CMEC POWER (PRIVATE) LIMITED

TARIFF REVIEW PETITION

FOR

1X330MW LOCAL COAL FIRED POWER PROJECT
IN
PIND DADAN KHAN, SALT RANGE, PUNJAB

CMEC POWER (PRIVATE) LIMITED
西麦克電力有限公司
House No. 3, Street No. 25, F-7/2, Islamabad. Phone: +92 51 2609710; Fax: +92 51 2609709

Reference: No. CPPL-0010

Date: 16th July, 2015

The Registrar
National Electric Power Regulatory Authority
NEPRA Tower/ Attaturk Avenue (East)
Sector G-5/1
Islamabad

Subject: Motion for Leave for Review, under Rule 16 (6) of the NEPRA (Standards & Procedures) Rules, 1998, read with Regulation 3 of NEPRA Review (Procedure) Regulations, 2009, in Case No NEPRA/TRF-296/CMECPPL-2015 Decision Issued, dated July 10, 2015, Determination of the Authority in the matter of Tariff Petition filed by for the Generation Tariff for 330MW Local Coal Fired Power Project in Pind Dadan Khan, Salt Range, Punjab

Dear Sir,

Pursuant to Rule 16 (6) of the NEPRA (Tariff Standards and Procedures) Rules, 1998, we hereby submit this Motion for Leave for Review with respect to Authority's decision date July 10, 2015 in Case No NEPRA/TRF-296/CMECPPL-2015 of CMEC Power (Private) Limited (CMECPPL), for Determination of its Generation Tariff for 330MW Local Coal Fired Power Project in Pind Dadan Khan, Salt Range, Punjab.

We request the Authority to grant this Leave for Review and accept the same in terms of aforesaid submissions within the earliest possible time. CMECPPL will be pleased to provide assistance to the Authority in delivering an informed decision on CMECPPL's review petition.

The Petitioner further requests that it may submit any additional information/arguments required to substantiate its Leave for Review.

(Su Guang Lei)
Director
CMEC Power (Private) Limited

CMEC POWER (PRIVATE) LIMITED
西麦克電力有限公司
House No. 3, Street No. 25, F-7/2, Islamabad. Phone: +92 51 2609710; Fax: +92 51 2609709

RESOLUTION OF THE BOARD OF DIRECTORS
OF
CMEC POWER (PRIVATE) LIMITED

RESOLVED THAT Mr. Su Guanglei, director of CMEC Power (Private) Limited (CMECPPL) is duly authorized to represent CMECPPL for filing of Leave for Review pursuant to Rule 16(6) of the NEPRA (Tariff Standards and Procedures) Rules, 1998, with respect to the Authority's Decision dated 10th July, 2015 for Case No. NEPRA/TRF-296/CMECPPL-2015 of CMECPPL, for Determination of its Generation Tariff.

The above resolution has been validly recorded on the Minutes Book of the Company.

GUANGLEI SU

肖志伯

ZHIBO XIAO

CMEC POWER (PRIVATE) LIMITED

CMEC Power (Private) Limited

Date: 16th July 2015

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GUANGLEI SU

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CMEC Power (Private) Limited

Date: 16th July 2015

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Rupees 50 ۵۰

AFFIVAVIT

Mr. Su Guanglei, Chinese National having passport # **G52573342**, director of CMECPower (Private) Limited, a company incorporated in Pakistan under the Companies Ordinance, 1984 (XLVII of 1984), with Generation Licensee # IGSPL/59/2015, being the duly authorized representative of CMECPPL, hereby solemnly affirm and declare that the contents of the accompanying Leave for Review vide letter No. CPPL-0010, dated 16th July, 2015, including all the supporting documents, are true and correct to the best of my knowledge and belief, and that nothing has been concealed.

I also affirm that all further documentation and information to be provided by me in connection with the accompanying Leave for Review shall be true and correct to the best of my knowledge and belief.

DEPONENT

Su Guanglei
Director
CMEC Power (Private) Limited

Verified on oath this 16th Day of July 2015 that the contents hereof are true and correct to the best of my knowledge and belief and nothing has been concealed.

ATTESTED
NUSRAT MASOOD QURESHI
NOTARY PUBLIC
ISLAMABAD
Advocate High Court

14 JUL 2015

DEPONENT

Su Guanglei
Director
CMEC Power (Private) Limited

257667

Rupees 50

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PETITION FOR TARIFF DETERMINATION

ON BEHALF OF

CMEC POWER (PRIVATE) LIMITED

IN RESPECT OF

A LOCAL COAL FIRED POWER PROJECT OF 1X330MW (Gross) IN PIND DADAN KHAN, SALT RANGE, PUNJAB

DATED: JULY 16, 2015

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1. DETAILS OF THE PETITIONER

1.1 Name and Address

CMEC Power (Private) Limited
House No. 8, Street No. 41, F-7/1, Islamabad.

1.2 Authorized Representative

Su Guanglei
Director

1.3 Generation License

Generation License No.: IGSPL/59/2015
Dated: June 10, 2015

2. INTRODUCTION & BACKGROUND

2.1 CMEC Power (Private) Limited (hereinafter referred to as "the Petitioner" or alternatively "CMECPPL") through its sponsor, China Machinery Engineering Corporation ("CMEC"), filed tariff petition pursuant to Rule 3 of the NEPRA (Tariff Standards and Procedure) Rules, 1998 (the "Tariff Rules") for 1x330 MW local coal project to be located in Pind Dadan Khan, Salt Range, Punjab on January 22, 2015.

