custom Duty.

- 9.1. PQEPCL in its COD adjustment request claimed Rs. 3,647.723 million as Custom Duty on import of Power Plant and Jetty. Custom Duty on import of Power Plant is Rs. 3,489.602 million and on import of Jetty is Rs. 158.121 million respectively. In support of its claim, PQEPCL submitted copies of goods declarations, payment challans of duties, pay orders of bank through which duties were paid, commercial invoices and bank statements etc. Detail of Custom Duties on import of Power Plant is as follows:-

	Item Type	Description/Particulars	Rs.
1.	Boiler & auxiliary equipment	Boiler body	645,564,809
		Forced draft fan, primary fan and induced fan	26,364,784
		Coal mill and accessories equipment's	62,897,915
		Coal feeder	3,000,463

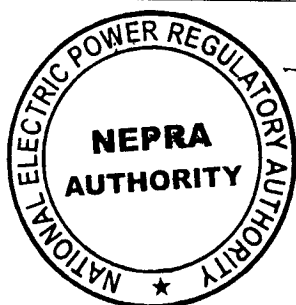


		Coal bunker dredging machine and Pipes for gas, wind and coal	35,596,939
		Boiler elevator	855,302
		Electric crane and hoist	24,863,974
2	Turbine & Auxiliary equipment	Turbine body	307,339,674
		Turbine ontology drain system	1,035,177
		High and low pressure heater	39,490,897
		Turbine oil purification device	393,858
		Water-ring vacuum pump	2,674,695
		Condensate pump	4,580,942
		Closed cooling WTR pump system	8,032,395
		HP and LP bypass systems	8,073,083
		Deaerator	6,481,063
		Feed pump	43,502,347
		Feed water pump turbine	12,325,087
		Auxiliary steam header, temperature and pressure reducer	500,354
		Electric double-beam bridge crane	4,999,158
		Electric crane and hoist	361,306
		Turbine steam line and pipes	200,499,184
3	Generator & auxiliary equipment	Generator	152,336,120
		System (store) hydrogen station equipment	3,829,303
4	ESP	ESP	84,069,170
5	Fuel supply system	Bucket-wheel stacker reclaimed	25,831,998

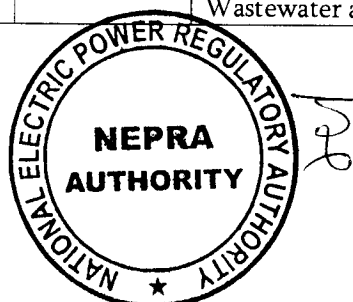




		Coal pusher and loading machine	2,671,416
		Coal conveyer belt system	22,798,822
		Coal breaker	2,018,182
		Roll screen	347,700
		De-ironing separator	2,125,506
		Fuel oil system	8,154,108
6	Ash handling system	Slag removal equipment	20,071,512
		Ash silo discharge equipment	5,351,607
7	Water treatment system	Desalination of sea water system equipment	72,570,997
		Pretreatment device	23,304,632
		Water pump room equipment	14,976,192
		Sea water booster pump room equipment	673,764
		Boiler make-up water treatment system equipment	3,900,332
		Condensate polishing equipment	10,962,873
		Electro chlorination system equipment	16,575,410
		Sampling and dosing system equipment	3,364,214
		Desalination of sea water system equipment	19,074,603
8	Water supply system	CW pump and accessories	89,773,822
		Electric gantry crane	1,176,957
		Trash remover	14,175,194
		Cooling tower equipment and packing	8,657,100
		Auxiliary cooling water pump and drainage pump	34,132,385



		Butterfly valves	14,642,201
9	Electrical system	Busbar and accessories	26,819,647
		Transformer and accessories	93,828,778
		500kV substation interval and electric reactor	101,412,011
		Panel/cabinet of central control room	13,672,214
		Coal program-controlled equipment and accessories	3,948,063
		Dc system equipment and battery	3,435,328
		High and low voltage switchgear cabinet	49,442,436
		Motor inverter	2,692,425
		Diesel oil generator and accessories	8,139,176
		General electric equipment	87,695,637
		Inter communication system	39,102,707
10	I&C system	DCS	16,652,162
		Closed circuit television	2,926,999
		Control network for auxiliary workshop	13,180,414
		Complete set of thermal control system	173,846
		General electric equipment	21,200,950
11	FGD system	FGD system	126,903,381
12	Other system	Equipment of workshop	1,311,426
		Equipment of auxiliary boiler	2,599,095
		Laboratory equipment	7,206,747
		Wastewater and sewage treatment system	7,399,063



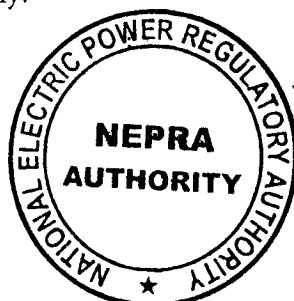
		Equipment for fire water pump room	477,690
		Fire-fighting equipment and devices	17,996,868
		Ash yard machinery	5,743,110
		Ventilation and air conditioning	67,794,988
13	Structure & architecture	Steel plate for Chimney	9,268,656
		Steel structure for plant	240,849,395
		Subtotal (Major Items)	3,068,872,742
		Import Duties (Other items)	420,729,478
		Grand Total (All items)	3,489,602,220

9.2. Detail of Custom Duties on import of Coal Unloading Jetty is as follows:-

	Item Type	Description/Particulars	Rs.
1	Jetty	Jetty – Material and other items.	158,120,900

CONSTRUCTION PILING HAMMER AND ACCESSORIES		
	\$	5,779
ELECTRICAL EQUIPMENT		
	\$	50,928
CRANE AND ACCESSORIES		
	\$	117,104
RUBBER, IRON AND STEEL PIPES		
	\$	334,570
CUTTER TOOTH AND ACCESSORIES		
	\$	25,000
BEARINGS		
	\$	11,821
DREDGING EQUIPMENT AND CUTTER SUCTION		
	\$	573,749
CONVEYOR AND CARRIER FOR CONVEYOR BELT		
	\$	77,065
OTHERS		
	\$	304,082
Total	\$	1,500,098

9.3. From the scrutiny of the submitted documents it was verified that the custom authorities charged Custom Duties in accordance with the applicable rates of Custom Act 1969. Resultantly the payments of Rs. 3,647.723 million was made on account of Custom Duty to the Custom Authorities with respect to import of power plant and coal unloading jetty. The Authority decided to allow the claim of the Petitioner for Rs. 3,647.723 million accordingly.



10. **Regulatory Custom Duty.**

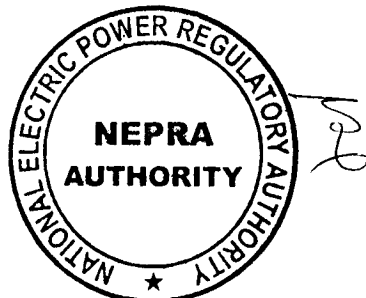
- 10.1. Federal Government may, by notification in the official gazette, levy subject to conditions, limitations or restrictions as it may deem fit to impose, a regulatory duty on all or any of the goods imported or exported, as specified in the first schedule.
- 10.2. PQEPCL in its COD adjustment request claimed Rs.95.840 million as Regulatory Custom Duty. In support of its claim, PQEPCL submitted copies of goods declarations, payment challans of duties, pay orders of bank through which duties were paid, commercial invoices and bank statements etc.
- 10.3. From the scrutiny of the submitted documents it is observed that Regulatory Duty has been paid on account of items imported by the Petitioner from China which were easily available locally. Accordingly claimed cost on this account seems unjustified. The Authority therefore decided to disallow this cost to the Petitioner.

11. **Sindh Infrastructure Development Surcharge (SIDS):**

- 11.1. PQEPCL in its COD adjustment request claimed Rs. 956.944 million as Sindh Infrastructure Development Surcharge (SIDS). In support of its claim PQEPCL submitted copies of goods declarations of Pakistan Customs, payment challans of SIDS, copies of pay orders of bank through which these SIDS were paid, copies of bills of entries, EPC import invoices, etc.
- 11.2. From the scrutiny of the submitted documents it was verified that the custom authorities charged SIDS in accordance with the applicable rates ranging from 1.10% to 1.15% under the Sindh Development and Maintenance of Infrastructure Cess Act 2017, resultantly the payments of Rs. 956.944 million was made on account of SIDS to the Excise and Taxation Department Sindh. Accordingly the Authority decided to allow Rs. 956.944 million on account of SIDS to the Petitioner.

12. **Withholding Income Tax:**

- 12.1. As per Section II(viii) of the determination dated June 26, 2014:
"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".
- 12.2. In accordance with the provisions of withholding income tax provisions of Income Tax Ordinance, 2001, PQEPCL paid to Federal Board of Revenue ("FBR") withholding tax on payments to different contractors and entities and therefore claimed Rs. 1,987.841 million, breakup of which is provided in the table as below:

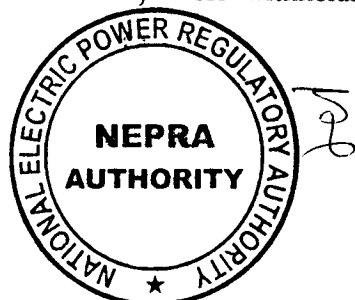


Description	Range of Income Tax Rates	Tax in PKR	Tax in USD
On Power Plant			
Foreign Services Contracts	6% - 12.5%	Rs 634,421,040	\$5,781,771
Local Services Contracts	6% - 7%	Rs 906,789,984	\$8,750,267
<i>Total for Plant</i>		<i>Rs 1,541,211,024</i>	<i>\$14,532,038</i>
On Coal Unloading Jetty			
Foreign Services Contracts	6% - 12.5%	Rs 16,607,235	\$158,179
Local Services Contracts	6%	Rs 430,022,601	\$4,111,115
<i>Total for Jetty</i>		<i>Rs 446,629,836</i>	<i>\$4,269,294</i>
GRAND TOTAL		Rs 1,987,840,860	\$18,801,332

Main Contractors

Name of Contractor	Tax Status
• AON COFCO	• Non-Resident
• Argus Media	• Non-Resident
• CCSC	• Non-Resident
• China International Engineering	• Non-Resident
• Hebei Electric Power Design	• Non-Resident
• Jiangxi Electric Power Design	• Non-Resident
• Jun He Law Offices	• Non-Resident
• PQE Dubai Holding Limited	• Non-Resident
• Riskon International	• Non-Resident
• SEPCOIII Electric Power Construction	• Non-Resident
• SGS-CSTC Standard Technical Service Co	• Non-Resident
• Shanghai Power Supervision	• Non-Resident
• Sinohydro Corporation Limited	• Resident
• Sinohydro Harbour Co., Ltd	• Resident

- 12.3. In support of its claim PQEPCL submitted copies of local and foreign invoices, computerized payment receipts (CPR), bank statements, pay orders, goods declarations of Pakistan Customs, packing list, bill of lading. Withholding income tax claimed is a non-adjustable and being final liability of the contractors. Further original contracts were also checked and verified accordingly. From the scrutiny of the submitted documents it was verified that the custom authorities charged Withholding Tax in accordance with the applicable rates of Income Tax Ordinance 2001, resultantly the verified payments made in respect of non-adjustable withholding tax work out to be Rs. 1,548.675 million.



