BEFORE
THE NATIONAL ELECTRIC
POWER REGULATORY AUTHORITY

PETITION FOR TARIFF MODIFICATION

ON BEHALF OF
GUJRANWALA ENERGY LIMITED

IN RESPECT OF
A POWER PROJECT OF
200-MW (GROSS)
IN DISTRICT GUJRANWALA, PUNJAB

Dated: March 12, 2008

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GLOSSARY

Company / Petitioner	Gujranwala Energy Limited
CSC	Construction Services Contract
CPI	Consumer Price Index
CPP	Capacity Purchase Price
EPC	Collectively, the ESC and the CC
EPC Contractor(s)	Collectively, the contractors under the EPCC being Wärtsilä Finland Oy and Wärtsilä Pakistan
ESC	Equipment Supply Contract
Euro	The lawful currency of the European Monetary Union
IA	Implementation Agreement
IDC	Interest During Construction
IRR	Internal Rate of Return
KIBOR	Karachi Inter Bank Offered Rate
Kw	Kilowatt
kWh	Kilowatt hour
LFO	Light Fuel Oil (High Speed Diesel)
LIBOR	London Inter Bank Offered Rate
LOS	Letter of Support
MW	Megawatt
MWh	Megawatt hour
NEPRA/ Authority	National Electric Power Regulatory Authority
NTDC/Power Purchaser	National Transmission and Dispatch Company Limited
O&M	Operation & Maintenance
PKR	Pakistani Rupee
Power Policy 2002	The Government of Pakistan's Policy for Power Generation Projects, 2002.
PPA	Power Purchase Agreement
PPIB	Private Power & Infrastructure Board
Project	The Company's proposed 200-MW RFO-fired reciprocating engine technology power project at Gujranwala, Punjab Province
RFO	Residual Fuel Oil
ROE	Return on Equity
Ton	Metric Tonne i.e. 1000kg
USD/US$	United States Dollar

Table of Contents

- CPP Breakdown
- Adjustment at COD
- Indexation Formula
- Insurance Cost Component
- Cost of Working Capital
- Return on Equity & Return on Equity During Construction
- Debt Servicing

VI.) PASS THROUGH ITEMS

VII.) GENERAL ASSUMPTIONS

VIII.) RELIEF SOUGHT

TARIFF PETITION
Gujranwala Energy Limited

A INTODUCTION

Rule 3 Tariff Petition (the "**Modification Petition**") under Section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997) (the "**Act**"), read with Rule 3 of the National Electric Power Regulatory Authority (Tariff Standards and Procedure) Rules, 1998 (the "**Tariff Rules**") for the Revision/Modification of the Generation Tariff Determination dated April 19, 2007 (the "**Earlier Tariff Ruling**") of Gujranwala Energy Limited (the "**Company**" or "**Petitioner**").

Rule 3(2) (a) PETITIONER'S NAME AND ADDRESS

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Rule 3(2) (a) GENERATION LICENSE

Generation License No. IGSPL/11/2007
Dated: May 7, 2007

Rule 3(2) (b) GROUNDS

Grounds forming the basis for the Revision Petition are elaborated in Part B hereof.

Rule 3(2) (c) RELIEF SOUGHT

Relief sought is mentioned in the Part B (VII) of this Modification Petition.

Rule 3(2) (e) COMPARATIVE SCHEDUELE OF EXISTING TARIFF AND PROPOSED TARIFF

The existing and the proposed tariff tables are appended herewith.

Rule 3(2) (f) SUMMARY OF EVIDENCES

A brief particular of data, facts and Preliminary EPC Contract is hereby attached.

Signed by or on behalf of the Petitioner.

Attached:

Affidavit in accordance with Rule 3(8)
Tariff Petition Fee
Board Resolution

B MAIN BODY OF THE TARIFF PETITION

I. EPC PRICE

1. Why Did the Petitioner Apply to the Authority for Tariff Determination in January 2007?

1.1 Generally speaking, the correct and appropriate route for an IPP is as follows:

1.1.1 finalize the Feasibility Report of the Project and get approval from the Government;

1.1.2 review the standardized Concession Agreements (i.e. the PPA, the IA and the FSA) to understand the risks, exposures and cut off points;

1.1.3 finalize its EPC and O&M Contracts in light of the standardized Concession Agreements;

1.1.4 apply to the Authority for tariff settlement;

1.1.5 finalize and execute the Concession Agreements; and

1.1.6 finalize Financing Documents and achieve Financial Closing.

1.2 This is the typical step-by-step implementation schedule for all IPPs.

1.3 However, considering the shortage of power in the country, the Project was approved by the PPIB to be setup on fast track basis for which the COD was required as March 2009. Keeping this requirement in view, it was necessary to get the tariff approved in early 2007 to ensure Financial Close by September 2007, thereby allowing adequate time to the EPC Contractor to achieve the desired COD.

2. Brief Background of the Petitioner's EPC Negotiating History

2.1 At the time of applying for tariff determination in January 2007, the Company had a quote from the EPC Contractor for COD of March 31, 2009, subject to engines unsold.

2.2 The EPC Contractor had quoted a price of € 133.475 million for both offshore equipment supplies and onshore construction as per its brief scope of work submitted along with the aforesaid quote. However, the Authority in its Earlier Decision split this price into two parts i.e. 88% for offshore supplies and 12% for onshore construction and supplies. For 12% onshore part, the Authority gave fixed €-US$ parity of 1:1.20 instead of indexed Euro-US$ parity.

2.3 Immediately after the Earlier Tariff Ruling, the Petitioner resumed negotiations with the EPC Contractor to seek its acceptance of the onshore component in US$ as approved by the Authority. The EPC Contractor, however, not only refused to accept any price adjustment in splitting the EPC quote into two parts i.e. offshore and onshore components but also extended the COD to August 2009 stating the unavailability of engines.

2.4 As a result thereof, the Petitioner was forced to file a Review Petition with the Authority on March 19, 2007, which was decided by the Authority on April 19, 2007 disallowing the extended COD and other matters raised in the aforesaid Review Petition.

