

TRF-89



LIBERTY POWER TECH LTD.

A/51-A, S.I.T.E., Karachi-75700 Pakistan.
 Phones : (92-21) 2578103 -16 (14 Lines) Fax : (92-21) 2561050 - 2570086
 E-mail : liberty@libertymillslimited.com

LPTL/001/07

THE REGISTRAR
 NATIONAL ELECTRICAL POWER REGULATORY AUTHORITY
 OPF Building, Shaharah-e-Jamhuriat
 G-5/2
 Islamabad.

SUBJECT: TARIFF PETITION FOR LIBERTY POWER TECH LIMITED' 200 MW (GROSS AT ISO) POWER PROJECT AT FAISALABAD.

Dear Sir,

1. It is submitted that in its letter dated June 15, 2007 (the **EOI**), Liberty Power Tech Limited expressed its firm interest to the Government of Pakistan (the **GOP**) in setting up of a 200 MW (Gross at ISO) residual fuel oil based reciprocating engine based power generation facility in the Faisalabad area (the **Project**). The EOI, a copy of which is attached with the Tariff Petition, was submitted to GOP through the Private Power Infrastructure Board (the **PPIB**), Ministry of Water & Power.
2. In response to Liberty Power Tech Limited's EOI, the GOP, through PPIB (Ministry of Water & Power), in its letter No. 1(102) PPIB/07/PRJ dated July 4, 2007 (the **GOP Approval Letter**), also attached to the Tariff Petition, approved the Project on a 'Fast Track' basis, with commercial operation date deadline of December 2010 and thereby dispensed with the various steps of pre-qualification and issuance of letter of interest. Further, the GOP Approval Letter instructed Liberty Power Tech Limited to approach NEPRA for tariff approval.
3. As you will observe in the Tariff Petition, Liberty Power Tech Limited's Project is inline with the highest technical, operational and financial standards, as required by the GOP for the IPPs. The Project's tariff approval by NEPRA is being highly awaited by the markets due to the Project's key strengths, which include:
 - (a) Firm engineering, procurement and construction price with fixed and definitive commercial operations date of December 2010; as contractually agreed with globally reputable EPC contractors – Wärtsilä. In order to lock the EPC price and the projected commercial operations date for the Project, LPTL has already made a non-refundable payment equaling Euros 3,000,000 (Euros Three Million) to Wärtsilä Finland.
 - (b) Commercially finalized and in place financing structure; with commitments obtained from various local financial institutions. The proposed Islamic financing for the Project is being termed as the largest Sharia compliant project financing in Pakistan's history.

Registrar	25.10.07
Dy. No.	2578103-16
Dated	07-11-07

Bank draft no. HMB/DD 0485032 dt. 25.10.07.
 (Rs. 2751750/-) is forwarded for n.a. please
 confirm if correct amount is sent. 9/11/07.
 Dir(F).
 cc 1. A - Chairman.
 2. M(T).



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Based on the Project's strength, the credit rating agency in Pakistan, PACRA, has given the proposed financing instrument, Sukuk, a tentative rating of AA-, which will be finalized after NEPRA's approval of Liberty Power Tech Limited's tariff and signing of financing documents.

- (c) Committed, entrepreneurial and reputable sponsors; being principally engaged in textile, energy and construction sectors in Pakistan with a total annual turnover of PKR 7.0 Billion, Liberty Group (owned, managed and run by the Mukaty family) is one of the reputable and financially strong business groups of the country.
4. Following submission of the Tariff Petition, Liberty Power Tech Limited envisages filing of the Generation License application with NEPRA shortly
5. **THUS, PURSUANT TO** the relevant provisions of the NEPRA Rules and Regulations, read with the provisions of the NEPRA Act; **AND** in accordance with the Tariff Guidelines 2005 and the Power Policy 2002; **AND** in light of the GOP Approval Letter pursuant to which the GOP, through PPIB, has approved Liberty Power Tech Limited's 200 MW (Gross at ISO) Project on a fast track basis in the Faisalabad area and has instructed Liberty Power Tech Limited to approach NEPRA for tariff approval: **LIBERTY POWER TECH LIMITED SUBMITS** for NEPRA, the competent regulatory authority lawfully authorized to determine tariff for power generation companies, for its approval, a Tariff Petition for approval of the Reference Generation Tariff for Liberty Power Tech Limited's 200 MW (Gross at ISO) power Project.
6. The Tariff Petition (including its Schedules) is submitted in triplicate, together with:
(a) the requisite fee;
(b) Board resolution of Liberty Power Tech Limited; and
(c) Affidavit of Mr. Ashraf Mukati (Chief Executive Officer, Liberty Power Tech Limited).
7. We enclose Bank Draft No. 485032-511 dated October 25, 2007 amounting to PKR 2,751,750/- as requisite fee for the Tariff Petition, as notified by NEPRA.
8. We look forward to responding positively and expeditiously to the regulatory process and to a hopefully expeditious conclusion of the same in order to achieve financial close without delay and in order to complete the Project on a fast track basis.