Accordingly the Authority has decided to allow the amount of Rs. 1,548.675 million on this account.

13. Duties and Taxes on Land

- 13.1. PQEPCL in its COD adjustment request claimed Rs. 323.831 million as duties and taxes on land comprising registration fee, stamp duty and capital value tax. In support of its claim PQEPCL submitted copies of payment challans and pay orders of bank through which these taxes were paid. The detail with respect to duties and taxes is as under:

Duties & Taxes - Land	Amount (Rs. in M)
Registration Fee	64.625
Stamp Duty	145.560
Capital Value Tax	113.646
Grant Total Sales Tax Claimed	323.831

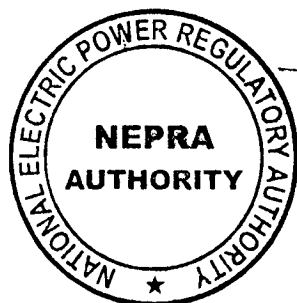
- 13.2. From the scrutiny of the submitted documents it is verified that the Registration Fee has been paid to Sub Registrar Bin Qasim which is in accordance with the applicable rates i.e. 1% of land value. Stamp Duty and Capital Value tax have been paid to Board of Revenue Sindh at the rate of Rs.20/Sq. yards, 1.5% of lease rental value and 2.% of occupancy value, 2.5% of the land value under the Stamp Act 1899 Sindh, CVT under Sindh Finance Act 2010.
- 13.3. Keeping in view the documentary evidence submitted by the Petitioner, the Authority has decided to allow Rs. 323.831 million on account of duties and taxes on land to the Petitioner.

14. Sales Tax:

- 14.1. PQEPCL claimed Sales Tax of Rs. 62.777 million (US\$ 0.580 million) at the COD stage. The Petitioner submitted that the Authority had not considered any type of sales tax in the Upfront Tariff Determination and Order whereas the Petitioner paid huge amount on this account. In view thereof the Petitioner requested the Authority to allow sales tax amount on this account. The breakup of the Sales Tax provided by the Petitioner is as under:

Sales Tax	Amount (PKR) Mln
<u>Non-Adjustable by FBR/SRA</u>	
Services - Local	40.327474
Supplies - Local	22.449943
Total Non-adjustable Sales Tax	62,777,417

- 14.2. In support of sales tax claim, PQEPCL submitted an opinion from AF FERGUSON & CO, Chartered Accountants, a member firm of the PwC network, Karachi dated April 1, 2019,



which confirmed that the sales tax to the extent of non-adjustable and being final liability of the Petitioner paid was Rs. 62.777 million. In support of its claim, the Petitioner has submitted copies of documentary evidences, i.e. Sales tax Challans, Tax Payment Receipts, Invoices, Bank Statements etc which were duly checked and verified accordingly.

- 14.3. Keeping in view the documentary evidence submitted by the Petitioner and opinion of the AF Ferguson & Co a reputable Chartered Accountant firm, the Authority has decided to accept the Petitioner's claim to the extent of non-adjustable of Rs. 62.777 million (US\$ 0.581 million) on account of Sales Tax.

15. Sinosure Fee:

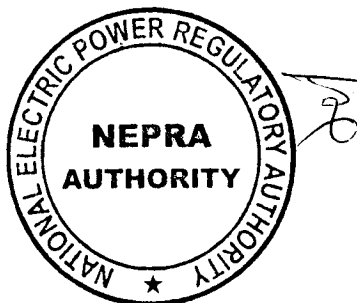
- 15.1. The Authority in the tariff determination dated June 26, 2014 decided to allow Sinosure fees under the foreign financing originating from Chinese banks. Accordingly an upfront Sinosure fee @7% on the total debt servicing was included in the project cost. The Authority further stated that the Project cost will be adjusted at the time of COD on the basis of actual Sinosure fee subject to maximum of 7%. In case the sponsor managed better alternative Sinosure fee arrangement, the same will be considered at the time of COD. The Authority allowed US\$ 127.800 million (Rs. 12,409.38 million) under the head of Sinosure Fee.

- 15.2. The Petitioner submitted that the Authority had established benchmark rate of 7% on the total debt servicing for Sinosure fees. The estimated amount of Sinosure fees, as calculated by the Petitioner in accordance with the Authority benchmark, works-out to US \$ 147.20 million. This Sinosure fees of US \$ 147.20 million was a part of the project cost, according to earlier approval of the Authority. Further the Petitioner availed Sinosure coverage from China Export and Credit Insurance Corporation (CECI) and stated that it has been able to secure better Sinosure terms from CECI than the Authority's established benchmark. According to the finalized terms, the Petitioner has submitted that it will require to make following payments to CECI: -

- 1) Premium @ 0.60% per annum of the outstanding loan principal plus interest; and
- 2) Local withholding taxes deducted/to be deducted from the above-mentioned premium, if any.

- 15.3. The Petitioner submitted that it is required to pay Sinosure fees on annual basis to CECI and is required to gross-up Sinosure fees on account of withholding tax(s). The Petitioner requested that Sinosure fees due up to COD, including local withholding taxes due thereon be made a part of the project cost.

- 15.4. The Petitioner further submitted that currently it is not possible to estimate exact amount of Sinosure fees to be paid in future therefore a separate tariff component of Sinosure fees be added to the tariff table. The Petitioner submitted that Sinosure fees on outstanding balance of debt and interest at a gross rate of 0.75% (Sinosure fees net at 0.60% per annum

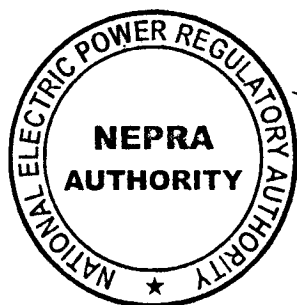


plus withholding tax at 20%) for each applicable year be added in the reference tariff table. Moreover, Sinasure fees tariff component incorporated in the reference tariff table shall be adjusted in future on the basis of actual variation in PKR/US\$ exchange rate, LIBOR, withholding tax(es) rate(s) and other terms of payment stipulated by CECI. Further with respect to withholding taxes, the Petitioner submitted that it is required to make payment of withholding tax(es) on Sinasure fees therefore the same must be treated as a pass through cost. The Petitioner stated that Power Purchaser must reimburse actual amount paid on account of withholding tax(es) after verification of relevant documentary evidences since the same has been approved by the Authority in the CPEC projects.

- 15.5. The Petitioner submitted that the Authority would appreciate that up to COD, the Petitioner has paid US \$ 28.63 million on account of Sinasure fees. Further, aggregate amount of US \$ 67.11 million (estimated amount calculated on current LIBOR rate) on account of Sinasure fees is payable during entire term of the loan after COD. The Petitioner estimated aggregate Sinasure fees of US \$ \$95.74 million. Accordingly, the Petitioner has saved around US \$ 51.46 million compared to the benchmark set by the Authority. The Petitioner further submitted that there has been further reduction in tariff due to decrease in interest during construction, return on equity and debt servicing, because only a minor part of Sinasure fees is to be made a part of the project cost. Below is the detail of sinasure fee which has been paid during the construction period and being claimed by the Petitioner:

Description	As per tariff determination			Claimed at COD stage		
	US \$ in millions	Reference exchange rate	Rs. in millions	US \$ in millions	Reference exchange rate	Rs. in millions
Sinasure Fee @	127.80	97.10	12,409.380	27.398	115.40	3,161.729
WHT on Sinasure @ 5%	-	-	-	1.235	115.40	142.519
	127.800	97.10	12,409.380	28.633	104.64	3,304.248

- 15.6. In support of its claim the petitioner has submitted Term Facility Agreement, Debit Note from China Export & Credit Insurance Corporation, Schedule of loan payments, remittance letter from State Bank of Pakistan and Payment evidence for payment.
- 15.7. The petitioner claimed upfront sinasure fee of US \$ 28.633 million (Rs 3,304.209 million) including withholding tax paid on account of sinasure fee for US\$ 1.235 million (Rs. 129.864814 million) being 0.60% of the outstanding debt service procured from Export and Import Bank of China for 10 years.
- 15.8. Based on the documentary evidence submitted, the Authority noted that the schedule of payment submitted for the overseas investment insurance policy and other documents



submitted reveals that the Petitioner has to pay the sinoure fee (@ 0.60% of the outstanding loan principle plus interest) on annual basis; therefore the same is being adopted.

- 15.9. The documentary evidence submitted reveals that the sinosure fee paid during the construction period is US\$ 23.460 million net of tax. However, the sinosure fee @ 0.6% of allowed debt for power plan and jetty worked out US\$ 23.194 million. Hence the Authority has decided to allow sinosure fee of US\$ 23.194 million (Rs. 2,452.302 million) net of tax for the construction period. The sinosure fee during operation period is being indicated as separate component in the tariff table and to be adjusted on annual basis due to interest rates fluctuations (i.e. LIBOR, interest rate notified by Export Import Bank of China). Statement for adjustment of actual Sinorsure has been provided in the order part of this decision accordingly.