2.2 The Petitioner received the learned Authority's Decision issued on July 10, 2015, on the filed tariff petition.

2.3 To the great disappointment of the Petitioner, the Petitioner respectfully believes that the Authority, in its aforesaid tariff determination, has not given full consideration or equal treatment to the Petitioner's requests for reasonable recovery of costs and return on investment. In this scenario and hefty unprecedented deductions, the project is no more financially viable and cannot continue its course. Accordingly, the Petitioner is submitting this Motion for Leave to review its claims, pursuant to Rule 16(6) of the NEPRA Tariff (Standards & Procedures) Rules 1998.

3. GROUNDS FOR APPEAL

3.1 Recovery of All Prudently Incurred Costs

3.1.1 The Petitioner is of the view that NEPRA Rule 17(3)(i) of NEPRA Tariff (Standards &Procedures) Rules 1998, quoted below, allows the recovery of prudently costs incurred or to be incurred.

"*Tariffs shall be determined, modified or revised on the basis of and in accordance with the following standards, namely, tariffs should allow licensees the recovery of any and all costs prudently incurred to meet the demonstrated needs of their customers, provided that, assessments of licensees, prudence may not be required where tariffs are set on other than 'cost of service' basis, such as formula based tariffs that are designed to be in place for more than one years.*"

3.1.2 The Petitioner respectfully believes that the determination of the learned Authority fails to follow the above rule, by disallowing reasonably claimed costs and by hefty unprecedented deductions.

3.2 Unequal Treatment to the Petitioner

3.2.1 The Petitioner feels that the interpretation and determination of the Authority, in disallowing the reasonably claimed costs and similar IRR to the Petitioner, is not fair, and that, in comparison to other IPP cases of similar nature, the Authority has shown unequal treatment.

3.2.2 One of such case is Thar Coal Upfront Tariff, which the Authority used in its tariff determination as benchmark against the Petitioner. Thar coal projects were allowed higher Capex of US$ 408.24 million while the Petitioner was only allowed US$ 395.15 million for the same capacity, same efficiency level (37%) and lower auxiliary consumption (Thar coal auxiliary 9% Vs. Salt Range auxiliary of 8%). The Petitioner is of the view that by allowing an incremental project cost of US$ 0.1 million per MW to European boiler regardless of its place of manufacture, the Authority has shown discrimination both to the Petitioner by highlighting Thar coal projects' challenges but neglecting the Petitioner's technical challenges, and to other leading boiler brands from other countries as European boiler is not the only leading boiler in the world.

3.2.3 In addition, Thar Coal projects were allowed Equity IRR of 20%, while the Petitioner was only allowed Equity IRR of 18%, despite the fact that Salt Range coal project has no less risks or strategic importance. In addition, Thar Coal projects have been given many other incentives such as 1) zero percent customs duties on import of coal mining equipment and machinery including vehicles for site use, 2) exemption on withholding tax to shareholders on dividend for initial 30 years, 3) exemption on withholding tax on procurement of goods and services during project construction and operations, 4) exemption for 30 years on other levies including special excise duty, federal excise duty, WPPF and WWF. In light of these, the Petitioner believes that it's fair and reasonable to request 20% Equity IRR for this project.

3.3 Deviation from Policies and Lack of Consistency in the Authority's Determination on Withholding Tax and ROEDC

3.3.1 In Rule 1.4 of Guidelines for Determination of Tariff for Independent Power Producers (IPPs) November 2005, it is stipulated,

"It is proposed that following principles be adopted:

a) Tariff should be determined allowing reasonable Internal Rate of Returns (IRR) on equity investment.

b) IRR be calculated over the life of the implementation agreement starting from the date of construction start ("i.e., start of payments to contractors").

....."

3.3.2 In Rule 1.7 of Guidelines for Determination of Tariff for Independent Power Producers (IPPs) November 2005, it is stipulated,

"It is proposed that the application of withholding tax or mechanism for its collection should not be a subject of any review or alteration by NEPRA. NEPRA should allow the IRR as per 1.4 above. Tax on dividend should allow be treated as normal tax for the purposed of determination of tariff."

3.3.3 In the *Decision of the Authority regarding Reconsideration Request filed by Government of Pakistan in the matter of Upfront Tariff for Coal Power Projects* dated June 26, 2014, the Government of Pakistan (GoP) also pointed out that, the Authority has allowed withholding tax @ 7.5 % on dividends in all cases, in addition to Return on Equity during Construction (ROEDC) period for Twelve (12) IPP projects that have been commissioned under Power Policy 2002. The full comments of GoP were quoted as follows,

"GoP in its review has stated that Twelve (12) IPP projects have been commissioned under Power Policy 2002. NEPRA while determining their tariffs allowed withholding tax @ 7.5 % on dividends in all cases, in addition to Return on Equity during Construction (ROEDC) period. GoP pointed out that these two items are missing in Upfront Tariff. Given that these coal plants have construction time of 36 to 48 months, non-provision of ROEDC reduces the equity returns and makes the coal projects less attractive for investors while in reality, these projects should been couraged in order to reduce the overall pool price for power generation."

3.3.4 The Petitioner observes that since there been no changes to the relevant policies or regulations, the determination of the Authority shows deviation from the policies and lack of consistency in its determinations, by disallowing withholding tax @ 7.5 % on dividends, in addition to Return on Equity during Construction (ROEDC) period.

3.3.5 In addition, the real Equity IRR will be much less than the nominal value allowed by NEPRA, if withholding tax on dividends and ROEDC are not allowed in the tariff determination.