LIBERTY POWER TECH LTD.

A/51-A, S.I.T.E., Karachi-75700 Pakistan.

Phones : (92-21) 2578103 -16 (14 Lines) Fax : (92-21) 2561050 - 2570086

E-mail : liberty@libertymillslimited.com

Sincerely,

MR. ASHRAF MUKATI
CHIEF EXECUTIVE OFFICER
LIBERTY POWER TECH LIMITED
DATED: NOVEMBER 5, 2007

Payee's Use Only



Habib Metropolitan Bank Ltd.

HMB/DD 0485032

PKR***2,751,750.00

S.I.T.E. Branch
Karachi

485032-511
Date: Oct 25 2007

ON DEMAND PAY

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA) 40R ORDER
A/C LIBERTY POWER TECH

Rupees two million seven hundred and fifty one thousand seven hundred
and fifty only

TO

Habib Metropolitan Bank Ltd.
Islamabad Branch(10)
Islamabad

PKR***2,751,750.00

For Habib Metropolitan Bank Ltd

Authorized
Signature

Authorized
Signature

Payee's A/c Only



Habib Metropolitan Bank Ltd.

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PKR***2,751,750.00

S.I.T.E. Branch
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Islamabad Branch(10)

Islamabad

For **Habib Metropolitan Bank Ltd**

Authorised
Signature

Authorised
Signature



LIBERTY POWER TECH LIMITED.

A/51-A, S.I.T.E., Karachi-75700 Pakistan.
Phones : (92-21) 2578103 -16 (14 Lines) Fax : (92-21) 2561050 - 2570086
E-mail : liberty@libertymillslimited.com

BOARD RESOLUTION

MINUTES OF MEETING OF BOARD OF DIRECTORS OF LIBERTY POWER TECH LIMITED, KARACHI (THE 'COMPANY') HELD ON OCTOBER 22, 2007 AT 3.00 P.M. AT PLOT NO.A/51-A, SITE, KARACHI..


RESOLVED that the Company file its application / petition for Tariff Determination with National Electric Power Regulatory Authority.

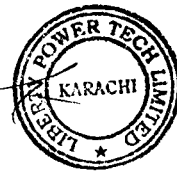
FURTHER RESOLVED that MR. ASHRAF MUKATY, the Chief Executive Officer of Liberty Power Tech Limited, and Mr. Madni Gul Mohammad, Executive Director of Liberty Power Tech Limited, are hereby each singly and jointly authorized to sign and execute the necessary documentation, pay the necessary fees, appear before the National Electric Power Regulatory Authority as needed, and do all acts necessary for completion and processing of the Tariff Determination application / petition.