2.5 By this time the EPC Contractor did not have engines for the Project and indicated COD of December 2010. Accordingly, the Petitioner applied to the PPIB for allowing extension in the COD and perforce requested the EPC Contractor for the revised COD.

2.6 Pending approval from the PPIB, the Petitioner decided to expediently utilize the time, as decided by its shareholders upon advice of its consultants. With this objective, the Petitioner appointed Pyory as technical consultant (the **"Technical Consultant"**) to conduct a feasibility of the Project. At the same time, the Petitioner appointed various other consultants to carry out the soil testing, environmental study and the load flow study.

2.7 The PPIB's approval for the extended COD of December 2010 came on July 16, 2007. However, in the meantime the Technical Consultant advised a change in the scope of work of the EPC to include equipment necessary to cater for the Power Purchaser's specific requirements. Furthermore, the soil testing consultants' (Technoman) test report also indicated necessity for carrying out the piling work.

2.8 The aforementioned items required to be assessed in pricing terms. By the time the Petitioner could finalize the firm contract with the EPC Contractor, the December 2010 COD was no longer available.

2.9 In order to explore other possible options, the Petitioner also contacted MAN Diesel for an earlier COD. However, MAN Diesel had essentially no engines to offer for the December 2010 COD.

2.10 In the aforesaid circumstances, the Petitioner continued to negotiate with the EPC Contractor the firm price and the firm COD of June 2011 and requested the PPIB to extend the date in the best interest of all the stakeholders. The PPIB and the ECC were kind enough to grant the required extension.

2.11 Following a lot of efforts the Petitioner managed to negotiate the price with very minimal inflation of 1.5% per year of the total EPC price and in total 3.0% of the total EPC price of January 2007 for the extended COD of June 30, 2011, considering facts discussed in section 5.3.a, 5.3.b and 5.3.c below.

2.12 Apart from the increase in price purely due to inflation, the Petitioner has also enlarged the scope of equipment supplies to include, at an additional price, the Power Purchaser's requirement of four 132-kV line bays instead of original two line bays.

3 Contract Finalisation and Current Price

3.1 The Company has signed the Preliminary EPC Agreement with the EPC Contractor with the contract price of € 121.4465 million equal to US$ 177.0893 million using exchange rate of €-US$ for 1:1.458167 for offshore equipment & supplies and US$ 22.6345 million for onshore local equipments and construction cost.

3.2 The Petitioner has submitted the required €3 million bank guarantee as required by the EPC Contractor to secure the COD of June 2011 and has also obtained the firm price commitment as per the Preliminary EPC Agreement.

3.3 As per the Preliminary EPC Agreement, the Petitioner is obligated to make an advance payment of €7 million on or about December 31, 2008 in addition to the €3 million bank guarantee.

II. PROJECT CAPACITY

The Project gross capacity at Site is 200MW. The net capacity after deducting the auxiliary load including switchyard, cooling tower and tube wells will be 195 MW (net at Site reference conditions).

III. PROJECT COST

4 Total Project Cost

4.1 Apart from the revised EPC price as confirmed by the firm EPC Contract, certain, other cost elements approved by the Authority in our Earlier Tariff Ruling need to be revised based on detailed feasibility study, soil test report and country's current security situation. As a result thereof, revised cost estimates have been obtained and the same reflected in the following Project cost.

Investment / Cost	Million USD
1. EPC Cost	199.724
2. Non EPC Cost	3.072
3. Taxes & Duties	10.213
4. Land Acquisition & Land Development Cost	2.168
5. Project Development Costs	3.312
6. Expatriates and Essential Staff Accommodation	1.622

7. Pre-COD Insurance Cost	2.696
8. Emergency & Safety Spare Parts	2.656
9. Independent Engineer Cost	0.800
10. Start-up Expenses & Utilities	1.007
11. Pre COD O&M Mobilization Cost	2.885
12. Financing Fees & Charges	4.989
Total Project Cost	**235.144**
13. Interest During Construction	13.573
Project Cost	**248.717**

5 EPC Cost

5.1 The Company has signed the EPC contract with the EPC Contractor at a value of:

Equipment Supply Contract	€ 121.4465M	US$	177.0893 M
Converted into US$ @ €-US$ parity of 1:1.458167			
Construction Services Contract		US$	22.6345 M
		US$	199.7238 M

5.2 The firm EPC cost comprises the following two components:

a) Payment to the Supply Contractor (payable in Euro) in respect of the procurement of equipment and materials for the Project, equaling Euro 121,446,500/- (Euro: One Hundred Twenty One Million, Four Hundred Forty Six Thousand, Five Hundred only) (amounting to US$ 177,089,315/- United Stated Dollars: One Hundred Seventy Seven Million, Eighty Nine Thousand, Three Hundred Fifteen only) based on the €-US$ reference exchange rate of 1.458167 (the Offshore EPC Cost); and

b) Payment to the CSC Contractor in respect of the construction, testing and commissioning of the facility, equaling US$ 22,634,500/- (United States Dollars: Twenty Two Million, Six Hundred Thirty Four Thousand and Five Hundred Only) (the Onshore EPC Cost).

c) Based on the Euro/US$ reference exchange rate of 1.458167, the firm EPC Cost is calculated to be US$ 199,723,815 (United States Dollar: One Hundred Ninety Nine Million, Seven Hundred Twenty Three Thousand and Eight Hundred Fifteen only) as provided in the Project summary table above.

5.3 For the Authority's assistance, it is submitted that the key reasons for increase in the Petitioner's EPC cost are:

a) Increase in global prices of various metals, copper and steel: Various metals, copper and steel are used by EPC contractors to manufacture the equipments and materials for power generation equipment. With the rapid

growth of the global economy, the international market prices for the same have drastically increased in recent times as per the attached graphs.

b) Increase in Local Cost: Local WPI during last 18 months shows an increase of over 8% p.a. It means increased construction cost in the form of higher payroll cost and other construction material costs.

c) Increase in Demand of EPC Contractor: The demand of engineering, procurement and construction of power generation facilitates have increased globally, especially in African and Asian countries as well as in South America. This has also resulted in an increase in the EPC prices

d) Specific requirement of the Power Purchaser: At the express request of the Power Purchaser, the Petitioner has specifically included in the EPC Contractor's scope of work for the Project, the procurement of equipments for the grid station with four bays for 132 kV. This is an increase from the two bays grid station requirement in the previous EPC price.