3.4 Absence of Saving Sharing Mechanism in the Authority's Determination

3.4.1 In previous determinations of Upfront Tariff by the Authority, the Authority has allowed saving sharing mechanism for higher efficiency.

3.4.2 The Petitioner has noticed that the above saving sharing mechanism was missing in the tariff determination by the Authority.

3.5 Unjustified Assumption of Coal Price

3.5.1 The Petitioner respectfully points out that although the Authority has allowed the actual coal price to be determined by independent coal pricing cell under the Government of Punjab, the Authority's assumption of and expectation on coal price in the generation tariff determination is unjustified.

3.5.2 The Petitioner observes that the Authority relied on the levelized coal price of US$ 60.326/t approved for 3.8 million ton per annum (mtpa) capacity of Thar Coal in assuming the levelized coal price of Salt Range. The Authority had assumed Thar coal price of $5.48/Mmbtu with Salt Range CV of 15.86 Mmbtu per ton (LHV), and worked out US$ 86.95/ton for the coal price of CMECPPL. The same was assumed as levelized cost for calculating fuel cost component.

3.5.3 The Petitioner is of the view that it is unjustified to assume the coal price of Salt Range based on Thar Coal, as the per MBtu coal price of Salt Range will definitely be higher than that of Thar Coal, due to the following features of Salt Range, i.e., 1) underground mining, 2) thin to super thin coal seam mining costs, 3) much smaller production scales (estimated 150,000 tons/year to 510,000 tons/year), 4) additional beneficiation cost and transportation cost required.

It could be seen clearly in the recently approved Thar Coal price determination that, the approved coal price of US$ 60.326/t for 3.8 million ton per annum (mtpa) capacity is 43.5% higher than that of US$ 42.03/t approved for 6.5 mtpa mining capacity. The Petitioner had assumed US$ 111.86/t or US$ 7.05/Mmbtu (LHV) for the coal price of its estimated 150,000 ton/annum to 510,000 ton/annum mining capacity. This works out to be only 28.7% higher than the approved coal price of Thar 3.8 mtpa mining capacity, showing the requested Salt Range coal price is already in the lower end from the perspective of production scale alone.

In addition, the Authority did not include the transportation or beneficiation cost required for Salt Range in the assumed price of US$ 86.95/t (assuming the per Mmbtu price of Thar coal). Since the

Petitioner has assumed an average of 50km transportation distance from the coal mines to the power plant, the transportation costs will work out to be US$ 13.5, assuming the transportation cost of US$ 0.27/t/km approved for Thar coal. This plus the assumed levelized beneficiation cost of US$ 11/t required for Salt Range coal, will work out to be US$ 111.45/t.

From the above analysis, it is clear that in light of the approved coal price for Thar Coal, and the much smaller production scale and additional transportation & beneficiation costs required for Salt Range coal, the Petitioner's assumed coal price US$ 111.86/t in its tariff petition is reasonable and justified.

3.5.4 The Petitioner is also of the view that it is unjustified for the Authority to expect that during the future coal tariff determination by the Coal Pricing Cell, CMECPPL's estimated coal prices will be brought down to a reasonable level comparable to regional coal of same quality already traded in the market. Due to the intensive capital investment in semi-mechanized and mechanized mining and the smaller production scale, CMECPPL's estimated coal cost will definitely be higher than manual mining. In addition, CMECPPL should be granted premiums for additional beneficiation costs and transportation costs from coal mines to the power plant.

3.5.5 The Petitioner respectively requests the Authority to maintain the US$ 111.86/t as the assumed coal price in its determination, and the same shall be assumed as levelized cost for calculating fuel cost component. Unreasonably lower assumed coal price will be misleading and may affect the independency of the subsequent coal pricing determination.

3.6 Deviation from the Stipulations of the Power Policies in the Authority's Determination regarding the Tariff Structure

3.6.1 Under Section 6.2 (54) in Policy for Power Generation Projects Year 2002 (hereinafter "Power Policy 2002"), it is stipulated as follows,

> *"For Projects requiring substantial investment in dedicated production and/or transportation facilities for indigenous fuel, expenses would be accounted for in the power tariff in the form of capacity and energy charges".*

3.6.2 The Petitioner is of the view that since this project requires substantial investment in dedicated production for indigenous fuel, the above stipulation shall be applicable to this project, i.e., the Fuel Component in the power tariff shall be split into the capacity and energy charges. By including Fuel Component completely under the energy charges, the learned Authority showed deviation from the stipulations of the Power Policies.

3.7 Clarification on Interconnection and Plant Availability

3.7.1 The Petitioner observes that in the determination by the Authority, it was stated:

"106. The generation plant shall be connected at 132/220kV and/or 500kV connection point.

107. The guaranteed availability of the plants shall be 85%."

3.7.2 The Petitioner clarifies that in its Tariff Petition dated 22 January 2015, its application regarding interconnection and plant availability was as follows,

"Power Purchaser shall be exclusively responsible for the financing, construction, operation and maintenance of the Interconnection and Transmission Facilities from the first gantry of the 132kV outgoing line within the power complex to the grid."

which is in line with the System Study Report furnished by National Transmission & Despatch Company (NTDC).

Annual availability of Power Plant: 85%. This is the 5-year average value. Allowances shall be granted in the PPA for first year after COD and major maintenance year during operation."

which is in line with the Authority's previous tariff determinations.