16. Interest During Construction (IDC) – Power Plant

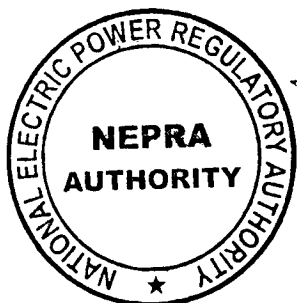
- 16.1. PQEPCPL was allowed interest during construction (hereinafter referred to as “IDC”) of US \$ 145.6 million (Rs. 14,137.76 million) on the basis of its scheduled construction period of 48 months in the tariff determination. PQEPCPL in its COD adjustment request, claimed IDC of US\$ 221.907 million (Rs. 25,608.072 million). As per tariff determination IDC has been calculated on the basis of 75% of CAPEX being the debt as per the following reference debt drawn down schedule;

1st Year	33.33%
2nd Year	33.33%
3rd Year	13.33%
4th Year	20.00%

- 16.2. The Tariff determination also referred that IDC shall not be adjusted for any variation on account of actual expenditure percentage during the construction period. The Authority while allowing the above spreads had also directed the Petitioner to negotiate better financing terms than allowed by the Authority. It was also incentivized in upfront tariff that if the Petitioner is able to arrange at better terms, the overall impact of reduction in debt servicing will be shared on yearly basis in the following ratio:

Power Purchaser: Petitioner = 60:40

- 16.3. The Authority examined the documentary evidence submitted by the Petitioner. The Authority observed that PPIB vide its letter No. 2(299)PPIB/PQEPCL/FC/15/Fin/0-45676 dated December 22, 2015 has informed CPPA (G) Limited that in accordance with the Implementation Agreement, upon fulfillment of the necessary pre-requisites, it has announced financial closing of the 1320 MW coal fired power project of PQEPCPL. The Authority further observed that PQEPCPL has submitted CPPA-G's notification of COD issued vide letter no. CPPA-G/CTO/DGMT-III/MT-VIII/PQEPC-145/9250-58 dated April 24, 2018 which confirmed that PQEPCPL has achieved COD on April 24, 2018. The Petitioner stated that it has been able to procure foreign financing from Export and Import Bank of China (Exim) at 6 months LIBOR + 3.70% premium i.e. at a lower rate than the



Authority approved benchmark i.e. LIBOR+4.5%. Based on the revised Project cost at COD, and after retaining 40% share of saving [(3 Months LIBOR + 4.5%) – (6 Months LIBOR +3.70%)] the Petitioner submitted that the amount of the IDC works out as US\$ 221.91 million.

16.4. The Petitioner stated that it did not issue notice to commence to EPC contractors but paid mobilization advance to the EPC contractors during August, September and November 2015 which exceeds 7% of EPC cost. Therefore as per the above definition construction start date of PQEPCPL works out as November 19, 2015. In support of its claim, PQEPCPL has submitted copy of financial agreement, copies of bank Statements reflecting actual drawdowns of debt along with bank debit advices evidencing the amount of interest charged by the lenders, etc.

16.5. During verification of IDC, Authority noted that upfront tariff has specified weighted average base LIBOR to be used for calculation of IDC. Moreover, IDC has to be re-established on the basis of benchmark and actual 78.44% of the indexed capital cost along with actual custom duties & taxes, Cess and sinosure fee i.e. US\$ 1,192.213 million. Accordingly Authority decided to allow IDC for power plant at the COD stage as US \$ 152.56 million (Rs. 16,130.169 million) which is consistent to the allowed construction period in upfront tariff.

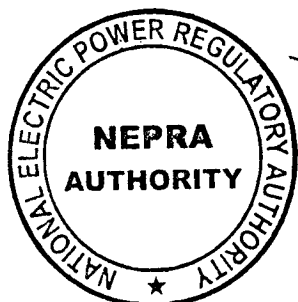
17. Interest During Construction (IDC) – Jetty

17.1. The Authority in determination dated 29 December 2016, approved Jetty costs aggregate amount of US \$ 226.12 million (EPC contract price US \$ 224.24 million + Management Consulting (Supervision) Service Contract price US\$ 1.88 million). The Petitioner submitted that the construction of Jetty started on November 11, 2015 and completed on 21-5-2017 i.e. 18 months and 10 days

17.2. The Authority considers that the Jetty cost was allowed on cost plus mode. Accordingly the Interest During Construction shall require to be adjusted on account of actual construction period of Jetty i.e. 18 months and 10 days, however the construction period has been based for 29 months till the time the whole complex was operational. The Authority further noted that the upfront tariff has specified weighted average base LIBOR to be used calculation of IDC. Moreover, IDC has to be re-established on the basis of benchmark and actual 78.44% of the indexed capital cost along with actual custom duties & taxes, Cess and sinosure fee i.e. US\$ 178.608 million. Accordingly Authority decided to allow IDC for Jetty at the COD stage as US \$ 11.18 million (Rs.1,182.061 million).

18. Financing Fees & Charges

18.1. The Authority had allowed US\$ 42 million (Rs. 4,078.20 million) as financial fee and charges in the tariff determination. Financing fee & charges had been taken @3.5% of the borrowing to cater for the upfront fee, commitment fee, lenders' technical, financial and legal consultants' fee etc.



18.2. PQEPCL claimed financing fees and charges for US\$ 54.43 million (Rs. 6,280.645 million) at COD. PQEPCL worked out financial fee and charges on borrowing of US\$ 1,555 million being 74.58% of the total claimed Capex project cost i.e. US\$ 2,085 million. In the light of revised Capex of US\$ 1,370.82 million and debt financing of 78.44%, the revised financing fees @ 3.5% has been worked out as US\$ 47.979 million and the same is allowed to the Petitioner.

19. Return on Equity

19.1. The Authority had allowed Rs. 1.1872 per kWh as return on equity (hereinafter referred to as "ROE") to PQEPCL in the determination. The Authority had also decided that ROE shall be adjusted/indexed on the basis of revised TT & OD selling rate of US Dollar as notified by the National Bank of Pakistan according to Para 3(II)(xii) of the determination and the return on equity shall be 27.2%. In case of use of mix coal the ROE will be adjusted according to the following formula:

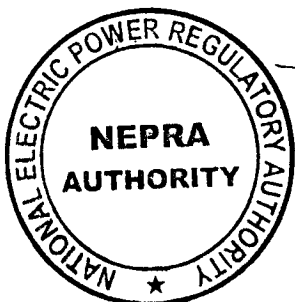
$ROE_{(Mix)}$	=	$ROE_{(L)} \times ((Q(L) \times CV(L)) / (Q(L) \times CV(L) + Q(I) \times CV(I))) +$ $ROE_{(I)} \times ((Q(I) \times CV(I)) / (Q(L) \times CV(L) + Q(I) \times CV(I)))$
Where:		
$ROE_{(Mix)}$	=	Return on Equity for mix fuel i.e. Local and Imported
$ROE_{(L)}$	=	Return on Equity component on local coal i.e. 29.5%
$ROE_{(I)}$	=	Return on Equity component on imported coal i.e. 27.2%
$Q(L)$	=	Quantity in Metric Ton of local coal consumed during the month
$CV(L)$	=	Weighted average CV of local coal consumed during the month
$Q(I)$	=	Quantity in Metric Ton of imported coal consumed during the month
$CV(I)$	=	Weighted average CV of imported coal consumed during the month

19.2. In line with the Authority prescribed decision, PQEPCL requested to allow ROE of Rs. 1.5705 per kWh at the COD stage. The Petitioner worked out the equity amount for US\$ 544.794 million. On the basis of revised equity and exchange rate of US\$/PKR of Rs.105.73 the ROE component of tariff works out to Rs. 0.8896 per kWh based on allowed equity of US\$ 427.431 million as 21.56% of the total assessed project cost which has been allowed by the Authority.

20. Cost of Working Capital.

20.1. PQEPCL claimed Rs. 0.1068/kWh for cost of working capital against determined tariff component of Rs. 0.2276/kWh. Claimed amount has been calculated on the following basis:

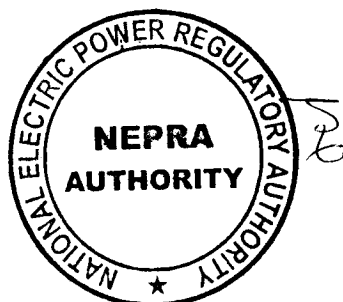
- Total Net Capacity 1242.95 MW from reference capacity of 1214 MW.
- FCC at PKR. 4.2696/kWh changed from Rs. 4.2913/kWh.



- GST 17% changed from reference rate of GST 16%.
- Weighted Average Coal Price of US\$ 129.06/ton as not changed from US\$ 129.06/ton.
- Exchange rate used reference Rs.97.10/US\$.
- 3-month KIBOR of 6.5% changed from 11.91%.