5.4 Cost increases due to 5.3.a, 5.3.b and 5.3.c above could have resulted in sizable increase in the EPC price, however, following a lot of hard work, the Petitioner was able to restrict the increase in price to less than 3% for more than two years extended COD, on the total EPC Price quoted earlier in January 2007.

6 Non EPC Cost

6.1 The Non-EPC Construction Cost includes items which are not part of the EPC's scope of work pursuant to the EPC contracts. Such costs include (i) all earth work compaction surface leveling after foundation; (ii) structural excavation and piling work; (iii) onsite corporate office; (iv) procurement, erection and/or installation of tube wells and pipelines for water supply; (v) sewerage drainage and waste water pipelines; (vi) power supply for plant auxiliary load and stand by power supply; (vii) fence around switchyard; (viii) switchyard covering with pebbles and (ix) telephone exchange.

6.2 It is highlighted for the Authority's assistance that Non-EPC cost does not include the costs associated with the procurement of materials for civil works and construction of accommodation for the expatriates and essential staff, which have been dealt separately herein below.

6.3 The Petitioner submits that the soil testing undertaken by Technomen confirmed that piling shall be required for the selected Project site. Accordingly, the EPC Contractor was advised to provide design, layout with structural loads, layout arrangement and number of piles. Based on the EPC Contractor's quote, the piling cost including the structural excavation has been estimated to be US$ 1.514 million. This amount was not included in the Earlier Tariff Ruling due to non-availability of soil test report and contractor confirmation.

7 Taxes and Duties

7.1 Taxes and Customs Duties have been calculated by the Petitioner in accordance with the Power Policy 2002, as amended, and in light of the applicable laws of Pakistan.

7.2 Based on the reference exchange rates of 1.458167 for €-US$, the Taxes and Customs Duties for the Project have been calculated as the sum of:

a) 5% of the offshore EPC Cost being the Customs Duties; and

b) 6% of the onshore Wärtsilä EPC Cost.

7.3 Based on the sum of above, the proposed taxes and Custom Duties works out to be US$ 10,213,000/- (United States Dollars: Ten Million and Two Hundred Thirteen Thousand only).

7.4 Currently, the Government of Pakistan has imposed 1% import surcharge in addition to 5% Customs Duties.

7.5 Any additional charge, duty or tax incurred (a) prior to the COD shall be included (together with the financing cost thereof) in the Project Cost at the COD, and (b) post COD, shall be treated as pass through items to the Power Purchaser.

8 Land Acquisition & Land Development

8.1 This cost includes the purchase of 25 acres of land for the Project together with stamp duty and registration fee; broker fee and the related legal fees; the cost of back filling the site to levelize it with the access road; costs of roads inside and outside the facility complex; area lighting, costs related to soil testing, topographic and geotechnical surveys, environmental studies and permits; and construction of the boundary wall at site.

8.2 The cost claimed at US$ 2.168 million is slightly higher than the Petitioner's previously approved cost of US$ 2.028 million. The Petitioner submits to the Authority that this increase is due to higher costs of approach and inside roads, top soil removal, back filling of land and compaction.

9 Project Development Cost

9.1 The Project Development Cost includes the costs incurred by the sponsors of the Company for the purpose of project development and includes all costs, fees and expenses incurred / to be incurred solely by the sponsors of the Company for the benefit of the Project.

9.2 This cost includes cost of feasibility studies, load flow and short circuit studies; fee of engineering and technical consultants; fee of the Petitioner's legal consultant; fees

of the Petitioner's financial consultants; cost related to performance guarantee / LC to be furnished to PPIB / Power Purchaser; cost related to the L/C to be furnished to the Power Purchaser and various regulatory fees to be paid to the Authority. It also covers the costs related to upfront and advance payment bank guarantee submitted / to be submitted to the EPC Contractor, as per the terms of the firm Preliminary EPC Agreement and cost of vehicles for staff and project.

10 Expatriates and Essential Staff Accommodation

10.1 The costs, related to the procurement of materials, civil works and construction of the Expatriates and Essential Staff Accommodation have neither been included in the firm EPC Costs nor in the Non EPC Cost, as presented in the Total Project Cost summary table above.

10.2 These costs are required to be incurred for the benefit of the Project's expatriates, essential staff and security personnel's accommodation. It is herby submitted that these costs cannot be avoided due to the following key reasons:

a) The facility is proposed to be located on the site, which is approximately 40 kilometers from Gujranwala city and 100 km from Lahore.

b) Considering the present law and order situation prevailing in the country, it is essential that the Petitioner has on site accommodation facility for (a) the expatriates working at the Project site to avoid any untoward incidents and (b) emergency staff to minimize the forced outages. Such accommodation facility will prove good for the stakeholders including the Power Purchaser in that it will ensure sustainable and uninterrupted power supply.

11 Pre-COD Insurance Cost

11.1 Pre-COD insurance cost covers the insurance cost of the Petitioner's assets during the construction period, which are incurred prior to COD. These costs have been taken at 1.35% of firm EPC Price as already allowed by the Authority in earlier Tariff Rulings.

12 Emergency Spare Parts

12.1 The costs related to Emergency Spare parts cover the costs of standard lot of spare parts, which are aimed to reduce, to the extent possible, the expected idle time for maintenance of the Facility in case a component of the machinery is damaged, destroyed or has become unexpectedly unusable. Presence of Emergency Spare Parts would ensure smooth running of the Facility by immediate replacement of the defective parts.