3.8 The Disallowance of Reasonable Costs will Impede the Interests of Quality EPC Contractor, Achievement of Financial Close and Execution and Performance of the Project

The Petitioner would like to submit that disallowance of the reasonable costs and unbiased Equity IRR has resulted in a less viable tariff, which is much lower than similar project such as Thar Coal project (after deduction of Fuel Component, which is basically a pass-through item). This will make it difficult for the project to get quality EPC contractor, achieve Financial Close or meet its obligations during construction and operation. As the Authority only approved a total CAPEX of US$ 395.15 million (which includes non-EPC cost), the EPC cost without custom duties allowed is only about US$ 368.87 million or US$ 1.118 million per MW. This will make it difficult to attract EPC contractor to this country. Similarly, it will be hard to attract Operation & Maintenance contractor.

Based on the above, the Petitioner requests the Authority under Rule 16 of the NEPRA Tariff (Standards & Procedures) Rules 1998 to reconsider its decision for tariff Determination, enabling the Petitioner to make the project bankable and viable, as allowed under the NEPRA Tariff (Standards & Procedures) Rules 1998.

4. DETAILED APPEAL AND SUPPORT

4.1. SUMMARY OF PROJECT COSTS

Project Cost Heads	Cost Requested Million US$	Cost Determined Million US$	Cost Disallowed Million US$
Capital Expenditure			
EPC Cost	450.09		
Non-EPC Costs			
- Land Acquisition	3.78		
-Project Dvpt. Cost Prior to Financial Close	6.00		
-Sponsor's Costs during Construction	8.00		
- Start-up Expenses & Utilities Costs	8.50		
CAPEX/ without Duties & Taxes	**476.37**	**395.15**	**81.22**
- Customs Duties	11.25	15.69	-3.44
CAPEX with Duties & Taxes	**487.62**	**410.84**	**76.78**
Financial Charges	**101.36**	**79**	**22.36**
Financing Fees & Charges	18.56	12.86	5.7
Interest During Construction	44.03	33.38	10.65
Sinosure	38.77	32.76	6.01
Total Capital Cost of the Project	**588.98**	**489.85**	**99.13**

Capital Cost including EPC Cost & Non-EPC Cost

4.1.1 The Petitioner has applied for total capital cost (without taxies and duties) of US$ 476.37 Million, including estimated EPC Cost of US$ 450.09 Million and non-EPC cost of US$ 26.28 Million.

4.1.2 The Petitioner observed that in the determination, the Authority made no objections to the Non-EPC costs.

4.1.3 Regarding the increases in the EPC cost, the Petitioner submitted to the Authority though **letter dated May 08, 2015 bearing reference no. PDKPP-19**, detailed breakdown and justifications for the capital costs, O&M costs and coal price, which are verified by its independent technical consultant, Northwest Electric Power Design Institute (NWEPDI) and its calculations reviewed by the financial advisor, Ernst & Young 'EY'. In the above-mentioned detailed analysis, NWEPDI listed **12 claims** that resulted in additional EPC costs of US$ 105.85 Million for this project, i.e.,

i. High sulfur content of approx. 2.5-3% of beneficiated coal is much higher than the typical value of 1%, it can create high-temperature sulfur corrosion. This will increase cost for the boiler due to the additional anti-corrosion measures (special coating, etc) required for the boiler, and will increase investment for FGD due to the increased capacity of limestone slurry and of gypsum system.

ii. Conveyor belt and trestle are needed to transport coal from coal-washing plant to the power plant, which are additional facilities compared with mine-mouth power plants.

iii. Due to brackish to Saline Water, reverse osmosis water treatment equipment and anticorrosion measures for circulating water system equipment will be required. Drenching area of the cooling tower needs to be increased.

iv. Due to salty and corrosive soil, anticorrosion materials are needed for circulating water pipes and cooling water pipes. Anti-corrosion painting is needed between buildings and foundation soil. Soil replacement is required for all pit filling.

v. Due to liquefaction issues in the foundation soil, cooling tower and other buildings shall use concrete piles.

vi. Higher environmental standard are set instead of Pakistani standard which required better FGD and ESP etc.

vii. The tariff for Thar is for two 330MW units whereas, the Petitioner has proposed single unit of 330 MW capacity therefore, according to the Petitioner unit, single unit price is 15-17% higher than the two units.

viii. Deep well pumping houses, with long-distance pipelines outside the power plant need to be constructed to supply water to the power plant and discharge sewage.

ix. High inland transportation cost compared to project like Thar which is to be located in the Sindh, close to the port.

x. 14km overhead transmission Line is required for water supply area outside the power plant.

xi. Larger flying ash disposal yard is needed due to the high ash and high sulfur of the coal. High sulfur in the ash makes it difficult to be reused.

xii. Increased equipments of switchyard due to the system requirements of NTDC.

4.1.4 The Petitioner observed that in the determination by the Authority, the Authority only commented on **5 claims**, i.e., 1) high sulfur in coal, 2) higher inland transportation costs, 3) single vs. multiunit argument, 4) higher environmental standard, 5) brackish water issues. Out of these **5 claims**, the Authority recognized the high sulfur and brackish water issues, while having reservations on the Petitioner's claims of inland transportation costs, single vs. multiunit argument, and higher environmental standard.

4.1.5 The Petitioner respectfully disagrees with the Authority in its reference to Sahiwal 2x660MW coal power project to refute the Petitioner's claim for higher inland transportation costs. The fact that Sahiwal opted for Upfront Tariff does not mean they do not suffer from higher inland transportation costs, but most probably the sponsor benefits from savings in other areas. Unlike indigenous coal power project, imported coal project has more flexibility in choosing its site location. Given the extensive efforts and time required for negotiated tariff, the Petitioner would have opted for upfront tariff if its costs can be well covered.