Basis of Cost of Working Capital

<u>Fuel Cost Component</u>		
Total Net Capacity	1242.95	MW
Hours per Day	24	Hours
Thermal Efficiency	39.189%	
Heat Rate	8,707	
Coal Calorific Value – LHV	25,555.98	
Coal Price per M. Ton – HHV	12,532	
Fuel Cost Component	4.2696	Rs./kWh
<u>Working Capital Requirement</u>		
Fuel Inventory		
Fuel Cost Component	4.2696	Rs./kWh
Days	90	
Load	100%	
Daily Production	29,830,800	
Coal Price for 90 days Inventory	11,462,894,765	PKR
GST	17%	
Fuel Price Incl. GST – Rs	13,411,586,875	
Coal Cost Component Receivables		
Days	30	
Load	100%	
Daily Production	29,830,800	
Fuel Cost Receivable for 30 days	3,820,964,922	
GST	17%	
Fuel Price Incl. GST – Rs	4,470,528,958	
Total Working Capital Requirement	17,882,115,833	PKR
Base Interest Rate	4.50%	
Spread	2.00%	
Total Interest Rate	6.50%	
Cost of Working Capital	1,162,337,529	
Annual Off Take @ 100%	10,888,242,000	
Working Capital Component	0.1068	Rs./kW/h

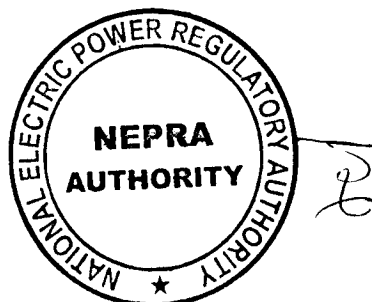


20.2. The Authority had allowed Rs. 0.2276 per kWh as cost of working capital tariff component to PQEPCPL in the determination. As per Para 3(II)(xvii) of the determination, Cost of Working Capital shall be adjusted as per relevant KIBOR variation. Basis of computation of Cost of Working Capital were set in the decision as per following.

- a) In case of imported coal the inventory will be equivalent to 90 days at 100% plant load.
 - b) Receivables equivalent to one month of fuel charges at 100% plant load.
- (1) Interest on Working Capital has been calculated on the basis of quarterly-KIBOR of 11.91% plus 200 basis point, which will be adjusted for variation in quarterly-KIBOR and weighted average cost of coal inventory.
 - (2) In case of mix usage of coal Interest on Working Capital shall be adjusted according to the following mechanism;

$IWC_{(Mix)}$	=	$IWC_{(L)} \times ((Q(L) \times CV(L)) / (Q(L) \times CV(L) + Q(I) \times CV(I))) + IWC_{(I)} \times ((Q(I) \times CV(I)) / (Q(L) \times CV(L) + Q(I) \times CV(I)))$
Where:		
$IWC_{(Mix)}$	=	Interest on Working Capital for mix fuel i.e. Local and Imported
$IWC_{(L)}$	=	Interest on Working Capital Component for Local Coal
$IWC_{(I)}$	=	Interest on Working Capital Component for Imported Coal
$Q(L)$	=	Quantity in Metric Ton of local coal consumed during the month
$CV(L)$	=	Weighted average CV of local coal consumed during the month
$Q(I)$	=	Quantity in Metric Ton of imported coal consumed during the month
$CV(I)$	=	Weighted average CV of imported coal consumed during the month

20.3. This component has been based on the 90 days fuel inventory. The Authority observed that in case of HSR's PPA, out of 90 days, 45 days are for on-site inventory at full load (refer para 5.14 (b) of PPA) and 45 days in transit. However the same has not been mentioned in the PQEPC's signed PPA. But as a prudent utility practice and matter of principal and justice, PQEPC is also required to maintain such level of inventory. As per information provided, PQEPC is not maintaining 45 days coal inventory at site. CPPA-G needs to make sure all coal power plants, including PQEPC, to maintain an on-site inventory of 45 days otherwise, the consumers shouldn't be burdened with a cost which is not even incurred by the project companies. Therefore, in this COD adjustment, PQEPC is directed to maintain 45 days inventory. CPPA-G is tasked to oversee it. In case of non-compliant the matter be referred to the Authority for adjustment of tariff components downward.



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- 20.4. The Authority further observed that the remaining days of 45 deals with Pre-FoB, transit days of working capital also need to be looked into since NEPRA have now received actual shipment data and transit days for many coal IPPs including PQEPC. The Authority has already initiated Suo moto proceeding on revision of fuel price mechanism in this regard. Since the issue of working capital is intrinsically linked with fuel procurement, therefore the component of working capital shall be readjusted for each IPP based on realistic number of days established as a result of Suo moto proceedings. Accordingly the same shall be applied in the instant case. However, keeping in view the current COD case which cannot be prolonged for the aforesaid decision, the Authority has decided to allow cost of working capital cost on same mechanism subject to the adjustment in the light of outcome of pending Suo Moto proceedings decision.
- 20.5. In view of the preceding paragraphs and in the light of the documentary evidence it is noted that as decided that at the time of COD, cost of working capital will be adjusted as per the relevant KIBOR variation. Cost of working capital has been revised on the basis of fuel cost component, total net capacity, rate of general sales tax, exchange rate and KIBOR variation. Therefore the component for cost of working capital has been worked out Rs. 0.1535/kWh against the claimed Rs. 0.1068/kWh. The Authority has decided to allow cost of working capital Rs.0.1535/kWh as per following;

Upfront Tariff - Working Capital Requirement		
Total Net Capacity	1242.9500	MW
Hours per Day	24	Hours
Thermal Efficiency	39.1890%	
Coal Calorific Value - LHV	17,942.00	
Coal Price per M. Ton - HHV	9,672.00	
Fuel Cost Component	4.6936	Rs./kWh
Fuel Inventory		
Days	90	
Load	100%	
Daily Production	29,830,800	kWh
Coal Price for 90 days Inventory	12,601,341,421	PKR
GST	17%	
Fuel Price Incl. GST - Rs	14,743,569,463	
Coal Cost Component Receivables		
Days	30	
Load	100%	
Daily Production	29,830,800	
Fuel Cost Receivable for 30 days	4,200,447,140	
GST	17%	
Fuel Price Incl. GST - Rs	4,914,523,154.30	



Total Working Capital Requirement	19,658,092,617.10	PKR
Base Interest Rate	6.50%	
Spread	2.00%	
Total Interest Rate	8.50%	
Cost of Working Capital	1,670,937,872.46	
Annual Off Take @ 100%	10,888,242,000	
Working Capital Component	0.1535	Rs./kW/h

21. Debt Servicing Component

- 21.1. PQEPCL requested to allow debt servicing component of Rs. 2.2958 per kWh comprising of debt repayment for Rs. 1.2585/kWh and Interest charges for Rs. 1.0373/kWh at the COD stage. The petitioner negotiated loan arrangement from Export Import Bank of China (Exim). The debt terms agreed on 6 month LIBOR Plus 3.5% for a loan amount of US\$ 1,598.38 million for a term of 10 years. Debt servicing to be made in 20 half yearly installment. The Petitioner submitted that there has been saving in the spread allowed and negotiated about 0.859%.
- 21.2. The Authority had assessed debt servicing component of Rs. 1.6691 per kWh in the determination. The upfront tariff had been determined on the basis of debt equity ratio of 75:25. As per the determination at Para 3 (II) (x)

Interest Rate

- The reference Karachi Inter Bank Offer Rate (KIBOR) of 11.91% plus 350 basis points has been used for calculating the financial charges.
- The reference London Inter-Bank Offer Rate (LIBOR) of 0.45% plus 450 basis points has been used for calculating the financial charges.
- The interest calculated in the reference debt service schedule shall be subjected to adjustment for variation in quarterly-KIBOR in the case of local loan and quarterly LIBOR in the case of foreign loan on quarterly basis. The adjustment shall be made on 1st July, 1st October, 1st January and 1st April based on latest available TT&OD selling rate and KIBOR notified by the National Bank of Pakistan and Reuters for the purpose of LIBOR.
- The maximum allowed premium on LIBOR and KIBOR is 4.5% and 3.5% respectively and there will be no adjustment on the basis of actual higher premium than the maximum allowed limit. In case spread negotiated is less than the said limit, the saving will be shared in the ratio of 60:40 between power purchaser and the power producer respectively.
- The repayment of loan shall be considered from the first year of commercial operation.



21.3. It was further mentioned that

1. The sponsor of the project can arrange foreign financing in American Dollar (\$), British Pound Sterling (£) Japanese Yen (¥) Chinese Yuan(¥) or in any currency as the Government of Pakistan may allow.
2. The upfront tariff has been determined on the basis of debt equity ratio of 75:25.
3. The minimum equity shall be 20% and the maximum equity shall be 30%; if the equity actually deployed is more than 30% of the cost, equity in excess of 30% shall be treated as load;-

21.4. Based on the project cost of US\$ 1,982.520 million, debt @ 78.44% of the project cost works out as US\$ 1,555.0 million. Accordingly revised debt servicing component on the basis of 3 months LIBOR of 2.362% +3.90% margin along with 40% sharing for power producer works out as Rs. 2.0432 per kWh and the same is allowed to the Petitioner.

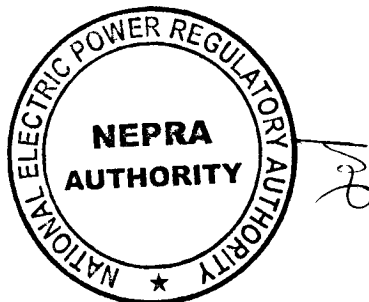
22. Insurance Cost During Operations.

22.1. The Authority allowed Rs.542.65 million for each 660 MW unit as insurance cost during operation with Rs. 0.1021 per kWh as insurance tariff component to PQEPCPL in the decision. As per decision of the Authority:

" During the term of the Agreement, insurance component of tariff will be adjusted on the basis of actual insurance cost with maximum of 1% of the 70% of Capital Cost determined under (vii) above converted into Pak Rupees on the basis of Rs.-US\$ parity prevailing on the 1st day of the start of each Agreement Year. The reference insurance premium used in the calculation of insurance component of tariff is Rs. 542.65 million."

22.2. PQEPCPL requested to allow insurance tariff component of Rs. 0.0701 per kWh at the COD stage. PQEPCPL claimed Rs. 762.87 million (0.54% of 70% of the Capital Cost) for insurance during operations for the period of one year (365 Days) i.e. March 30, 2018 to March 29, 2019. In support of its claim, PQEPCPL has provided photocopies of Insurance policies issued by EFU General Insurance Limited and bank statements of ICBC for payments.

22.3. All the documents submitted to support the claim have been verified. Keeping in view the documentary evidence the insurance cost during construction has been allowed as Rs. 0.0698/kWh.