12.2 The costs related to Emergency Spare Parts have been estimated at 1.5% of the offshore EPC Cost, amounting to US$ 2,656,000/- (United States Dollars: Two

Million, Six Hundred Fifty Six Thousand Only) which is inline with the Earlier Tariff Rulings by the Authority.

12.3 The Petitioner takes this opportunity to clarify for the assistance of the Authority that the cost of emergency spare parts is neither included in the EPC price nor included in the Variable/Fixed O&M Mobilization cost. In the absence of availability of emergency spare parts on site, the Plant outage is likely to increase and the plant availability may be reduced below 88%.

13 Independent Engineer Cost

13.1 Pursuant to the requirements under the PPA, an independent engineer is to be appointed by the Petitioner during commissioning and testing of the Project. The cost of Independent Engineer accounts for such specific requirement of the Power Purchaser.

14 Start-up Expenses and Utilities

14.1 Start-up Expenses & Utilities include, *inter alia*, the cost of utilities (including electricity, telephone, water supply, internet etc.) during construction and the cost of RFO, HSD, chemicals, lubricants and consumables used during commissioning, start up and testing.

15 Pre-COD O&M Mobilization Cost

15.1 Pre-COD O&M Mobilization Cost covers, *inter alia*, the expenses of the Petitioner and the O&M contractor's personnel prior to the COD. It may be noted that this cost has not been included in the remuneration to be paid to the O&M contractor subsequent to COD.

15.2 Pre-COD O&M Mobilization Cost includes (i) O&M operator's fixed mobilization cost (ii) Petitioner's staff salaries, benefits & perquisite during construction; (iii) hiring of local personnel for operation and maintenance of the Project and training of such personnel abroad at EPC Contractor works; (iv) costs of visits and courses; (v) cost of designs review, construction management and cost of owner's engineer.

15.3 In the Earlier Tariff Ruling, the Authority allowed US$ 1.816 million as Pre-COD O&M mobilization cost. However, the Petitioner has received fresh quotes for the Pre-COD O&M mobilization from the O&M Contractor, other institutions and has done detailed of Petitioner's staff salary. Based on these, the mobilization cost works out to US$ 2.885 million as follows:

Description	US$' 000
Operators Fixed Mobilization Cost	787
GEL Staff Salaries During Construction	835

Staff Training Traveling	313
Designs Review and Construction Management	950

16 Financing Fee and Charges

16.1 Financing charges include the costs related to the debt financing of the Project. Such cost include, *inter alia*, (i) the lender's up front fee/arrangement/advisory fee; (ii) commitment charges; (iii) charges related to various letter of credits; (iv) agency charges; (v) lender's project monitoring fee; (vi) lender's legal and technical consultant fees; (vii) registration fees payable and stamp duty applicable on the financing documents and the lenders' security documents.

16.2 It is assumed that local funding would be available for the Project. However, in the event that foreign financing is to be procured for the Project, the additional financing charges will be considered as pass through items.

16.3 Actual Financing Charges will be adjusted at COD in accordance with debt and equity injection and would not exceed the Authority's approved rate of 3% of the debt excluding Interest during Construction ("IDC").

17 Interest During Construction (IDC)

17.1 IDC has been calculated on the basis of interest rate, anticipated debt draw-downs and construction payment schedule. Actual IDC will be adjusted at COD in accordance with the debt injection.

18 Return on Equity During Construction

18.1 Return on Equity during Construction ("ROEDC") has been calculated on the basis of average equity injection at 12 months and 24 months prior to COD. This will be adjusted at COD in accordance with actual amounts of the equity injection.

IV. CAPITAL STRUCURE & SALIENT FEATURES

19 Capital Structure

19.1 The capital structure of the Project is as follows:

	Million USD
Equity	62.179
Debt	186.538
Total Project Cost	248.717
Debt : Equity Ratio	75:25

20 Other Salient Features

a) The Project would offer significant relief in the transmission system of Gujranwala, as it would bypass long transmission lines and potential step-down transformer bottlenecks. There is currently no significant power generation inside this area. The plant generation would be consumed very close to the generation site, thus also reducing substantial transmission losses.

b) A range of technologies were reviewed, after thorough examination of all available technologies and non-availability of natural gas; it became clear that the plant configuration based on reciprocating engine technology would be the best and most economical. The proposed plant will produce 195 MW (net at site reference conditions) in combined cycle mode. The main components of the plant are eleven proven engine generating sets of type 18V46 manufactured by Wärtsilä and eleven heat recovery steam generators (HRSG) to provide steam to one condensing steam turbine.

c) Based on the requirement of the Project for full load operation, RFO will be transported to the site.

d) The RFO shall be stored in three storage tanks at the site with total capacity of over 30,000 tons. This storage capacity is enough for 30 days at full load operation. The RFO from the storage tanks will be transferred into the buffer tank and then moved to the day tank which has a capacity equal to at least 24 hours of full load operation of all the engines. LFO shall be stored in one LFO tank of 1,000 ton capacity for start/stop of engines and auxiliary boiler for RFO heating.

e) There is a need for transportation of RFO, lube oil and diesel for plant operation and maintenance. In Pakistan, there are several operational oil marketing companies that are capable of supplying these products. For the purpose of this study, following companies are being considered as potential suppliers:

- Shell Pakistan
- Pakistan State Oil
- Overseas Oil Trading Company
- Bakri Oil Trading Company Ltd Pakistan.
- TOTAL (PARCO)
- HASCOL

f) The transportation of RFO and other consumables will be through road transportation under the Fuel Supply Agreement. The road infrastructure to the site is sufficient to support our requirements.

g) The strategic location of the Project provides a unique opportunity for interconnection for power dispersal to 132 kV grid systems through existing/renovated four 132 kV transmission lines. No right-of-way issues are expected.

V. TARIFF SUMMARRY

21 Average and Levelised Tariff

21.1 The tariff has a typical two-part structure with an EPP for the energy actually dispatched and a CPP based on the available capacity. The energy charge is based on the actual kWh off-take, and consists of the fuel component and the variable O&M component.