To avoid confusion, the Petitioner clarifies that it is the sum of all the 12 claims mentioned above that result in the asserted two digit percentage increase in project cost.

4.1.6 Similarly, the Petitioner respectfully disagrees with the Authority in its reference to Siddiqson's 350 MW and Lucky's 660 MW coal project to refute the Petitioner's claim for higher unit cost for single unit vs. multiunit. Both Siddiqson's 350MW and Luck's 660 MW coal project are based on imported coal. Unlike indigenous coal power project, imported coal project has more flexibility in choosing its site location and quality of coal. The Petitioner believes that neither Siddiqson nor Lucky has encountered similar technical challenges faced by the Petitioner in coal quality, soil quality, or water supply etc. Therefore, although Siddiqson and Lucky's per MW Capex cost of single unit are definitely also higher than multiunit in similar percentages, but the actual differences in numbers may not be that significant since they have a smaller total Capex cost. In addition, since Siddiqson and Lucky enjoys more flexibility in selection of site location and coal quality, they should be able to gain certain savings which can help offset the differences in the single unit vs. multiunit, or at least live within the cushion allowed by the Authority.

4.1.7 Regarding the Authority's mandate to the Petitioner to follow the Pakistani environmental standard instead of higher environmental standard, the Petitioner respectfully agrees, provided that banks do not raise issues on this during financing stage. Most Chinese banks are signatories to Equator Principles, which requires higher environmental protection standards.

4.1.8 As calculated in the cost breakdown in the Petitioner's letter dated May 08, 2015 bearing reference no. PDKPP-19, the cost increase due to the higher environmental standard is US$ 5.9 Million. The Petitioner would revise the requested Capex of US$ 476.37 Million downward to US$ 470.47 Million (including EPC cost of US$ 444.19 Million, Non-EPC cost of US$ 26.28 Million).

4.1.9 The Petitioner respectfully highlights that this is a feasibility stage tariff. The Authority should allow a true up of EPC costs based on International Competitive Bidding. The Petitioner had put on Invitation to Tender at the

Pakistani newspaper, Dawn, on June 10, 2015. Actual costs will be trued up after the EPC contractor is duly selected.

4.1.10 The Petitioner respectfully requests the learned Authority to review in detail all the technical challenges in this project and grant the Petitioner due consideration on the claims, just as the learned Authority has done to Thar coal project for the European boiler.

Customs Duties

4.1.11 The Petitioner agrees to the determination of the Authority to apply Customs duties & cess @ 5.95%, but respectfully disagrees to use 66.75% of the capital cost.

4.1.12 The Petitioner is of the view that customs duties & cess is only applicable to imported plant, equipment and materials and using the total capital cost as the calculation basis will unreasonably inflate the tariff. In addition, the percentage of imported plant, equipment and materials in coal fired power plant is around 50% of the EPC cost, whereas that percentage for gas fired power plant is around 66.75%.

4.1.13 The Petitioner respectfully requests to apply Customs duties & cess @5.95% of the 50% of the EPC cost. This will work out to be US$ 13.21 Million.

Financing Fees and Charges

4.1.14 The Petitioner respectfully points out that calculating arrangement fee @2% of the debt as one-time fee and commitment fee per 1.5% of the remaining balance of the debt not drawn down as recurring fees, is in line with the calculations of Chinese banks.

4.1.15 The Petitioner agrees to use the 1.5% flat rate calculation for the commitment fee, to be consistent with the Authority's determination in upfront tariff. However, the Petitioner kindly requests the Authority to remove the 3.5% cap, to reflect the cost pass-through principle. The actual financing fee and charges shall be subject to adjustment at the time of COD based on actual.

4.1.16 The resultant of the Financing Fees and Charges using this 3.5% flat rate of the debt works out to be US$ 15.24 Million.

Interests during Construction

4.1.17 The Petitioner's IDC works out to be US$ 43.39 Million based on a revised total project cost of US$ 580.53Million against the US$ 588.98 Million requested in the tariff petition.

Sinosure Insurance Premium

4.1.18 The Petitioner's Sinosure insurance premium works out to be US$ 38.2Million based on a revised total project cost of US$ 580.53 Million against the US$ 588.98 Million requested in the tariff petition.

Summary of Revised Project Cost

Project Cost Heads	Cost Requested Million US$	Cost Determined Million US$	Cost Revised Million US$
Capital Expenditure			
EPC Cost	450.09		444.19
Non-EPC Costs			
- Land Acquisition	3.78		3.78
-Project Dvpt. Cost Prior to Financial Close	6.00		6.00
-Sponsor's Costs during Construction	8.00		8.00
- Start-up Expenses & Utilities Costs	8.50		8.50
CAPEX/ without Duties & Taxes	**476.37**	**395.15**	**470.47**
- Customs Duties	11.25	15.69	13.21
CAPEX with Duties & Taxes	**487.62**	**410.84**	**483.68**
Financial Charges	**101.36**	**79**	**96.84**
Financing Fees & Charges	18.56	12.86	15.24
Interest During Construction	44.03	33.38	43.39
Sinosure	38.77	32.76	38.2
Total Capital Cost of the Project	**588.98**	**489.85**	**580.53**

4.2. RETURN ON EQUITY (ROE)

4.2.1 As stated in the preceding paragraph 3.2, the Petitioner respectfully requests the Authority to give unbiased treatment to the Petitioner by allowing the Equity IRR of 20% same as Thar Coal.