23. Operation and Maintenance (O & M) Expenses – Power Plant

23.1. As per Section II(xviii) of the Order of the Authority dated June 26, 2014:

(1) "The following shall be the breakup of O&M expenses for the different plant size:

Plant Size	Fixed O&M	Variable O&M
660 MW	PKR 0.287/kW/hr	PKR 0.114/kWh

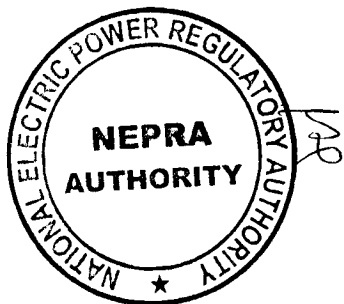
(2) 50% of the fixed O&M expenses shall be indexed with local CPI whereas 50% shall be indexed with US CPI and Exchange rate (PKR/US\$) variation.

(3) 40% of the variable O&M shall be indexed with local CPI whereas 60% shall be indexed with US CPI and exchange rate (PKR/US\$) variation.

(4) The reference WPI and US CPI will be of June 2014".

O&M component	Year 1-10		Year 11-30	
	Local	Foreign	Local	Foreign
Fixed O&M Reference (Rs/kWh)	0.1435	0.1435	0.1435	0.1435
Variable O&M Reference (Rs/kWh)	0.0456	0.0684	0.0456	0.0684
Fixed O&M Revised (Rs/kWh)	0.1618	0.1632	0.1618	0.1632
Variable O&M Revised (Rs/kWh)	0.0514	0.0778	0.0514	0.0778

Particulars	Index Number	Month
Reference Values:		
Local CPI (General)	194.74	June 2014
US CPI	238.343	June 2014
Exchange rate (PKR/US\$)	97.10	Reference Ex. Rate
Revised Values:		
Local CPI (General)	219.58	Feb, 2018
US CPI	248.991	Feb, 2018
Exchange rate (PKR/US\$)	105.73	At COD April 24, 2018



24. Jetty – O&M

- 24.1. The Authority through its decision No. NEPRA/TRF-299/PQEPCL 2015/2922-2924 dated February 23, 2018, approved the tariff for operations & maintenance of coal unloading Jetty channel for the Petitioner. The tariff components allowed by the Authority in respect of Jetty O&M is as under:

Tariff Component – Jetty O&M	Tariff Basis	Reference Tariff
Capacity Charge (Rs./kWh)	71.5%	0.0459
Fixed O&M Local	50.0%	0.0230
Fixed O&M Foreign	50.0%	0.0230
Energy Purchase Price (Rs./kWh)	28.5%	0.0021
Variable O&M Local	40.0%	0.0008
Variable O&M Foreign	60.0%	0.0013

- 24.2. The tariff components allowed by the Authority in respect of Jetty O&M, and the indexed tariff components at COD stage are given hereunder: -

Tariff Component – Jetty O&M	Tariff Basis	Reference Tariff	Revised Tariff
Capacity Charge (Rs./kWh)	71.5%	0.0459	
Fixed O&M Local	50.0%	0.0230	0.0230
Fixed O&M Foreign	50.0%	0.0230	0.0250
Energy Purchase Price (Rs./kWh)	28.5%	0.0021	
Variable O&M Local	40.0%	0.0008	0.0008
Variable O&M Foreign	60.0%	0.0013	0.0014

25. Cost of Limestone and Cost of Ash Disposal.

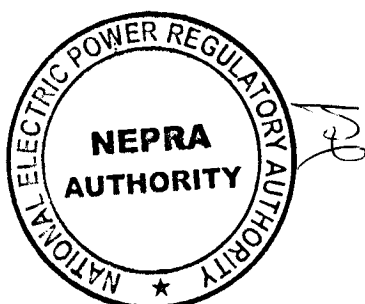
- 25.1. The following costs with respect to lime stone and ash handling have been determined by the Authority in determination dated June 26, 2014 which are shown separately in the reference tariff table;

Cost of Lime Stone

Cost of Lime Stone including Transportation	Rs.1250.00/M.Ton
Consumption	Kg.0.07/kWh
Cost of Lime Stone	Rs.0.09/kWh

Cost of Ash Disposal

Ash produced	Kg. 0.22/kWh
Ash Transportation cost	Rs.1000.00/M.Ton
Ash Disposal Cost	Rs.0.22/kWh



- 25.2. The Authority vide its decision No. NEPRA/TRF-299/PQEPCPL-2015/1839-1841 dated 13th February 2015 approved upfront tariff in favor of M/s. Port Qasim Electric Power Company (Pvt.) Limited for its 1320 MW coal power plant. Subsequently the Authority observed that an omission in the above decision wherein the following Clause could not be reflected in Para 3(II)(xviii);

"(8) The cost of lime stone and ash disposal will be adjusted on actual basis at the time of COD."

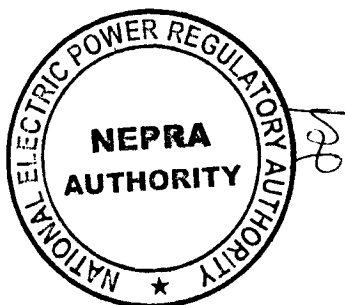
- 25.3. The Authority vide its decision No. NEPRA/TRF-308/HSRPEL-2015/17333-17335 dated Nov 7, 2018 inserted the Clause 8 after the Clause 7 in Para 3(II)(xviii), which is as under:

Order 4.

In pursuance of Section 7(2)(g) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Regulation 3 of NEPRA (Review Procedure) Regulations, 2009 the Authority has decided to insert the following Clause 8 after Clause 7 under Para 3(II)(xviii) of the decision dated 13th February 2015 for M/s Port Qasim Electric Power Company (Pvt.) Limited notified vide SRO No. 229(I)/2015 dated 16th March 2015.

"(8) The cost of lime stone and ash disposal will be adjusted on actual basis at the time of COD."

- 25.4. The Authority considered the request of the Petitioner and is of the view that Ash component of Rs. 0.22 per kWh and Limestone component of Rs. 0.09 per kWh is subject to adjustment on account of actual basis. The Authority has already issued the decision in this regard. PQEPC has not submitted actual record in support of relevant adjustments in the instant case. It is not clear whether PQEPC is even using limestone to address the Sulphur content of the coal. Since the actual number of these two components are not provided therefore these are excluded subject to adjustment based on the authenticated / verifiable data provided by the Petitioner subsequently.
- 25.5. The Authority further observed that ash is normally bought by private contractors for different purpose therefore there is a good chance that the imported coal-based IPPs are selling ash to generate revenues. For disposal of ash and procurement of limestone the Authority considers that IPPs are required to call bids to know the market price of disposal of ash and procurement of limestone. The adjustment, if any, over and above of the cost on this account shall be made based on the documentary evidence provided by the Petitioner.
- 25.6. The Authority in the matter of HSR vide its decision NEPRA/TRF-308/HSRPEL-2015/715-717 dated January 17, 2019 decided to exclude this tariff component from the tariff at COD. Consistent to the decision made for HSR, the Authority while considering the request of the PQEPCPL and Suo Moto proceeding held in November 2018 while the COD stage verification was in process, also decided to exclude this tariff component at this stage with



directions to the Petitioner to provide the information not later than (3) three months of the issuance of this decision.

26. Fuel Cost

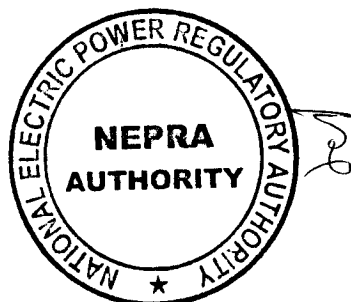
26.1. Fuel cost component Rs. 4.2913/kWh was allowed in the tariff determination. PQEPCPL requested FCC component for Rs. 4.2696/kWh at the time of COD. As the FCC is being adjusted on monthly basis therefore FCC worked out and notified by the Authority vide its order No. NEPRA/TRF-299/PQEPCPL-2015/8854-58 dated June 5, 2018 determined FCC for the month of April 2018 as Rs. 4.7164/kWh.

26.2. As per Section II(xiii) of the Order in the determination dated June 26, 2014:

- (1) "The minimum reference net LHV thermal efficiency of 39% has been established for calculating reference fuel cost component".
- (2) The fuel cost component will be subject to downward revision on the basis of actual heat rates established as a result of heat rate test conducted at the time of COD in accordance with the established benchmarks in the presence of the representatives of the power purchaser. For acceptance of the test, approval of the power purchaser will be mandatory. Upward revision in the fuel cost component will not be allowed in case the net LHV heat rates are established lower than the minimum thermal efficiency specified above and the financial impact, if any, of lower thermal efficiency over the term of the Agreement will be borne by the power producer. However the following sharing mechanism will be applicable only in case the efficiency, approved by the Authority for different capacities is established higher as a result of heat rate tests carried out at the time of COD.