21.2 The proposed tariff figures appended herein below are the result of a detailed financial analysis. Technical, economical, financial, legal and fiscal aspects have been considered in the evaluation of the Company's financial performance. The levelized tariff is based on a notional 60% plant factor as per the 2002 Power Policy and a 25-years PPA term.

21.3 Based on the RFO price of PKR 25,714.50/- per metric ton (RFO price including transportation charges PKR 2,350/-), output of 195 MW (net at site conditions) and detailed financial analysis, the following tariff has been established.

	CPP US Cents / kWh	Energy Charge US Cents/kWh	Total tariff US Cents/kWh at 60% Plant Factor	Total tariff PKR /kWh at 60% Plant Factor
Average tariff	3.3892	8.4333	11.8225	7.4186
Levelized tariff	4.3132	8.4333	12.7465	7.9984

The reference generation tariff for the Project is appended herewith.

22 Energy Charge

22.1 The energy charges of the reference generation tariff are based on the actual kWh off-take, and consist of:

a) Fuel Cost Component;
b) The Local Variable O&M Component; and
c) The Foreign Variable O&M Component.

22.2 A summary of the energy price is provided in the table below:

	Energy Purchase Price (EPP) US ¢/kWh		
Period	Fuel	Variable O&M	Total
Years 1-25	7.6193	0.8140	8.4333

	Energy Purchase Price (EPP) PKR/kWh		
Period	Fuel	Variable O&M	Total
Years 1-25	4.7811	0.5108	5.2919

23 Fuel Cost Component

23.1 This component represents the fuel consumption at a guaranteed efficiency level of 45% at 100% plant load factor.

23.2 The main assumptions are as follows:

RFO Price:	PKR 25,714.50/- per ton (including transportation cost of PKR 2,350/- subject to adjustment as per actual). GST is not included in the RFO Price and shall be pass through to the Power Purchaser at actual.
Thermal efficiency net:	45% (at reference site conditions) at 100% plant load factor.
Output:	195 MW (net at reference site conditions).
Heat Rate:	7,584 BTU/kWh at 100% plant capacity factor.
Calorific Value	40,792 BTU/kg subject to adjustment at the time of finalization of Fuel Supply Agreement.
Partial Loading:	Heat rate curves from Wärtsilä to be used for partial load heat rate calculation and payment in case the plant load falls below 100%.

23.3 The Fuel Cost Component shall be adjusted on account of fuel price variation of fuel consumed using FIFO method during operation period and the actual transportation charges and GST. The fuel cost component for energy exported during testing shall be recovered from the Power Purchaser.

23.4 The Fuel Cost Component shall be indexed based on the following formula:

$FC_{(Rev)}$ = **Relevant Reference Generation Tariff Component** * ($FP_{(Rev)}$ /$FP_{(Ref)}$)

Where:

$FC_{(Rev)}$	Revised Fuel Cost Component,
$FP_{(Rev)}$	The Fuel Price (Revised) of RFO per metric ton with freight (as per actual) and GST (at actual).
$FP_{(Ref)}$	Fuel Price in PKR 25,714.50/- per ton (including transportation cost of PKR 2,350/-)

24 **Variable O&M**

a) It is pertinent to note that the selected Wärtsilä Plant is of European origin and therefore, the spares have to be imported from Wärtsilä Europe. Wärtsilä would sell such spares in Euro only. However, at the time of order placement, the Euro can be hedged into US Dollars. It is to be noted that this hedged price in US$ will be based on the then prevailing €-US$ parity plus the hedging cost for the tenure of the contract.

b) For the sake of this petition, we have obtained a firm variable O&M price from Wärtsilä based on €-US$ indexation as pass through to the Power Purchaser. They have quoted the variable O&M cost excluding lubricants, port clearance and inland transportation cost at US$ 6.46 per MWh using €-US$ parity of 1:1.28. This variable charge would be indexed to Euro at actuals. Based on this assumption the local and the foreign component of variable O&M and the foreign component of variable work out as under.

24.2 **Local Variable O&M**

a) This component includes the cost of lubricants, import duty, port clearance and inland transportation of spare parts, which is directly related to the electricity actually generated. These costs will be indexed to the prevailing Pakistan Wholesale Price Index ("WPI").

b) The Local Variable O&M Cost Component of the Energy Purchase Price shall be quarterly indexed to the WPI (manufacturing), as notified by the Pakistan Federal Bureau of Statistics.

c) The Local Variable O&M Cost Component shall be quarterly indexed based on the following formula:

$$VO\&M_{(L.Rev)} = Relevant\ Reference\ Generation\ Tariff\ Component * (WPI_{(Rev)} / WPI_{(Ref)})$$

Where:

$VO\&M_{(L.Rev)}$	The revised applicable Local Variable O&M Cost Component of the Energy Purchase Price quarterly indexed to WPI.
$WPI_{(Rev)}$	The revised WPI, as notified by the Pakistan Federal Bureau of Statistics.
$WPI_{(Ref)}$	The WPI (manufacturing) as on December 2007, notified by the Pakistan Federal Bureau of Statistics.

24.3 **Foreign Variable O&M**

a) This component primarily includes imported spare parts, chemicals and certain consumables to be changed during scheduled and un-scheduled maintenance. Also, it includes specialized technical services from the manufacturer during maintenance of the plant. The generating sets and associated equipments are over-hauled as per manufacturer's recommendations and schedules that are based on actual running hours. The actual timing of the major overhaul depends on the actual plant dispatches and frequency of start / stop.

b) As the manufacturer of the equipment is European, the spare parts and technical services will also be procured from Europe. Therefore, it is submitted to the Authority that the foreign component of variable O&M may, kindly, be allowed in European CPI adjusted by variation in the Euro/PKR Exchange rate throughout the life of the Project.

c) The Foreign Variable O&M Cost Component of the Energy Purchase Price shall be quarterly indexed to both:

d) the Euro /PKR exchange rate, based on the revised TT & OD selling rate of Euro notified by the National Bank of Pakistan; and

e) European CPI, as issued by the European Union's Harmonised Index of Consumer Prices.