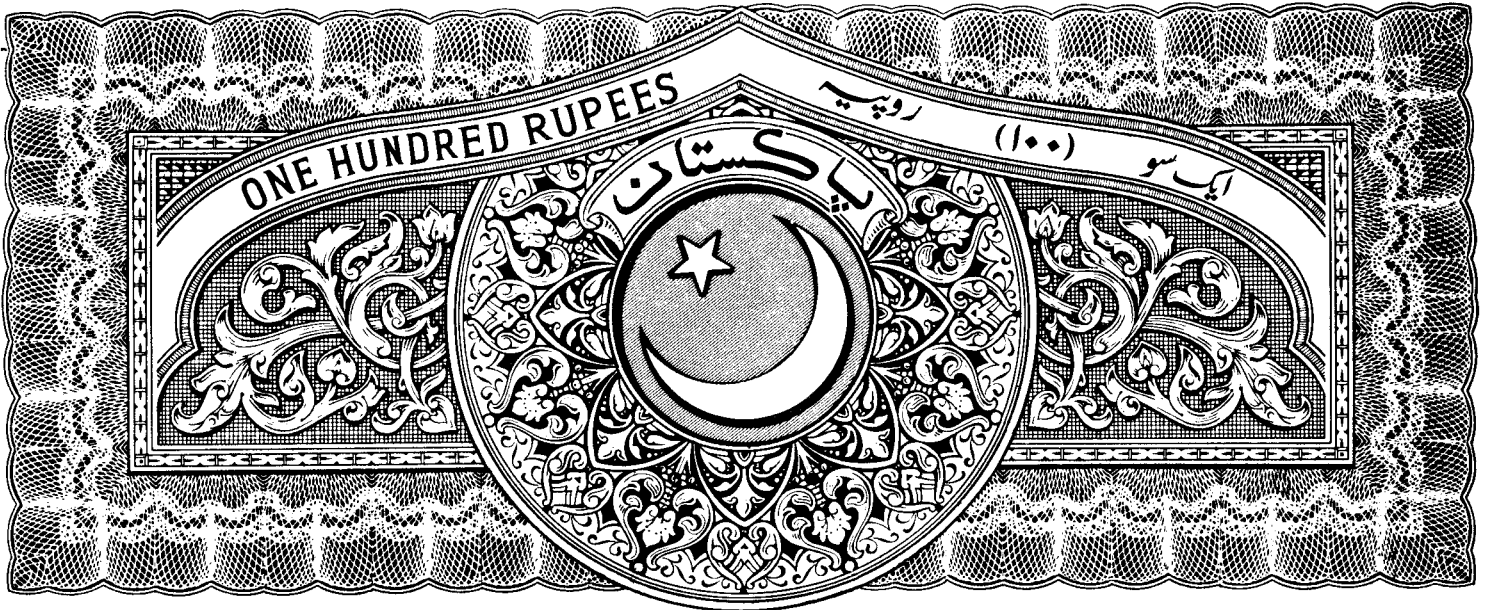
LIBERTY POWER TECH LIMITED


Company Secretary

COMPANY SECRETARY


CHAIRMAN





38624

Liberty Power Tech

BEFORE

THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

AFFIDAVIT

Affidavit of Ashraf Mukaty, Chief Executive Officer of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.

I, the above-named Deponent, do hereby solemnly affirm and declare that:-

1. I am the Chief Executive Officer of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.
2. I am the principal authorized representative/attorney of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.
3. The contents of the accompanying Tariff Petition # dated November 5, 2007 including all supporting documents are true and correct to the best of my knowledge and belief, and nothing material or relevant thereto has been concealed or withheld therefrom.
4. I also affirm that all further documentation and information to be provided by me in connection with the aforesaid Tariff Petition shall be true and correct to the best of my knowledge and belief.

Ashraf Mukaty
.....
DEPONENT

VERIFICATION

It is hereby verified on solemn affirmation at Karachi on this the 5th day of November, 2007, that the contents of the above Affidavit are true and correct to the best of my knowledge and belief, and that nothing material or relevant thereto has been concealed or withheld therefrom.

Ashraf Mukaty
.....
DEPONENT

BEFORE
THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)

TARIFF PETITION

PURSUANT TO NEPRA (TARIFF STANDARDS AND PROCEDURE) RULES, 1998
READ WITH THE PROVISIONS OF
THE REGULATION FOR GENERATION, TRANSMISSION AND DISTRIBUTION OF ELECTRIC
POWER ACT (XL OF) 1997 & THE RULES AND REGULATIONS MADE THEREUNDER
&
THE FEDERAL GOVERNMENT'S
GUIDELINES FOR DETERMINATION OF TARIFF FOR INDEPENDENT POWER PRODUCERS
2005 AND
POLICY FOR POWER GENERATION PROJECTS 2002

ON BEHALF OF

LIBERTY POWER TECH LIMITED (LPTL)

FOR NEPRA'S APPROVAL OF REFERENCE GENERATION TARIFF FOR LPTL

FOR A POWER PROJECT OF 200 MW (GROSS AT ISO)

AT

FAISALABAD

DATED: NOVEMBER 5, 2007

LIBERTY POWER TECH LIMITED.
ADDRESS: A/51-A, S.I.T.E., KARACHI- 75700, PAKISTAN
PHONE #: 021-2578103-16.
FAX #: 021-2564600.

A

COPY OF LPTL BOARD RESOLUTION





LIBERTY POWER TECH LIMITED.

A/51-A, S.I.T.E., Karachi-75700 Pakistan.
Phones : (92-21) 2578103 -16 (14 Lines) Fax : (92-21) 2561050 - 2570086
E-mail : liberty@libertymillslimited.com

BOARD RESOLUTION

**MINUTES OF MEETING OF BOARD OF DIRECTORS OF LIBERTY POWER
TECH LIMITED, KARACHI (THE 'COMPANY') HELD ON OCTOBER 22, 2007
AT 3.00 P.M. AT PLOT NO.A/51-A, SITE, KARACHI..**

RESOLVED that the Company file its application / petition for Tariff Determination with National Electric Power Regulatory Authority.

FURTHER RESOLVED that MR.ASHRAF MUKATY, the Chief Executive Officer of Liberty Power Tech Limited, and Mr. Madni Gul Mohammad, Executive Director of Liberty Power Tech Limited, are hereby each singly and jointly authorized to sign and execute the necessary documentation, pay the necessary fees, appear before the National Electric Power Regulatory Authority as needed, and do all acts necessary for completion and processing of the Tariff Determination application / petition.