Efficiency net (LHV) achieved At COD	Sharing Ratio Power Purchaser : Sponsor
39% (min)	100% : 0%
39.01% - 39.50%	70% : 30%
39.51% - 40.00%	50% : 50%
40.01% - 40.50%	30% : 70%
>40.5%	0% : 100%

26.3. As the FCC is being adjusted on monthly basis therefore FCC worked out and notified by the Authority vide its order No. NEPRA/TRF-299/PQEPCPL-2015/8854-58 dated June 5, 2018 for the month of April 2018 was Rs. 4.7164/kWh. However the same has been revised till COD date based on the reason that the thermal efficiency of the Complex established as a result of heat rate test conducted by the Independent Engineer i.e. SGS-CSTC Standards Technical Services Co. Ltd., at COD was 39.27% which falls under the slab from 39.01% -

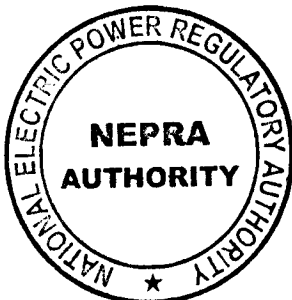


39.50% table provided above. Accordingly in line with the Authority's decision 70%:30% sharing is applicable on the excess efficiency achieved as a result of heat rate test. Accordingly the minimum revised reference net LHV thermal efficiency of 39.189% has been used for calculating the revised fuel cost component. Accordingly the FCC revised for the month of April 2018 worked Rs. 4.6936/kWh and allowed by the Authority. During the tariff control period the fuel cost shall be calculated according to the following formula on monthly basis.

$$\begin{aligned}
 FCC = & \left(\left(CP_{(RB)} + Ft_{(M)} + MI + OC \pm Premium/Discount \right) \times \frac{HR}{HV_{(RB)}} \times \frac{Q_{(RB)}}{Q_{(T)}} \right) \\
 & \times FC_{(Exch)} \\
 & + \left(\left(CP_{(NCA)} + Ft_{(M)} + MI + OC \pm Premium/Discount \right) \times \frac{HR}{HV_{(NCA)}} \right. \\
 & \times \left. \frac{Q_{(NCA)}}{Q_{(T)}} \right) \times FC_{(Exch)} \\
 & + \left(\left(CP_{(NCI)} + Ft_{(M)} + MI + OC \pm Premium/Discount \right) \times \frac{HR}{HV_{(NCI)}} \right. \\
 & \times \left. \frac{Q_{(NCI)}}{Q_{(T)}} \right) \times FC_{(Exch)} + \left(CP_{(Local)} \times \frac{HR}{HV_{(Local)}} \times \frac{Q_{(Local)}}{Q_{(T)}} \right) + Ft_{(Inland)}
 \end{aligned}$$

Where;

- CP(RB) = Actual Weighted Average Richard Bay (South Africa) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(RB) = Actual Weighted Average Heating Value of the coal imported from South Africa
- CP(NCA) = Actual Average Newcastle (Australia) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(NCA) = Actual Weighted Average Heating Value of coal imported from Australia
- CP(NCI) = Actual Average Newcastle (Indonesia) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(NCI) = Actual Weighted Average Heating Value of coal imported from Indonesia



CP(Local) Actual Coal price of local coal expressed in US\$/M.Ton calculated according to the following formula;

$$CP_{(Local)} = \left(\frac{HV_{(Local)}}{\left(\frac{Q_{(RB)}}{Q_{(T)}} \times HV_{(RB)} \right) + \left(\frac{Q_{(NCA)}}{Q_{(T)}} \times HV_{(NCA)} \right) + \left(\frac{Q_{(NCI)}}{Q_{(T)}} \times HV_{(NCI)} \right)} \right) \times \left(\left(\frac{Q_{(RB)}}{Q_{(T)}} \times CP_{(RB)} \right) + \left(\frac{Q_{(NCA)}}{Q_{(T)}} \times CP_{(NCA)} \right) + \left(\frac{Q_{(NCI)}}{Q_{(T)}} \times CP_{(NCI)} \right) \right)$$

- HV(Local) = Heating Value of Local Coal
- Ft(M) = Actual Weighted Average Contracted Marine Freight per ton from South Africa, Australia and Indonesia
- Q(RB) = Actual quantity of coal (Tons) purchased from South Africa during the month immediately preceding the invoice month
- Q(NCA) = Actual quantity of coal (Tons) purchased from Australia during the month immediately preceding the invoice month
- Q(NCI) = Actual quantity of coal (Tons) purchased from Indonesia during the month immediately preceding the invoice month
- Q(Local) = Actual Quantity of local coal purchased during the month immediately preceding the invoice month
- QT = Total quantity of coal purchased during the month immediately preceding the invoice month
- Ft(Inl) = Actual Inland Freight expressed in Rs./M.Ton
- OC = Other cost Include Bunker Fuel, Port Charges, Insurance & common Jetty facility in \$/Ton
- FC(Exch) = PKR/\$ exchange rate average for the month

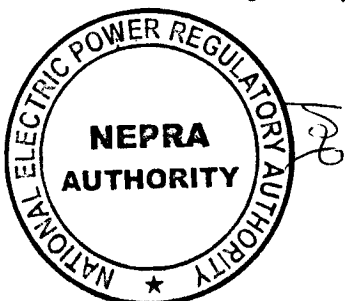
27. Plant Size

27.1. The applicable upfront tariff is for the following plant size of;

1320 MW Gross 1242.95 MW Net

27.2. As per Upfront Tariff decision of the Authority dated June 26, 2014, the actual net capacity of the complex will be determined on the basis of Initial Dependable Capacity (IDC) Test at the time of COD and the relevant tariff components will be adjusted downward. However, upward adjustment in tariff will not be allowed if the IDC established lower than the benchmarks stated above.

27.3. At the time of COD, PQEPCL submitted certificate of Initial Tested Capacity (ITC) from independent engineer i.e. SGS – CSTC Standard Technical Services Company Limited. As per the certificate the complex may dispatch up to the ITC of 1242.95 MW. The Merit



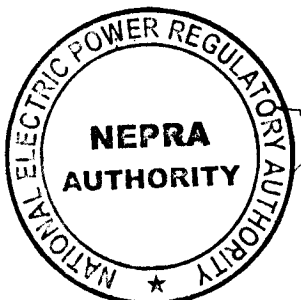
Order endorsed by CPPA vide letter No. CPPA-G/CTO/DGMT-III/MT-VIII/PQEPCL/145/9250-58 dated April 24, 2018 the net capacity of 1242.95 MW. Accordingly, the auxiliary power consumption factor which was allowed as 8% for 1320MW and above has been adjusted to 5.84% as per the initial tested capacity.

$$FCC = \left(\left((CP_{(RB)} + Ft_{(M)} + MI + OC \pm Premium/Discount) \times \frac{HR}{HV_{(RB)}} \times \frac{Q_{(RB)}}{Q_{(T)}} \right) \times FC_{(Exch)} \right. \\ + \left((CP_{(NCA)} + Ft_{(M)} + MI + OC \pm Premium/Discount) \times \frac{HR}{HV_{(NCA)}} \times \frac{Q_{(NCA)}}{Q_{(T)}} \right) \times FC_{(Exch)} \\ + \left((CP_{(NCI)} + Ft_{(M)} + MI + OC \pm Premium/Discount) \times \frac{HR}{HV_{(NCI)}} \times \frac{Q_{(NCI)}}{Q_{(T)}} \right) \times FC_{(Exch)} + \left(CP_{(Local)} \times \frac{HR}{HV_{(Local)}} \times \frac{Q_{(Local)}}{Q_{(T)}} \right) \Bigg) + Ft_{(Inland)}$$

Where;

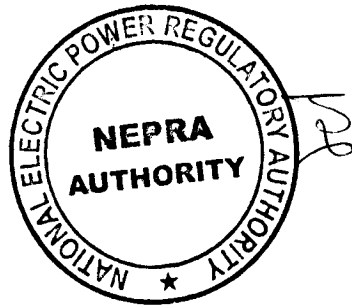
- CP(RB) = Actual Weighted Average Richard Bay (South Africa) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(RB) = Actual Weighted Average Heating Value of the coal imported from South Africa
- CP(NCA) = Actual Average Newcastle (Australia) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(NCA) = Actual Weighted Average Heating Value of coal imported from Australia
- CP(NCI) = Actual Average Newcastle (Indonesia) coal prices on the basis of Opening Inventory of coal and purchases of coal till the month immediately preceding the invoice month indicated in the Global coal
- HV(NCI) = Actual Weighted Average Heating Value of coal imported from Indonesia
- CP(Local) = Actual Coal price of local coal expressed in US\$/M.Ton calculated according to the following formula;

$$CP_{(Local)} = \left(\frac{HV_{(Local)}}{\left(\left(\frac{Q_{(RB)}}{Q_{(T)}} \times HV_{(RB)} \right) + \left(\frac{Q_{(NCA)}}{Q_{(T)}} \times HV_{(NCA)} \right) + \left(\frac{Q_{(NCI)}}{Q_{(T)}} \times HV_{(NCI)} \right) \right)} \right)$$



$$\times \left(\left(\frac{Q_{(RB)}}{Q_{(T)}} \times CP_{(RB)} \right) + \left(\frac{Q_{(NCA)}}{Q_{(T)}} \times CP_{(NCA)} \right) + \left(\frac{Q_{(NCI)}}{Q_{(T)}} \times CP_{(NCI)} \right) \right)$$

- HV(Local) = Heating Value of Local Coal
- Ft(M) = Actual Weighted Average Contracted Marine Freight per ton from South Africa, Australia and Indonesia
- Q(RB) = Actual quantity of coal (Tons) purchased from South Africa during the month immediately preceding the invoice month
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- Q(NCI) = Actual quantity of coal (Tons) purchased from Indonesia during the month immediately preceding the invoice month
- Q(Local) = Actual Quantity of local coal purchased during the month immediately preceding the invoice month
- QT = Total quantity of coal purchased during the month immediately preceding the invoice month
- Ft(Inl) = Actual Inland Freight expressed in Rs./M.Ton
- OC = Other cost Include Bunker Fuel, Port Charges, Insurance & common Jetty facility in \$/Ton
- FC(Exch) = PKR/\$ exchange rate average for the month



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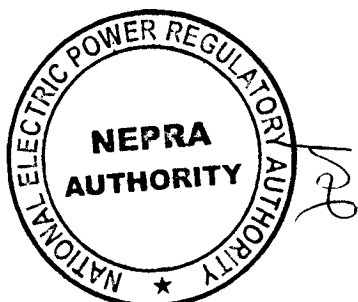
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28. Order

- 28.1. Pursuant to section 7(3)(a) of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") read with Rule 6 of the NEPRA Licensing (Generation) Rules, 2000, Port Qasim Electric Power Company (Pvt.) Ltd (the Applicant) is allowed to charge the following specified tariff for delivery of electricity to the CPPA-G for procurement on behalf of Ex-WAPDA Distribution Companies for its 2x660 MW Power Plants on imported coal for delivery of electricity:

Reference Tariff Table (COD)		
Tariff Components	Years	
Capacity Charges (PKR/kW/Hour)	1-10	11-30
Power Plant -Fixed O&M - Local	0.1618	0.1618
Power Plant -Fixed O&M - Foreign	0.1632	0.1632
Jetty- Fixed O&M - foreign	0.0250	0.0250
Jetty -Fixed O&M - Local	0.0230	0.0230
Working Capital	0.1535	0.1535
Insurance	0.0698	0.0698
Return on Equity	0.8896	0.8896
Sinosure Fee	0.0961	-
Debt Servicing	2.0432	-
Total Capacity Charges	3.6252	1.4859
Energy Charges Rs./kWh		
Fuel cost Component	4.6936	4.6936
Ash Disposal	-	-
Lime Stone	-	-
Power Plant-Variable O&M-foreign	0.0778	0.0778
Power Plant- Variable O&M - Local	0.0514	0.0514
Jetty - Variable O&M - foreign	0.0014	0.0014
Jetty -Variable O&M - Local	0.0008	0.0008
Total Energy Charges	4.8251	4.8251

- The Tariff Table and Debt Service Schedule are attached as Annex-I and Annex-II.
- The tariff control period is 30 Years.
- In case of PQEPCL power generation complex with two units of 660MW each (1320 MW), the tariff basis of 660 MW will apply with heat rate and Dependable Capacity tests will be conducted on the basis of complex as a whole and relevant tariff components will be adjusted accordingly.