f) The Foreign Variable O&M Cost Component shall be quarterly indexed based on the following formula:

$$VO\&M_{(F.Rev)} = \text{Relevant Reference Generation Tariff Component} * (EuroCPI_{(Rev)}/EuroCPI)_{(Ref)}) * (EURO_{(Rev)}/EURO_{(Ref)})$$

Where:

$VO\&M_{(F.Rev)}$	The revised Foreign variable O&M Component of the EPP, quarterly indexed to Euro CPI and the Euro/PKR exchange rate variation.
Euro $CPI_{(Rev)}$	The revised Euro CPI, issued by European Union's Harmonised Index of Consumer Prices.
Euro $CPI_{(Ref)}$	The Euro CPI as on December 2007, as issued by European Union's Harmonised Index of Consumer Prices.
Euro $_{(Rev)}$	The revised TT & OD selling rate of Euro, as notified by National Bank of Pakistan.
Euro $_{(Ref)}$	PKR 91.50

25 Capacity Purchase Price ("CPP")

25.1 The CPP component of the reference tariff is payable on the basis of the dependable available capacity, established at the COD and periodically thereafter.

25.2 This payment is calculated on a basis of 195 MW capacity (net at reference site condition) and, in order to calculate a levelized unit rate in PKR/kWh, at notional 60% plant factor has also been utilized.

25.3 The key assumptions factored in the CPP are the total capital cost of the Project, the debt-equity ratio, the cost of funding and currency thereof, together with the exchange rate. The following assumptions have been used:

Total Project Cost:	USD 248.717 Million
Debt-Equity Ratio:	75:25
Exchange Rates:	1 USD = 62.75 Rupees; 1 Euro = 1.458167 USD

26 Taxes & Duties

26.1 Customs duties at 5% on imported machinery equipment as per 2002 Power Policy.

26.2 Dividend withholding tax of 7.5%.

26.3 Withholding tax of 6% on Construction Contractor (i.e. local services contract) only.

26.4 0% Corporate Tax Rate.

26.5 0% Minimum Turnover Tax Rate.

27 CPP Breakdown

27.1 The CPP is further broken down into the following components.

a) Capacity Charge

27.1.a.1 This component represents the Fixed O&M Cost, Insurance Cost, Cost of Working Capital, ROEDC, ROE and withholding tax. Since there is no recovery of the original equity capital invested, the plant remains the property of the Company after the 25 year contract period and the Company may thereafter operate it as a merchant plant. A summary of the CPP is provided below:

Period	Capacity Charge (US ¢/kWh)						Total
	Fixed O&M	Ins.	Cost of WC	ROEDC	ROE	W/h Tax	
Years 1-25	0.2351	0.1578	0.1435	0.1017	0.5460	0.0486	1.2327

Period	Capacity Charge (Rs./kWh)						Total
	Fixed O&M	Ins.	Cost of WC	ROEDC	ROE	W/h Tax	
Years 1-25	0.1475	0.0990	0.0900	0.0638	0.3426	0.0305	0.7735

27.1.a.2 The fixed O&M component of the capacity charge represents the fixed costs of all the staff for O&M, cost associated with periodic maintenance for ensuring availability, plant administration, security, transportation, overheads, office costs, professional fees such as audit, tax and legal, as well as some other fixed operational costs such as environmental monitoring and obsolescence, that do not change with dispatch levels. The fixed O&M cost component has been prepared based on the following breakdown of the local and foreign components.

Local Fixed O&M Cost Component	:	40%
Foreign Fixed O&M Cost Component	:	60%

b) Indexation & Escalation

27.1.b.1 The following indexations shall be applicable to the Fixed O&M Cost Component:

27.1.b.1.1 The Local Fixed O&M Cost Component shall be quarterly indexed to the WPI (manufacturing), as notified by the Pakistan Federal Bureau of Statistics; and

27.1.b.1.2 The Foreign Fixed O&M Cost Component shall be quarterly indexed to both the Euro / PKR exchange rate, based on the revised TT & OD selling rate of Euro notified by the National Bank of Pakistan and the Euro CPI, issued by the European.

28 Adjustment at COD

28.1 At the time of COD, the tariff figures shall be updated for the various base figures (e.g. fuel price, EPC price, the O&M and insurance prices, adjusted by actual exchange rates compared to the reference exchange rates (PKR/USD = 62.75, PKR/Euro = 91.50, and USD/Euro = 1.458167), and Interest During Construction and financial charges adjusted by prevailing KIBOR, to arrive at the reference generation tariff table to be used in the PPA.

28.2 Any modifications or additions required by the Power Purchaser that are not considered in the Project cost shall be treated as pass-through.

29 Indexation Formula

29.1 Local Fixed O&M Cost Component

a) The Local Fixed O&M Cost Component shall be quarterly indexed based on the following formula:

$$FO\&M_{(LRev)} = \text{Relevant Reference Generation Tariff Component} * (WPI_{(Rev)} / WPI_{(Ref)})$$

Where:

$FO\&M_{(LRev)}$	The revised Local Fixed O&M Component of the CPP quarterly indexed to WPI (manufacturing).
$WPI_{(Rev)}$	The revised WPI (manufacturing), as notified by the Pakistan Federal Bureau of Statistics.
$WPI_{(Ref)}$	The WPI (manufacturing) as on December 2007, as notified by the Pakistan Federal Bureau of Statistics.

29.2 Foreign Fixed O&M Cost Component

a) The Foreign Fixed O&M Cost Component shall be quarterly indexed based on the following formula:

$$FO\&M_{(FRev)} = \text{Relevant Reference Generation Tariff Component} * (Euro\ CPI_{(Rev)} / Euro\ CPI)_{(Ref)}) * (Euro_{(Rev)} / Euro_{(Ref)})$$

Where:

$FO\&M_{(FRev)}$	The revised Foreign Fixed O&M Component of the CPP, quarterly indexed to US CPI and the Euro/PKR exchange rate variation.
$Euro\ CPI_{(Rev)}$	The revised Euro CPI, issued by European Union's Harmonised Index of Consumer Prices.
$Euro\ CPI_{(Ref)}$	The revised Euro CPI, issued by European Union's Harmonised Index of Consumer Prices.
$Euro_{(Rev)}$	The revised TT & OD selling rate of Euro, as notified by National Bank of Pakistan.
$Euro_{(Ref)}$	PKR 91.50

30 Insurance Cost Components

30.1 The insurance component consists of all-risk insurance/re-insurance for the Project, as well as business-interruption insurance.