4.3. RETURN ON EQUITY DURING CONSTRUCTION (ROEDC) & WITHHOLDING TAX

4.3.1 As stated in the preceding paragraph 3.3, the Petitioner respectfully requests the Authority to allow the requested ROEDC and withholding tax @ 7.5 % on dividends to the Petitioner, in line with Rule 1.4 and 1.7 of Guidelines for Determination of Tariff for Independent Power Producers (IPPs) November 2005, as well as the Authority's previous determinations.

4.4. THERMAL EFFICIENCY

4.4.1 As stated in the preceding paragraph 3.4, the Petitioner respectfully requests the Authority to allow the following saving sharing mechanism to the Petitioner, which is granted to upfront tariff,

"The following sharing mechanism will be applicable only in case the efficiency, approved by the Authority for 330MW project, is established

<u>*higher as a result of heat rate tests carried out at the time of COD."*</u>

Net Efficiency (LHV) Achieved at COD	Sharing Ratio Power Purchaser : Sponsor
37% (min)	100%: 0%
37.01% - 37.50%	70%: 30%
37.51% - 38.00%	50%: 50%
38.01% - 38.50%	30%: 70%
> 38.50%	0%: 100%

4.5. FUEL COST

4.5.1 The Petitioner has respectfully pointed out its concerns over the Authority's assumption of and expectation on coal price in the preceding paragraph 3.7.

4.5.2 For the time being, the Petitioner agrees to use US$ 86.95/ton as the assumptions for coal price in the tariff determination. The final coal price shall be determined by the Coal Pricing Cell under the Government of Punjab, following similar principles applied to Thar Coal.

4.5.3 To enable tariff calculations, the Petitioner has used the following two part reference coal price in the revised tariff,

Year from COD	Variable Price US$/Ton	Fixed Price US$/Ton	Total Coal Price US$/ Ton
1- 10	13.37	84.46	97.83
11-30	13.37	53.21	66.58
1 - 30	13.37	73.58	86.95
Levelized Coal Price (Discount Rate @10%)			

4.6. SUMMARY OF O&M COSTS

Items	Cost Requested	Cost Determined	Cost Disallowed
Fuel Cost			
Variable O&M Cost	Rs 0.18/kWh	Rs 0.114/kWh	- Rs 0.066/kWh
• Variable O & M - Local	40%	50%	-10%
• Variable O & M - Foreign	60%	50%	10%
• Ash Disposal Cost	Rs 0.242/kWh	Rs 0.242/kWh	0
• Limestone	Rs 0.09/kWh	Rs 0.09/kWh	0
Fixed O&M Cost	Rs 0.421/kWh	Rs 0.307/kWh	Rs 0.114/kWh
• Fixed O & M Amount – Local	40%	40%	
• Fixed O & M Amount – Foreign	60%	60%	
Insurance during Operation	1% of EPC Cost	1% of 70% of Capital Cost	

O&M COSTS

4.6.1 The Petitioner is discouraged by the determination of the Authority, who declines to recognize the differences of this project against Thar Coal project, especially the increased O&M costs arising from saline water and high sulfur issues, the increased O&M costs due to lack of sharing of resources in single unit. Based on the estimated quotes from our O&M team, the O&M cost per kWh of one unit is approximately 50% higher than the per kWh O&M cost of 2 units, because there's no big difference in the number of operation and maintenance personnel needed for one unit and two units.

4.6.2 The above numbers are based on estimated quotes from independent O&M operators. The Petitioner is sincerely concerned that the disallowance of the Authority of the claimed O&M costs will make it difficult for the Petitioner to get qualified O&M operator to guarantee the performance of the power plant.

4.6.3 The above estimates also fall in line with the established industry benchmarks. Based on the independent data and analysis of the Energy Information Administration (EIA), U.S. Department of Energy, the Fixed O& M Costs and Variable O&M Costs of 650MW Single Unit Advanced PC in 2012 are as follows,

	Nominal Capacity (MW)	Fixed O&M Cost ($/kW-yr)	Variable O&M Cost ($/MWh)
Single Unit Advanced PC	650	$37.80	$4.47

The O&M costs per kWh is converted as follows,

Fixed O&M Cost (Rs./kWh)	Variable O&M Cost (Rs./kWh)	Subtotal (Rs./kWh)
0.4894	0.4340	0.9234
Note: 1. Fixed O&M costs based on 100% plant factor, 100% load and 8% auxiliary consumption		

Following is a brief comparison between the O&M costs established by EIA in 2012, the O&M costs requested by the Petitioner and O&M costs determined for Thar Coal.

	Fixed O&M Cost (Rs./kWh)	Variable O&M Cost (Rs./kWh)	Subtotal (Rs./kWh)
EIA	0.4894	0.4340	0.9234
Salt Range	0.421	0.512	0.933
Thar Coal	0.308	0.9311	1.2391
Note:			

1. For comparison purposes, ash disposal cost, limestone cost, water charges are added to the Variable O&M Cost.

It can be seen clearly from the above, that the O&M costs requested by the Petitioner is in line with the industry benchmarks, especially when we consider the additional O&M costs required for high ash and high sulfur of Salt Range coal power project. Moreover, the actual total O&M costs determined for Thar Coal is 0.3061 Rs./kWh (or 0.3601 Rs./kWh when converted to 0.85% availability) higher than the requested O&M costs of Salt Range. The Petitioner trusts that the learned Authority is fully aware that all the cost components in the tariff will be transferred to the end consumers, regardless of the title of this cost.