I. **Basis for Determination**

The above tariff is worked out on the following basis:

i. **Plant Size**

The applicable COD tariff has been based as per the following plant size;

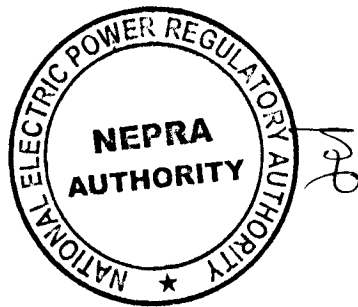
1320 MW (Gross)

1242.95 MW (Net)

- (1) The approved mechanism provided that the actual net capacity of the complex revised on the basis of Initial Dependable Capacity (IDC) Test at the time of COD and the relevant tariff components will be adjusted downward. However, upward adjustment in tariff will not be allowed if the IDC established lower than the benchmarks stated above.
- (2) At the time of COD, PQEPCL submitted certificate of Initial Tested Capacity (ITC) from independent engineer approved by CPPA i.e. SGS-CSTC Standards Technical Services Company Limited. As per the certificate the complex may dispatch up to the ITC of 1242.95 MW as per Merit Order as also endorsed by CPPA of its letter no.CPPA-G/CTO/DGMT-III/MT-VIII/PQEPC-145/9250-58 dated April 24, 2018.
- (3) Accordingly, the auxiliary power consumption factor which was allowed as 8% for 1320MW, has now been adjusted to 5.84% as per the initial tested capacity.

ii. **Exchange Rate**

Reference exchange rate of Rs. 105.730/US\$ has been used in calculating the COD reference tariff and the same shall be used for indexations/adjustments where applicable.



iii. **Summary of Project Cost**

The following project cost for 2x660MW has been approved at the time of COD upfront coal tariff in accordance with the discussion in the preceding paragraphs:

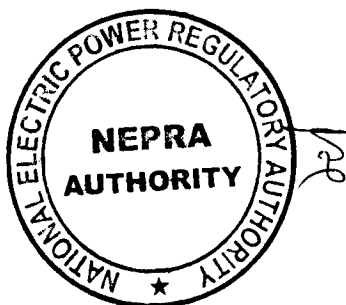
	US\$ in Million
Capital Cost Power Plant	1,459.511
Custom Duties & Taxes-Plant	60.394
EPC Cost Jetty	226.100
Custom Duties & Taxes-Jetty	1.600
Sub-Total	1,747.605
Financial Charges	
Financing Fees & Charges	47.979
Sino sure Fee	23.194
IDC – Power Plant	152.560
IDC - Jetty	11.180
Sub-Total	234.913
Grand Total	1,982.518

II. **Insurance Cost During Operation**

During the term of the Agreement, insurance component of tariff will be adjusted on the basis of actual insurance cost with maximum of 1% of the 70% of Capital Cost determined converted into Pak Rupees on the basis of Rs.-US\$ parity prevailing on the 1st day of the start of each Agreement Year"

III. **Annual Adjustment of Sinosure Fee component**

During the term of the loan agreement, sinosure fee component of tariff will be adjusted on the basis of actual annual sinosure fee with a maximum rate of 0.6%/ per annum based on annual outstanding principal debt amount along with annual interest payable. Sinosure component will further be adjusted for exchange rate variation for Rs.-US\$ parity prevailing at the date of payment and based on documentary evidence.





IV. Tariff Structure

The tariff for coal based generation technologies shall be two-part consisting of the following:

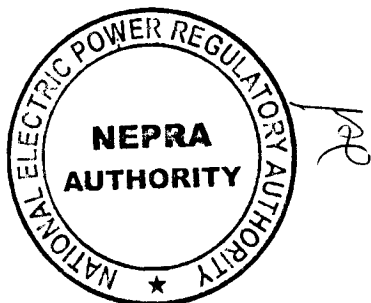
- A. Energy Purchase Price**
 - (a) Fuel Cost Component;
 - (b) Variable O&M Local- Plant
 - (c) Variable O&M Foreign-Plant
 - (d) Variable O&M Local – Jetty
 - (e) Variable O&M Foreign - Jetty
 - (f) Cost of Lime Stone; (subject to provision of pending information)
 - (g) Cost of Ash Disposal (subject to provision of pending information)
- B. Capacity Purchase Price**
 - (a) Fixed O&M (Local)-Plant
 - (b) Fixed O&M (Foreign)-Plant
 - (c) Fixed O&M (Local)-Jetty
 - (d) Fixed O&M (Foreign)-Jetty
 - (e) Sinosure Fee
 - (f) Insurance Cost
 - (g) Cost of Working Capital;
 - (h) Return on equity; and
 - (i) Debt Service (Principal Repayment and Interest Charges);

V. Dispatch Criteria:

- (1) The sole criterion for dispatch of all the coal based power plants shall be the “merit order dispatch”.
- (2) The coal based generation facility shall be subjected to scheduling and dispatch code as specified under NEPRA Grid Code.

VI. Plant Availability

The guaranteed availability of the plants will be 85%.



2

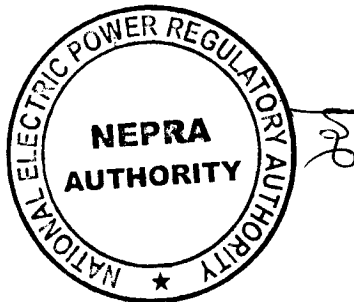
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VII. Authority's Direction – Working Capital

- i. Petitioner to strictly adhere to the requirements for the imported coal inventory level to be maintained as per the working capital component allowed in this tariff.
- ii. The Petitioner should ensure that reliable supply chain mechanism exists for fuel for the power generation complex (1320 MW) to ensure consistent power supply to national grid and required inventory level exists.
- iii. To avoid any adverse impact, CPPA (G) Limited to strictly ensure compliance to legal covenants, particularly Article IX and section 5.14 of PPA dated April 18, 2015, as mutually agreed by CPPA and Petitioner.

VIII. General Conditions

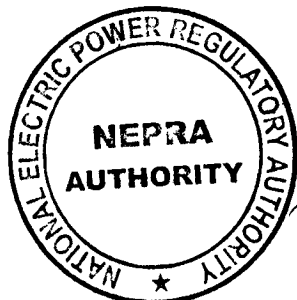
- (1) In case of use of mix coal the ROE will be adjusted according to the formula provided in the approval granted by the Authority dated 13-2-2015.
- (2) In case of discovery of any further evidence or misinformation or concealment of any fact, NEPRA reserves the right to amend, modify and rescind its determination accordingly.
- (3) During life of the project operations, Quarterly adjustments/indexations for local inflation, foreign inflation, exchange rate variations and interest rate variations will be made on 1st July, 1st October, 1st January and 1st April each year based on latest available date with respect to CPI notified by the Federal Board of Statistics (FBS), USCPI issued by US Bureau of Labor Statistics and revised TT&OD selling rate of foreign currencies (US Dollar, British Pound Sterling, Euro, Japanese Yen and Chinese Yuan or any other currency as the Government of Pakistan may allow) notified by the National Bank of Pakistan. The method of indexations will be as follow:



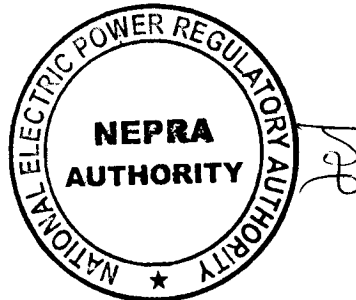
Tariff Components	Tariff Indexation & Adjustment
Fuel Cost component	Delivered Fuel Price (inclusive of transportation) at the Power Plant
Variable O&M (Foreign)-Plant	US\$ to Pak Rupees & US CPI
Variable O&M (Local- Plant	Pakistan CPI
Fixed O&M (Foreign) - Plant	US\$ to Pak Rupees & US CPI
Fixed O&M (Local- Plant	Pakistan CPI
Variable O&M (Foreign)-Jetty	US\$ to Pak Rupees
Fixed O&M (Foreign) - Jetty	US\$ to Pak Rupees
Cost of Working Capital	Adjustments for relevant KIBOR variations
Return on Equity	US\$ to Pak Rupees
Principal Repayment (Foreign Currency	US\$/Euro/Yen/Pound to Pak Rupees (based on borrowing by the Company)
Sinosure Fee	US\$ to Pak Rupees along with relevant LIBOR Variation
Interest//Mark-up Payments (Foreign Currency Loan)	<ul style="list-style-type: none"> Adjustments for relevant LIBOR or other applicable Interest Rate benchmark Adjustment for variation in Rs./Foreign Currency (US\$/Euro/Yen/Pound) rates as applicable
Interest/Mark-up Payments (Local Currency Loan)	Adjustments for relevant KIBOR variations