30.2 The Insurance Cost Component shall be quarterly indexed based on the following formula:

$$\text{Insurance}_{(Rev)} = \text{Relevant Reference Generation Tariff Component} * (\text{US CPI}_{(Rev)} / \text{US CPI}_{(Ref)} * (\text{USD}_{(Rev)} / \text{USD}_{(Ref)})$$

Where:

Insurance (Rev)	The revised Insurance Cost Component of the CPP, quarterly indexed with US CPI and the USD/PKR exchange rate variation.
US CPI (Rev)	The revised US CPI, issued by US Bureau of Labor Statistics.
US CPI (Ref)	The US CPI as on December 2007, as issued by US Bureau of Labor Statistics.
USD(Rev)	The revised TT & OD selling rate of US Dollar, as notified by National Bank of Pakistan.
USD(Ref)	PKR 62.75

31 Cost of Working Capital

31.1 A working capital loan facility of USD 19.683 million is assumed in order to finance the inventory level of RFO equivalent to 30 days generation at 100% load factor and energy payment at 60% receivable along with GST for 30 days. The cost of Working Capital Facility is assumed at 12.45% (3 month KIBOR (10.45%) + 2% margin) with no other charges (e.g. no arrangement fee and no commitment fee).

31.2 The Cost of Working Capital Component of Capacity Charge of the reference generation tariff shall be indexed to the (i) Fuel Price variation; and (ii) the quarterly changes in the 3 month KIBOR.

31.3 The Cost of Working Capital Component shall be indexed on the following formula:

$CWC_{(Rev)}$ = Relevant Reference Generation Tariff Component * $(FP_{(Rev)}/FP_{(Ref)})$ * $(KIBOR_{(Rev)} / KIBOR_{(Ref)})$

Where:

$CWC_{(Rev)}$	Revised Cost of Working Capital component.
$FP_{(Rev)}$	The new price of RFO per Metric Ton with freight and GST as per the mechanism given in Fuel Cost Component (indexation formula).
$FP_{(Ref)}$	PKR 25,714.50/- per ton (including transportation cost of PKR 2,350/- subject to adjustment as per actual).
$KIBOR_{(Rev)}$	The revised 3 month KIBOR rate at the end of each Quarter.
$KIBOR_{(Ref)}$	10.45%

32 Return on Equity

32.1 The return on equity ("ROE") and return on equity during construction ("ROEDC") components includes a return on invested equity giving an internal rate of return ("IRR") of 15% net after deduction of withholding tax.

32.2 As per the decision of the Economic Coordination Committee, the ROE component of the reference generation tariff shall be quarterly indexed to the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD notified by National Bank of Pakistan.

32.3 The ROE and ROEDC component of the Escalable Component of the reference tariff shall be indexed using the following formula:

$ROEDC \& ROE_{(Rev)}$ = Relevant Reference Generation Tariff Component* $(USD_{(Rev)} / USD_{(Ref)})$

Where:

$USD_{(Rev)}$	The revised TT & OD selling rate of US Dollar, as notified by National Bank of Pakistan.
$USD_{(Ref)}$	PKR 62.75

33 Debt Servicing

33.1 The following table provides a summary of the debt servicing component :

	Debt Servicing Component (Rs./kWh)		
	Loan Repayment	Interest Charges	Total
Year 1	0.3519	0.9044	1.2563
Year 2	0.4017	0.8546	1.2563
Year 3	0.4585	0.7978	1.2563
Year 4	0.5233	0.7330	1.2563
Year 5	0.5973	0.6589	1.2563
Year 6	0.6818	0.5745	1.2563
Year 7	0.7782	0.4780	1.2563
Year 8	0.8883	0.3680	1.2563
Year 9	1.0140	0.2423	1.2563
Year 10	1.1574	0.0989	1.2563
Year 11-25	0.0000	0.0000	0.0000

33.2 It is apparent that there is no charge under this category after 10 years as all the debt would be repaid by the end of the 10th year post COD. The assumptions used in calculation of the above are:

a) Amount of Debt: USD 186.538 million (75% of total Project cost).

b) Term of debt: 24 months of grace period + 10 years of quarterly equal debt service after the COD.

c) Interest Rates: 3 months KIBOR 10.45% + Margin 3%

d) Currency: PKR.

e) The interest charges of the Debt Service Component shall be indexed on the following formula:

33.3 Indexation Formula

IC = Relevant Reference Generation Tariff Component* (KIBOR$_{(Rev)}$/ KIBOR $_{(Ref)}$

Where:

IC	the variation in interest charges applicable on local loan corresponding to variation in quarterly KIBOR
KIBOR$_{(Rev)}$	the revised 3 month KIBOR rate at the end of each quarter
KIBOR$_{(Ref)}$	10.45%

VI PASS-THROUGH ITEMS

34 Changes in the base price of fuel (i.e. RFO), freight and GST shall be treated as a pass-through cost based on the guaranteed heat rate.

35 Pass through items includes the start up cost of plant, hot stand by cost, heat rate adjustment due to load variation and open cycle cost during start up of complex and below 25% loading of the complex or as and when requested by Power Purchaser.

36 Any additional charge, duty or tax incurred (a) prior to the COD shall be included (together with the financing cost thereof) in the Project Cost at the COD, and (b) post COD, shall be treated as pass through items to the Power Purchaser.

37 Adjustments at the COD

37.1 At the COD, the capacity charge will be adjusted by the inflation factors and reference exchange rates as defined and described herein.