4.6.4 The Petitioner respectfully requests the Authority to give reconsideration to both the fixed and variable O&M costs and allow the Petitioner the requested costs. The costs can be trued up accordingly, after the O&M contractor is duly selected and at the time of COD.

4.6.5 At the moment, no water charge is levied by the Government of Punjab for coal fired power plant, the Petitioner requests the Authority to allow the inclusion of water charge in case it is levied by the Government of Punjab.

4.6.4 Summary of Requested O&M Costs

Items	Cost Requested
Fuel Cost	
Variable O&M Cost	Rs 0.18/kWh
• Variable O & M - Local	50%
• Variable O & M - Foreign	50%
• Ash Disposal Cost	Rs 0.242/kWh
• Limestone	Rs 0.09/kWh
Fixed O&M Cost	Rs 0.421/kWh
• Fixed O & M Amount – Local	40%
• Fixed O & M Amount – Foreign	60%
Insurance during Operation	1% of 70% of Capital Cost

4.7. Tariff Structure

4.7.1 As stated in the preceding paragraph 3.6, the Petitioner kindly requests the Authority to split the Fuel Component into the capacity and energy charges of the power tariff, to comply with the stipulations of Section 6.2 (54) in Policy for Power Generation Projects Year 2002 (hereinafter "Power Policy 2002"). In addition, the Petitioner respectfully highlights that the pricing of coal for dedicated coal mines would be determined on the basis of Capacity and Energy Price. Hence, in order to make the mining bankable, its fixed component (capacity price) has to be paid regardless of whether the power plant is producing electricity or not (which is when the Energy Purchase Price is payable).

4.7.2 The Petitioner requests the Authority to revise the determined tariff structure as follows,

a. Energy Purchase Price:

i. Variable Fuel Cost Component (Variable FCC)

ii. Variable O&M Local;

iii. Variable O&M Foreign;

iv. Cost of Lime Stone; and

v. Cost of Ash Disposal.

b. Capacity Purchase Price:

i. Fixed Fuel Cost Component (Fixed FCC)

ii. Fixed O&M (Local);

iii. Fixed O&M (Foreign);

iv. Insurance Cost;

v. Cost of Working Capital;

vi. Return on equity;

vii. Return on equity during construction;

viii. Withholding Tax @ 7.5% on Dividend; and

ix. Debt Service (Principal Repayment and Interest Charges).

4.8. Interconnection

4.8.1 As stated in the preceding paragraph 3.7, the Petitioner kindly requests the Authority to revise its descriptions in 106 of the Tariff Determination as follows,

"106. The generation plant shall be connected at 132kV connection point."

4.9. Plant Availability

4.9.1 As stated in the preceding paragraph 3.7, the Petitioner kindly requests the Authority to revise its descriptions in 107 of the Tariff Determination as follows, to be in line with the Authority's previous determinations and the Petitioner's application,

"108. The guaranteed availability of the plants will be 85%. This is the 5-year average value. Allowances shall be granted in the PPA for first year after COD and major maintenance year during operation."

5. RELIEF SOUGHT

On the basis of the above, the Petitioner hereby requests the Authority to approve, and revise the tariff based on the detailed factors listed under the preceding paragraph 4.

The Petitioner, most respectfully would like to submit that on the basis of the Tariff Determination granted by the Authority, dated July 10, 2015, the project will not sustain.

The Petitioner, humbly request the Authority to look in to this review petition on equitable and justifiable grounds, in consideration of the confidence entrusted in Pakistan by Sponsors, and the relevant policies.

The Petitioner would be pleased to provide any further information, clarification or explanation that may be required by the Authority during its review process.