IX. Definitions and Interpretations

- "Auxiliary energy consumption" means the quantum of energy consumed by auxiliary equipment of the generating facility, and transformer losses within the generating facility, expressed in Megawatts as well as in percentage of the sum of gross output at the generator terminals of all the units of the generating plant;
- "Capital cost" means the cost of all capital work including plant and machinery, civil work, erection and commissioning and evacuation infrastructure up to interconnection point;
- "Control Period" means the period required to achieve the financial close and complete the construction of generation facility. The Control Period shall be of six years starting from the date of unconditional opting of the upfront tariff.
- "Design Coal" means the ideal type of coal or fuel that is selected to be used during performance testing of steam generators in power plant engineering;




- (e) "Grace Period" means a period equivalent to the construction period of the coal project.
- (f) "Installed capacity" means the summation of the name plate capacities of all the units of the generating facility or the capacity of the generating facility (reckoned at the generator terminals), approved by the Authority from time to time as indicated in the generation license;
- (g) "Inter-connection Point" shall mean interface point of energy generating facility with the transmission system or distribution system, as the case may be;
- (h) "Operation and maintenance expenses" or 'O&M expenses' means the expenditure incurred on operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, repairs, spares, consumables and overheads;
- (i) "Project" means a generating facility or the evacuation system up to interconnection point;
- (j) "Tariff period" means the period for which the upfront tariff has been determined by the Authority on the basis of reference parameters which in the instant case is 30 years. The tariff period shall commence from the date of commercial operation.
- (k) 'Useful Life' in relation to a unit of a generating facility including evacuation system shall mean the period during which the generating facility including evacuation system is expected to be usable for the purpose of generating electricity from the date of commercial operation (COD) of such generation facility, namely coal based power project is 30 years;
- (l) "Year" means a period of 12 months.




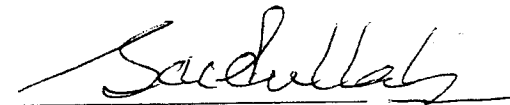


The above order of the Authority along with Annex-I&II shall be notified in the official gazette in accordance with Section 31(7) of the NEPRA Act.

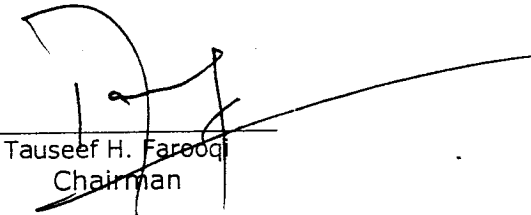
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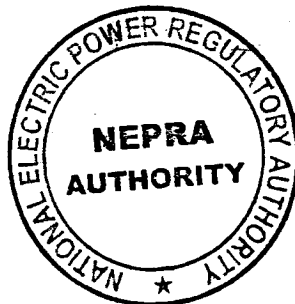

27/9/19
(Rafique Ahmed Shaikh)
Member

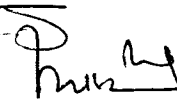

27/9/19
(Rehmatullah Baloch)
Member


(Saif Ullah Chattha)
Member

Engr. Bahadur Shah
Vice Chairman


Tauseef H. Fareed
Chairman




27 09 19

Upfront Tariff for Imported Coal based Power Projects for upto 660 MW on Foreign Financing at COD																						Annex - I		
Year	Energy Purchase Price (Rs/kWh)								Capacity Purchase Price (PKR/kWh/Year)											Capacity Charge@ 65%	Total Tariff Rs./kWh	Total Tariff Cents/kWh		
	Fuel Component	Ash Disposal	Lime Stone	Var. O&M Foreign	O&M Local	Var. O&M - Jetty Foreign	O&M Local	Total EPP	Fixed O&M Local	Fixed O&M Foreign	Fixed O&M - Jetty Local	Fixed O&M - Jetty Foreign	Cost of W/C	Insurance	Sinosure	ROE	Debt Repayment	Interest Charges	Total CPP					
1	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8251	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0961	0.8896	1.1237	0.9195	3.6253	4.2650	9.0901	8.5972		
2	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0889	0.8896	1.1958	0.8474	3.6181	4.2566	9.0794	8.5871		
3	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0813	0.8896	1.2724	0.7708	3.6104	4.2476	9.0704	8.5786		
4	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0732	0.8896	1.3540	0.6892	3.6023	4.2380	9.0609	8.5696		
5	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0645	0.8896	1.4408	0.6024	3.5937	4.2279	9.0507	8.5599		
6	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0553	0.8896	1.5331	0.5101	3.5845	4.2170	9.0399	8.5497		
7	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0456	0.8896	1.6314	0.4118	3.5747	4.2055	9.0284	8.5388		
8	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0351	0.8896	1.7360	0.3072	3.5643	4.1933	9.0161	8.5272		
9	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0241	0.8896	1.8473	0.1959	3.5532	4.1802	9.0031	8.5149		
10	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0123	0.8896	1.9657	0.0775	3.5414	4.1664	8.9892	8.5018		
11	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
12	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
13	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
14	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
15	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
16	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
17	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
18	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
19	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
20	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
21	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
22	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
23	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
24	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
25	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
26	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
27	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
28	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
29	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
30	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
Average																								
1-10	4.6936			0.0778	0.0514	0.0014	0.0008	4.8231	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0576	0.8896	1.5100	0.5332	3.5868	4.2197	9.0428	8.5525		
11-30	4.6936			0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0000	0.8896	0.0000	0.0000	1.4859	1.7481	6.5710	6.2147		
1-30	4.6936			0.0778	0.0514	0.0014	0.0008	4.8229	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0192	0.8896	0.5033	0.1777	2.1862	2.5720	7.3949	6.9940		
Levelized																								
1-30	4.6936	0.0000	0.0000	0.0778	0.0514	0.0014	0.0008	4.8231	0.1618	0.1632	0.0230	0.0250	0.1535	0.0698	0.0422	0.8896	0.9376	0.3942	2.8599	3.3646	8.1877	7.7437		
Levelized Tariff =																								
										8.1877 Rs/kWh					7.7437 US Cents/kWh									



Upfront Tariff - Debt Servicing on Foreign Financing at COD

Gross Capacity	1320.00	MW	US\$/PKR Parity	105.73
Net Capacity	1242.95	MW	Equity	21.56%
3 Months	2.362%	3.90%	Debt	78.44%
		6.262%	Debt in Pak Rupees	1,555.00 US\$ Million
				164,415.10 PKR Million

Interest Rate after 40% Sponsor Sharing									
Period	Principal Million \$	Principal Repayment Million \$	Interest Million \$	Balance Million \$	Debt Service Million \$	Principal Repayment Rs./kW/h	Interest Rs./kW/h	Debt Servicing Rs./kW/h	Sinosure Rs./kW/h
1	1,555.00	28.26	24.34	1,526.74	52.60				
2	1,526.74	28.70	23.90	1,498.04	52.60				
3	1,498.04	29.15	23.45	1,468.88	52.60				
4	1,468.88	29.61	22.99	1,439.28	52.60	1.1237	0.9195	2.0432	0.0961
1st Year		115.72	94.69		210.41				
5	1,439.28	30.07	22.53	1,409.21	52.60				
6	1,409.21	30.54	22.06	1,378.66	52.60				
7	1,378.66	31.02	21.58	1,347.64	52.60				
8	1,347.64	31.51	21.10	1,316.14	52.60	1.1958	0.8474	2.0432	0.0889
2nd Year		123.14	87.27		210.41				
9	1,316.14	32.00	20.60	1,284.14	52.60				
10	1,284.14	32.50	20.10	1,251.64	52.60				
11	1,251.64	33.01	19.59	1,218.63	52.60				
12	1,218.63	33.53	19.08	1,185.11	52.60	1.2724	0.7708	2.0432	0.0813
3rd Year		131.03	79.38		210.41				
13	1,185.11	34.05	18.55	1,151.06	52.60				
14	1,151.06	34.58	18.02	1,116.47	52.60				
15	1,116.47	35.12	17.48	1,081.35	52.60				
16	1,081.35	35.67	16.93	1,045.67	52.60	1.3540	0.6892	2.0432	0.0732
4th Year		139.43	70.98		210.41				
17	1,045.67	36.23	16.37	1,009.44	52.60				
18	1,009.44	36.80	15.80	972.64	52.60				
19	972.64	37.38	15.23	935.27	52.60				
20	935.27	37.96	14.64	897.31	52.60	1.4408	0.6024	2.0432	0.0645
5th Year		148.37	62.04		210.41				
21	897.31	38.56	14.05	858.75	52.60				
22	858.75	39.16	13.44	819.59	52.60				
23	819.59	39.77	12.83	779.82	52.60				
24	779.82	40.39	12.21	739.42	52.60	1.5331	0.5101	2.0432	0.0553
6th Year		157.88	52.53		210.41				
25	739.42	41.03	11.58	698.40	52.60				
26	698.40	41.67	10.93	656.73	52.60				
27	656.73	42.32	10.28	614.41	52.60				
28	614.41	42.98	9.62	571.42	52.60	1.6314	0.4118	2.0432	0.0456
7th Year		168.00	42.41		210.41				
29	571.42	43.66	8.95	527.77	52.60				
30	527.77	44.34	8.26	483.43	52.60				
31	483.43	45.03	7.57	438.39	52.60				
32	438.39	45.74	6.86	392.65	52.60	1.7360	0.3072	2.0432	0.0351
8th Year		178.77	31.64		210.41				
33	392.65	46.46	6.15	346.20	52.60				
34	346.20	47.18	5.42	299.02	52.60				
35	299.02	47.92	4.68	251.10	52.60				
36	251.10	48.67	3.93	202.42	52.60	1.8473	0.1959	2.0432	0.0241
9th Year		190.23	20.18		210.41				
37	202.42	49.43	3.17	152.99	52.60				
38	152.99	50.21	2.39	102.78	52.60				
39	102.78	50.99	1.61	51.79	52.60				
40	51.79	51.79	0.81	(0.00)	52.60	1.9557	0.0775	2.0432	0.0123
10th Year		202.42	7.98		210.41				