37.2 The debt services component shall also be adjusted by the then prevailing 3-month KIBOR.

37.3 The final loan amount at the COD would be based on actual Euro exchange rates used by the lenders to make payment to the EPC Contractors.

37.4 No contingency has been included in the Project costs.

VII GENERAL ASSUMPTIONS

38 In addition to the other assumptions made in the foregoing paragraphs, the following general assumptions have been taken into account while calculating the tariff. Changes in any of these assumptions will result in a change to the proposed tariff:

38.1 Internal consumption has been assumed to be approximately 5.00 MW.

38.2 Annual plant availability is 88% and is in line with PPIB policy. Scheduled outage allowance of 30 days per engine per annum, except in any year in which a major overhaul is required, the scheduled outage period shall be 60 days per engine. Annual unscheduled (forced) outages will be 348 hours.

38.3 NTDC/Power Purchaser shall be responsible for procuring, financing, constructing, operating and maintenance of the interconnection, metering and transmission facilities at Project site.

38.4 In case of open cycle mode (including during startups or peaking operation), heat rate will be different. Accordingly, energy component of tariff will be adjusted accordingly.

38.5 All fuels and chemicals, consumables, and associated costs during plant tests after synchronization is assumed to be paid by the Power Purchaser.

38.6 The Levelized tariff is calculated on the basis of a notional 60% plant load factor.

38.7 A constant ROE is assumed, which results in an IRR of 15% over 25 years.

38.8 No hedging cost has been assumed for exchange rate fluctuations during construction. However, if the lenders required foreign currency hedging during the construction period, all such hedging costs shall be treated as pass through.

38.9 The cost of working capital has not been included as part of the project cost.

38.10 Project contingency/debt service reserves are not included in tariff calculations. If required by lenders, these will be adjusted accordingly in the tariff.

38.11 The 5% of the customs duties has been assumed for reference purposes, any change therein would be pass-through. No other tax including any Federal Excise Duty on the import of plant and equipment is assumed. It is assumed that no part of the power plant and the associated equipment supplied under the ESC will be treated as locally manufactured.

38.12 Tax on any income of the Company including sales proceeds from NTDC, general sales tax and all other corporate taxes will be treated as pass-through items.

38.13 No withholding tax on supply of plant and equipment assumed. Only 6% withholding tax on onshore construction services and works assumed.

38.14 Withholding tax on dividends (currently at 7.5%) as required to be deducted under the Income Tax Ordinance, 2001 or any other law for the time being in force at the time of such payment is considered as pass-through.

38.15 100% local debt is assumed.

38.16 No L/c confirmation charges have been assumed. If applicable, the adjustment based on actual, shall be treated as pass-through to the Power Purchaser.

38.17 The tariff table shall be updated at COD in order to adjust the tariff according to the actual KIBOR and exchange rates (PKR/USD, PKR/ Euro and USD/ Euro) and other re-openers.

38.18 All invoicing and payment terms are assumed to be in accordance with the 2007 standardized PPA.

38.19 If Power Purchaser requires the dispatched deliveries to be made in excess of the existing 132 kV, four transmission lines or to any other additional circuit, the additional cost incurred by the Company will be paid by the Power Purchaser.

38.20 The cost of metering system (except back up meter) and remote terminal unit (RTU) to be paid by the Power Purchaser. In case the Company is required to meet this cost, its actual price would be claimed under the non-EPC Cost.

38.21 All other assumptions not expressly stated herein are based upon the 2007 standardized PPA.

38.22 Any incentives given to any other project of the same technology shall also be given to the Company.

VIII RELIEF SOUGHT

39 Appeal to Authority

39.1 The Company would like to inform the Authority that due to the increase in the Project Cost, as set forth in preceding paragraphs, the Company is facing the direct negative impact on the Project.

39.2 Therefore, in the view of the facts and evidences provided in this Modification Petition, the Company respectfully requests the learned Authority to approve the Reference Generation Tariff.

39.3 The reference prices, reference exchange rate, reference KIBOR, reference WPI index, reference European CPI and C US$ parity may be determined on the current reference rate and figures.

39.4 Respectfully submitted on behalf of:

Gujranwala Energy Limited

Dated: 12 March 2008

PROPOSED TARIFF

Gujranwala Energy Limited
Reference Generation Tariff Table

Annexure - A

Year	Energy Charge (Rs./kWh)			Capacity Charge (Rs./kWh)									Capacity	Total	
	Fuel	Variable O&M	Total Energy	Escalable (Fixed O&M)	Financing Cost on Working Capital	Escalable (Insurance)	Return on Equity	Return on Equity for Construction Period	With Holding Tax @ 7.50%	Loan payment	Interest Charges	Total Capacity	Rs. per kWh	Rs. per kWh	¢ per kWh
1	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.3519	0.9044	2.0298	3.3830	8.6749	13.82
2	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.4017	0.8546	2.0298	3.3830	8.6749	13.82
3	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.4585	0.7978	2.0298	3.3830	8.6749	13.82
4	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.5233	0.7330	2.0298	3.3830	8.6749	13.82
5	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.5973	0.6589	2.0298	3.3830	8.6749	13.82
6	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.6818	0.5745	2.0298	3.3830	8.6749	13.82
7	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.7782	0.4780	2.0298	3.3830	8.6749	13.82
8	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	0.8883	0.3680	2.0298	3.3830	8.6749	13.82
9	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	1.0140	0.2423	2.0298	3.3830	8.6749	13.82
10	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	1.1574	0.0989	2.0298	3.3830	8.6749	13.82
11	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
12	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
13	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
14	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
15	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
16	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
17	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
18	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
19	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
20	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
21	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
22	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
23	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
24	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
25	4.7811	0.5108	5.2919	0.1475	0.0900	0.0990	0.3426	0.0638	0.0305	-	-	0.7735	1.2892	6.5811	10.49
Levelized	**4.7811**	**0.5108**	**5.2919**	**0.1475**	**0.0900**	**0.0990**	**0.3426**	**0.0638**	**0.0305**	**0.4186**	**0.4318**	**1.6239**	**2.7065**	**7.9984**	**12.7465**