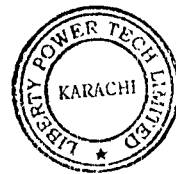
LIBERTY POWER TECH LIMITED


Company Secretary

COMPANY SECRETARY

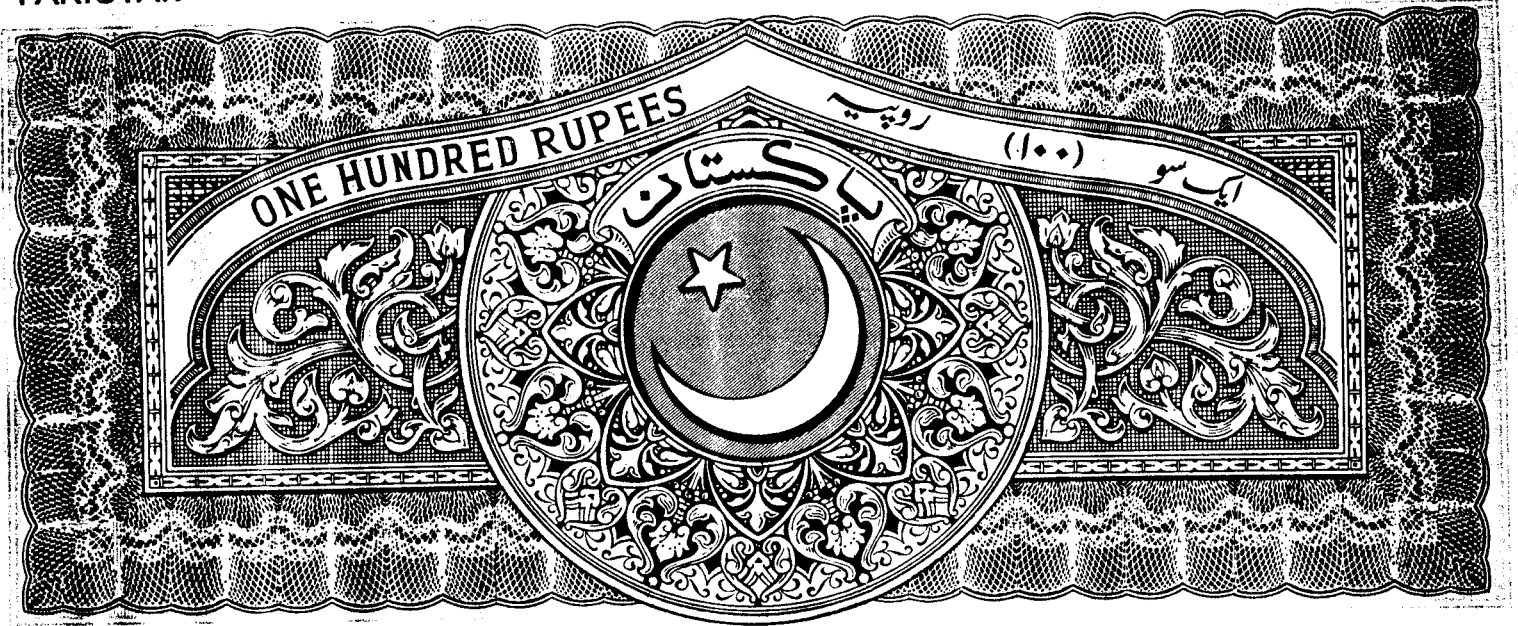


CHAIRMAN



COPY OF AFFIDAVIT OF MR. ASHRAF MUKATI

A small, handwritten mark or signature, possibly a stylized letter 'A' or a similar symbol, located in the lower-left quadrant of the page.



38624

26 OCT 2007

Liberty Power Tech

BEFORE

THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

AFFIDAVIT

Affidavit of Ashraf Mukaty, Chief Executive Officer of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.

I, the above-named Deponent, do hereby solemnly affirm and declare that:-

1. I am the Chief Executive Officer of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.
2. I am the principal authorized representative/attorney of M/s Liberty Power Tech Limited, A/51-A, S.I.T.E., Karachi-75700, Pakistan.
3. The contents of the accompanying Tariff Petition # dated November 5, 2007 including all supporting documents are true and correct to the best of my knowledge and belief, and nothing material or relevant thereto has been concealed or withheld therefrom.
4. I also affirm that all further documentation and information to be provided by me in connection with the aforesaid Tariff Petition shall be true and correct to the best of my knowledge and belief.

DEPONENT

VERIFICATION

It is hereby verified on solemn affirmation at Karachi on this the 5th day of November, 2007, that the contents of the above Affidavit are true and correct to the best of my knowledge and belief, and that nothing material or relevant thereto has been concealed or withheld therefrom.