Su Guang Lei
Director
CMEC Power (Private) Limited

Date: 16July 2015

Annex A- Table of Revised Tariff

CMEC Power (Private) Limited

Revised Tariff Schedule Based on Integrated Coal Mining Setup

Year	Energy Purchase Price-EPP (PKR/kWh)						Capacity Purchase Price-CPP (PKR/kWh)												Capacity Charge @ 85% Plant Factor	Total Tariff	
	Fuel Cost			Variable O&M			Fixed Fuel Cost		Fixed O&M												
	Variable FCC	Ash Disposal	Limestone	Variable O&M (Foreign)	Variable O&M (Local)	Total	Fixed FCC	Fixed FCC@ 85% plant factor	Fixed O&M (Foreign)	Fixed O&M (Lncal)	Cost of W/C	Insurance	ROEDC	ROE	Withholding Tax	Loan Re-payment	Interest Charges	Sub-total (Exclude Fixed FCC)	PKR/kWh	PKR/ kWh	US ¢ per kWh
1	0.971	0.242	0.090	0.090	0.090	1.483	5.530	6.506	0.253	0.168	0.248	0.124	0.475	1.064	0.115	1.590	0.757	4.794	12.146	13.630	14.037
2	0.971	0.242	0.090	0.090	0.090	1.483	5.445	6.406	0.253	0.168	0.245	0.124	0.475	1.064	0.115	1.590	0.679	4.712	11.950	13.433	13.834
3	0.971	0.242	0.090	0.090	0.090	1.483	5.360	6.306	0.253	0.168	0.241	0.124	0.475	1.064	0.115	1.590	0.600	4.630	11.753	13.237	13.632
4	0.971	0.242	0.090	0.090	0.090	1.483	5.275	6.206	0.253	0.168	0.238	0.124	0.475	1.064	0.115	1.590	0.521	4.548	11.557	13.040	13.430
5	0.971	0.242	0.090	0.090	0.090	1.483	5.190	6.106	0.253	0.168	0.235	0.124	0.475	1.064	0.115	1.590	0.443	4.466	11.360	12.844	13.227
6	0.971	0.242	0.090	0.090	0.090	1.483	5.105	6.006	0.253	0.168	0.231	0.124	0.475	1.064	0.115	1.590	0.364	4.384	11.164	12.647	13.025
7	0.971	0.242	0.090	0.090	0.090	1.483	5.020	5.906	0.253	0.168	0.228	0.124	0.475	1.064	0.115	1.590	0.285	4.302	10.968	12.451	12.823
8	0.971	0.242	0.090	0.090	0.090	1.483	4.935	5.806	0.253	0.168	0.225	0.124	0.475	1.064	0.115	1.590	0.207	4.220	10.771	12.255	12.621
9	0.971	0.242	0.090	0.090	0.090	1.483	4.850	5.706	0.253	0.168	0.221	0.124	0.475	1.064	0.115	1.590	0.128	4.138	10.575	12.058	12.418
10	0.971	0.242	0.090	0.090	0.090	1.483	4.766	5.606	0.253	0.168	0.218	0.124	0.475	1.064	0.115	1.590	0.049	4.056	10.378	11.862	12.216
11	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
12	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
13	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
14	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
15	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
16	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
17	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
18	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
19	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
20	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
21	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
22	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
23	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
24	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
25	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
26	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
27	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
28	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
29	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
30	0.971	0.242	0.090	0.090	0.090	1.483	3.285	3.864	0.253	0.168	0.160	0.124	0.475	1.064	0.115	-	-	2.360	6.640	8.123	8.366
Levelize	0.9709	0.2420	0.0900	0.0902	0.0902	1.4833	4.5419	5.3435	0.2526	0.1684	0.2094	0.1236	0.4750	1.0642	0.1154	1.0361	0.3026	3.7473	9.7520	11.2354	11.5709

Annex B- Debt Service Schedule

CMEC Power (Private) Limited

Debt Serving on Project Financing

Gross Capacity	330 MWs	US$/ PKR Exchange Rate	97.10	
Net Capacity	303.6 MWs	Equity	145	Million US$
LIBOR	0.45%	Debt	435	Million US$
Spread over LIBOR	4.50%	Debt in Pak	42,276.84	PKR Million
Total Interst Rate	4.95%			

Period	Principal Million $	Principal Repayment Million $	Interest Million $	Balance Million $	Debt Service Million $	Principal Repayment Rs./kWh	Interest Rs./kWh	Debt Servicing Rs./ kWh
1	435	10.88	5.39	425	16.27			
2	425	10.88	5.25	414	16.14			
3	414	10.88	5.12	403	16.00			
4	403	10.88	4.98	392	15.87			
1st Year		**43.54**	**20.74**		**64.28**	**1.5896**	**0.7574**	**2.3470**
5	392	10.88	4.85	381	15.73			
6	381	10.88	4.71	370	15.60			
7	370	10.88	4.58	359	15.46			
8	359	10.88	4.45	348	15.33			
2nd Year		**43.54**	**18.59**		**62.13**	**1.5896**	**0.6787**	**2.2683**
9	348	10.88	4.31	337	15.20			
10	337	10.88	4.18	327	15.06			
11	327	10.88	4.04	316	14.93			
12	316	10.88	3.91	305	14.79			
3rd Year		**43.54**	**16.43**		**59.97**	**1.5896**	**0.6000**	**2.1896**
13	305	10.88	3.77	294	14.66			
14	294	10.88	3.64	283	14.52			
15	283	10.88	3.50	272	14.39			
16	272	10.88	3.37	261	14.25			
4th Year		**43.54**	**14.28**		**57.82**	**1.5896**	**0.5213**	**2.1109**
17	261	10.88	3.23	250	14.12			
18	250	10.88	3.10	239	13.98			
19	239	10.88	2.96	229	13.85			
20	229	10.88	2.83	218	13.71			
5th Year		**43.54**	**12.12**		**55.66**	**1.5896**	**0.4426**	**2.0322**
21	218	10.88	2.69	207	13.58			
22	207	10.88	2.56	196	13.44			
23	196	10.88	2.42	185	13.31			
24	185	10.88	2.29	174	13.17			
6th Year		**43.54**	**9.97**		**53.51**	**1.5896**	**0.3639**	**1.9536**
25	174	10.88	2.16	163	13.04			
26	163	10.88	2.02	152	12.91			
27	152	10.88	1.89	142	12.77			
28	142	10.88	1.75	131	12.64			
7th Year		**43.54**	**7.81**		**51.35**	**1.5896**	**0.2852**	**1.8749**
29	131	10.88	1.62	120	12.50			
30	120	10.88	1.48	109	12.37			
31	109	10.88	1.35	98	12.23			
32	98	10.88	1.21	87	12.10			
8th Year		**43.54**	**5.66**		**49.20**	**1.5896**	**0.2066**	**1.7962**
33	87	10.88	1.08	76	11.96			
34	76	10.88	0.94	65	11.83			
35	65	10.88	0.81	54	11.69			
36	54	10.88	0.67	44	11.56			
9th Year		**43.54**	**3.50**		**47.04**	**1.5896**	**0.1279**	**1.7175**
37	44	10.88	0.54	33	11.42			
38	33	10.88	0.40	22	11.29			
39	22	10.88	0.27	11	11.15			
40	11	10.88	0.13	0	11.02			
10th Year		**43.54**	**1.35**		**44.89**	**1.5896**	**0.0492**	**1.6388**