DEPONENT

COPY OF BANK DRAFT



Payee's A/c Only



Habib Metropolitan Bank Ltd.

HMB/DD 0485032

PKR**2,751,750.00

Habib Metropolitan Bank Ltd.

S.I.T.E. Branch
Karachi

485032-511

Date: Oct 25 2007

ON DEMAND PAY
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA) 40R ORDER
A/C LIBERTY POWER TECH
Rupees two million seven hundred and fifty one thousand seven hundred
and fifty only

PKR**2,751,750.00

TO

Habib Metropolitan Bank Ltd.
Islamabad Branch(10)
Islamabad

For Habib Metropolitan Bank Ltd.

Authorised
Signature

Authorised
Signature

#

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GLOSSARY

BOO	Build, Own and Operate
BTU	British Thermal Unit
COD	Commercial Operations Date
CPI	Consumer Price Index
CPP	Capacity Purchase Price
ECC	Economic Coordination Committee
EPC	Engineering Procurement and Construction
EPP	Energy Purchase Price
Euro	Euro, the legal currency of the European Union
FSA	Fuel Supply Agreement
GOP	Government of Pakistan
GST	General Sales Tax
IA	Implementation Agreement
IPP	Independent Power Producer
IRR	Internal Rate of Return
ISO	International Standards Organization
KIBOR	Karachi Inter Bank Offered Rate
KW	Kilowatt
KWh	Kilowatt hour
L/C	Letter of Credit
LFO	Light Fuel Oil (High Speed Diesel)
LHV	Lower Heating Value
LPTL	Liberty Power Tech Limited
MW	Megawatt, i.e., 1,000,000 Watts
MWh	Megawatt hour
NEPRA	National Electric Power Regulatory Authority
NEPRA ACT	Regulation for Generation, Transmission and Distribution of Electric Power Act (XL of) 1997
NEPRA RULES	NEPRA (Tariff Standards and Procedure) Rules, 1998
NTDC	National Transmission & Dispatch Company
O&M	Operation & Maintenance
PKR	Pakistani Rupees, the legal currency of Pakistan
POWER POLICY 2002	Policy For Power Generation Projects issued by the Federal Government of Pakistan in 2002
PPA	Power Purchase Agreement
PPIB	The Private Power & Infrastructure Board of the Government of Pakistan
RFO	Residual Fuel Oil
ROE	Return on Equity
SITE	Faisalabad
TARIFF GUIDELINES 2005	Guidelines for Determination of Tariff for Independent Power Producers issued by the Federal Government of Pakistan in 2005
TON	Metric Tonne i.e. 1000 kg
US CPI	United States Consumer Price Index
USD	United States Dollar, the legal currency of the United States of America
WAPDA	Pakistan's Water & Power Development Authority established under the WAPDA Act (WP-XXXI of) 1958
WÄRTSILÄ	Collectively Wärtsilä Finland and Wärtsilä Pakistan (Pvt.) Ltd
WPI	Wholesale Price Index of manufacturing in Pakistan

A

1. DETAILS OF THE PETITIONER

NAME AND ADDRESS

Liberty Power Tech Limited.
Address: A/51-A, S.I.T.E., Karachi- 75700, Pakistan
Phone #: 021-2578103-16.
Fax #: 021-2564600.

REPRESENTATIVES OF LIBERTY POWER TECH LIMITED

- **MR. ASHRAF S. MUKATY:**
Chief Executive Officer, Liberty Power Tech Limited.
- **MR. MADNI GUL MUHAMMAD:**
Executive Director, Liberty Power Tech Limited.



2. BACKGROUND – REGULATORY FRAMEWORK & GOP APPROVAL

2.1 NATIONAL ELECTRIC POWER REGULATORY AUTHORITY – THE COMPETENT AUTHORITY FOR DETERMINATION OF TARIFF

2.1.1 NEPRA Act & NEPRA Rules

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

2.1.2 Power Policy 2002 & Tariff Guidelines 2005

In order to avoid multiplicity of entities and stages of negotiations for tariff negotiations, paragraph 1.3 of Guidelines for Determination of Tariff for Independent Power Producers (the **Tariff Guidelines 2005**), issued by the Government of Pakistan (**GOP**) in 2005, states:

If an IPP wishes to submit an unsolicited bid according to power policy of 2002 and wants to settle tariff through negotiations, NEPRA should determine the tariff in consultation with the IPP and the power purchasers.

2.1.3 Therefore in accordance with the NEPRA Rules, read with the enabling provisions of the NEPRA Act, and in light of the relevant provisions of the Tariff Guidelines 2005 and the Policy For Power Generation Projects issued by the GOP in 2002 (the **Power Policy 2002**), Liberty Power Tech Limited submits its petition for tariff approval before NEPRA, the competent regulatory authority lawfully authorized to determine tariff for power generation companies.

2.2 GOP APPROVAL

2.2.1 Liberty Power Tech Limited's letter of interest to GOP

In its letter dated June 15, 2007 (the **EOI**), Liberty Power Tech Limited expressed its firm interest to GOP in setting up of a 200 MW (Gross at ISO) residual fuel oil based reciprocating engine based power generation facility in the Faisalabad area. The EOI, a copy of which is attached at **Schedule A**, was submitted to GOP through the Private Power Infrastructure Board (the **PPIB**), Ministry of Water & Power.

2.2.2 GOP approval of Liberty Power Tech Limited's power project under the 'FAST TRACK' initiative

In response to Liberty Power Tech Limited's EOI, the GOP, through PPIB (Ministry of Water & Power), in its letter No. 1(102) PPIB/07/PRJ dated July 4, 2007 (the **GOP Approval Letter**), attached as **Schedule B**, approved Liberty Power Tech Limited's 200 MW (Gross at ISO) power project on a 'FAST TRACK' basis, with commercial operation date deadline of December 2010 and thereby dispensed with the various steps of pre-qualification issuance of letter of interest.

Further, the GOP Approval Letter instructed Liberty Power Tech Limited to approach NEPRA for tariff approval.

2.3 SUBMISSION

- 2.3.1 **PURSUANT TO** the relevant provisions of the NEPRA Rules, read with the provisions of the NEPRA Act and the Rules and Regulations made thereunder; **AND** in accordance with the Tariff Guidelines 2005 and the Power Policy 2002; **AND** in light of the GOP Approval Letter pursuant to which the GOP, through PPIB, has approved Liberty Power Tech Limited's 200 MW (Gross at ISO) power generation project on a fast track basis in the Faisalabad area and has instructed Liberty Power Tech Limited to approach NEPRA for tariff approval: **LIBERTY POWER TECH LIMITED SUBMITS HEREWITH** for NEPRA, the competent regulatory authority lawfully authorized to determine tariff for power generation companies, for its approval, a tariff petition (the **Tariff Petition**) for approval of the reference generation tariff (the **Reference Generation Tariff**) for Liberty Power Tech Limited's 200 MW (Gross at ISO) power generation facility to be located at Faisalabad.



3. EXECUTIVE SUMMARY

3.1 LIBERTY POWER TECH LIMITED

Liberty Power Tech Limited (**LPTL**) is a special purpose public limited company, which has been established and set up under the laws of Pakistan and is incorporated under the Companies Ordinance 1984.

3.2 PROJECT SUMMARY

3.2.1 In light of the GOP Approval Letter and following approval of LPTL's Reference Generation Tariff by NEPRA through this Tariff Petition, LPTL will finance, design, engineer, procure, construct, install, test, complete, commission, insure, operate and maintain a 200 MW (Gross at ISO) power generation facility (the **Facility**) at Faisalabad (the **Project**).

3.2.2 Subject to the assumptions contained in this Tariff Petition, please find below a summary of the Project for NEPRA's perusal:

PROJECT SIZE	200 MW (Gross at ISO); and 195 MW (net at Site reference conditions)
PROJECT SITE	Faisalabad
TECHNOLOGY	Combined Cycle / 4 stroke Diesel Engine
EQUIPMENT	11 RFO Diesel Engines, 11 Heat Recovery Steam Generators, 1 Steam Turbine and other allied electrical and mechanical equipment
ENGINEERING & PROCUREMENT CONTRACTOR	Wärtsilä Finland
CONSTRUCTION CONTRACTOR	Wärtsilä Pakistan
OPERATIONS & MAINTENANCE (O&M) CONTRACTOR¹	Wärtsilä Operations and Maintenance and Wärtsilä Pakistan (Pvt.) Ltd
POWER OFF-TAKER	National Transmission & Dispatch Company
FUEL SUPPLIER	A reputable oil marketing company
PROJECT COST	USD 224.732 Million
CAPITAL STRUCTURE	75% debt and 25% equity
FINANCIERS	A consortium of local financial institutions and investors



PRIMARY SPONSOR	Liberty Group
LEVELIZED REFERENCE GENERATION TARIFF	12.8207 Cents/kWh (subject to NEPRA's final determination)

3.3 **KEY STRENGTHS**

Amongst various other factors, the following are proposed as key strengths of the Project:

- (a) **Firm engineering, procurement and construction price with fixed and definitive commercial operations date of December 2010;** as contractually agreed with globally reputable EPC contractors – Wärtsilä. In order to lock the EPC price and the projected commercial operations date for the Project, LPTL has already made a non-refundable payment equaling Euro 3,000,000 (Euro Three Million) to Wärtsilä Finland.
- (b) **Commercially finalized and in place financing structure;** with commitments obtained from various local financial institutions. The proposed Islamic financing for the Project is being termed as the largest Sharia compliant project financing in Pakistan's history. Lead arrangers of the financing are extremely confident that the debt required for the financial close of the Project will be arranged from the local banking market and based on the Project's strength, the credit rating agency in Pakistan, PACRA, has given the proposed financing instrument, i.e. Sukuk, a tentative rating of AA-, which will be finalized after approval NEPRA tariff and signing of financing documents.
- (c) **Committed, entrepreneurial and reputable sponsors;** being principally engaged in textile, energy and construction sectors in Pakistan with a total annual turnover of PKR 7.0 Billion, Liberty Group (owned, managed and run by the Mukaty family) is one of the reputable and financially strong business groups of the country.



4. PROJECT INTRODUCTION

4.1 KEY CONSIDERATIONS

4.1.1 Technology & Equipment

The Project entails setting up the Facility on build, operate and own (**BOO**) basis. The Facility will be a thermal IPP using Residual Fuel Oil (**RFO**) as fuel. The proposed Project is based on the combined cycle technology with an ISO capacity of 200 MW. The Facility configuration consists of 11 reciprocating 16.9 MWe RFO fired diesel engine (18V46 by Wärtsilä) generator sets and 11 heat recovery steam generators (HRSG) to provide steam for one 14 MW condensing steam turbine. The selected reciprocating engines are designed for firing single fuel.

The proposed technology has been selected by LPTL after detailed analyses of various power generation technologies available internationally. A range of technologies were reviewed by the LPTL to utilize RFO, which included conventional steam plant gas turbines and diesel engines, either in single cycle or combined cycle modes, as well as 4-stroke or 2-stroke engine configurations.

Four-stroke diesel engines were selected for the Project as the primary objective of the Facility is to efficiently convert the available indigenous RFO into electrical energy and four-stroke diesel engines are well proven to achieve high efficiencies on this type of fuel. Gas turbine based concepts were rejected as the main gas turbine manufacturers expressed their concerns that use of RFO in gas turbines would mean considerable de-rating both in power generating capacity as well as in efficiency from the nameplate capacities due to extensive fouling.

It is hereby submitted that in respect of selection of the power generation technology being proposed for the Project by LPTL:

- (a) gas based turbines are neither economically nor practically feasible on a long term basis due to limited resources of gas in Pakistan;
- (b) RFO based diesel engines are proven to be more efficient than the gas turbine based concepts using RFO;
- (c) the concept of 11 engines improves the reliability as well as the efficiency of the Project throughout the operations; and
- (d) from a maintenance perspective the diesel engine plant is very flexible as most maintenance work can be conducted during normal operation without interference with the power production of other units.

4.1.2 Site

National Transmission and Dispatch Company (the **NTDC**) and the planning division of Water & Power Development Authority (**WAPDA**) after due consideration of load flow, availability of grid station, transmission lines and in view of the requirements and electricity demand of the area, has allocated LPTL the site located near Faisalabad for the Project (the **Site**). The Site will be developed by LPTL to serve the Project's land, logistical, water, and drainage requirements

Considering exponential growth in the economic activity, the ever increasing electricity requirements of the existing consumer base and the development of new industrial estate in the Faisalabad area, the Project will help in meeting the

local area's electric energy requirements and shall result in substantial reduction in line losses to the system due to consumption of electricity close to power generation.

4.1.3 **World class engineering, procurement and construction (the EPC) contractors and firm EPC Price**

For the purposes of the Project, LPTL has already appointed Wärtsilä Finland as the engineering and procurement contractor and Wärtsilä Pakistan (together **Wärtsilä**) as the construction contractor, in each case based on firm (non-re-openable) EPC prices and confirmed commercial operations date (the COD).

In order to lock the EPC price and the projected COD for the Project, LPTL has already made a non-refundable payment equaling Euro 3,000,000 (Euro Three Million) to Wärtsilä Finland. LPTL's aggressive approach in locking Wärtsilä's price prior to its tariff determination is strong evidence of the company's and its sponsors' seriousness in successfully setting up and operating & maintaining the Project.

The EPC Contractors

Wärtsilä is a world class leading supplier of equipment and materials relating to power plants for the decentralized power generation market. Wärtsilä delivers multi-fuel power plant solutions from 1 MW to 300 MW and has extensive experience in power plant solutions based on oil, gas and dual-fuel engines as well as biomass fuelled heat power plants.

LPTL has selected Wärtsilä for the Project due to better fuel cost and efficiency, low emissions, competitive price and to meet the requirement of COD of December 31, 2010, as given to the Project by GOP through PPIB. Moreover Wärtsilä is a leading provider of power plants in Pakistan and has already set up power generation facilities for M/s Gull Ahmed, M/s Tepal and M/s Koh-i-Noor.

Being the EPC Contractor for the Project, Wärtsilä will have access to its international technical resources and parts distribution networks. Wärtsilä will guarantee performance guarantee levels, plant output and heat rate for the Facility at COD, thus minimizing the technical completion risk of the Project.

Firm EPC Price and COD

Pursuant to the recent decision of the Economic Co-ordination Committee (ECC) and the resulting amendments to the Power Policy 2002, NEPRA has been instructed to stop the practice of accepting EPC costs on the basis of quotations etc. Instead, NEPRA is to base its determination on firm (non-reopenable) competitive price duly initialed/signed by the IPP/EPC contractors.

Unlike most of its predecessor IPPs, which approached NEPRA for tariff determination prior to entering into definitive EPC price and commercial operations date arrangements, LPTL has already entered into preliminary agreements with Wärtsilä Finland and Wärtsilä Pakistan (together **Wärtsilä**) and on the basis of the same hereby submits its Tariff Petition on the basis of firm and final Wärtsilä related EPC cost (the Firm EPC Wärtsilä Cost) and a projected COD of December 31, 2010.

4.1.4 O&M contractors

The Operation and Maintenance (the **O&M**) of the Facility will be likely contracted to (i) Wärtsilä Operations & Maintenance and Wärtsilä Pakistan (Pvt.) Ltd (together **Wärtsilä O&M**), fully owned subsidiaries of the Wärtsilä Corporation, or (ii) another reputable O&M contractor. LPTL is presently in advance negotiations with Wärtsilä O&M for their appointment as the operation & maintenance contractors for the Project. The O&M contract will cover minimum performance standards of the Facility.

Wärtsilä O&M have a track record of currently operating close to 150 power plants with a capacity of over 2,500 MW globally. Wärtsilä O&M have both regional Pakistani and international corporate resources to assist plant personnel in all O&M related areas.

Since Wärtsilä is the equipment manufacturer of the proposed Project, Wärtsilä Operations & Maintenance shall, as the O&M contractor, also have access to Wärtsilä's technical resources and parts distribution networks. Further, since Wärtsilä is the proposed equipment manufacturer and the EPC contractor of the Project, Wärtsilä Pakistan (Pvt.) Ltd as the local operator of the Facility would have access to Wärtsilä's technical resources and parts distribution networks within the country.

It is envisaged that the O&M contract of the Project will be a multi-year long term O&M contract, with an option for extension of the contract. It is further envisaged that Wärtsilä Pakistan (Pvt.) Ltd will guarantee plant availability, heat rate and net plant output for the contracted period, thus minimizing the technical operational risk of the Project.

4.1.5 Power off-take

The electricity generated will be sold to NTDC (the **Power Purchaser**) pursuant to the power purchase agreement (the **PPA**), which in turn will distribute and modulate the capacity generated by LPTL. The PPA will be finalized and executed by and between LPTL and the Power Purchaser following NEPRA's approval of LPTL's 25 years Reference Generation Tariff.

4.1.6 Fuel supply arrangement

LPTL will enter into a fuel supply agreement (the **Fuel Supply Agreement**) with a major oil marketing company (the **Fuel Supplier**) and will have on Site storage tanks for storing fuel for up to 30 days' worth of operations at 100% capacity utilization. RFO is easily available both locally and internationally, and supply risk is adequately mitigated. Additionally, with the increased refining capacity coming online and/or being planned, further surplus of RFO is expected to be present in the local market.

There is a need for transportation of RFO, lube oil and diesel for the Facility's operation and maintenance. Although Pakistan Railways can carry out the transportation of equipment and fuel, tank lorries are the most suitable means of transportation of all fuels to the Facility. All roads close to the Site are wide and metalled to support fuel supplies on regular day to day basis since Faisalabad, being a major city and district of Pakistan, is connected with the rest of the country through a web of roads, and highways, including the motor-way.

In Pakistan there are several operational oil marketing companies that are capable of supplying the fuel requirements for the Project. To date, the following companies are being considered as potential suppliers:

- (a) Pakistan State Oil;
- (b) Shell Pakistan; and
- (c) Total (PARCO).

4.1.7 Project cost and capital structure

Based on the assumptions contained in this Tariff Petition and in light of the proposed discussion contained in Section 6 (Project Cost & Investment), the proposed Project cost is USD 224,732,000 (United States Dollars Two Hundred Twenty Four Million Seven Hundred and Thirty Two Thousand) (the **Project Cost**).

In accordance with the financial structure allowed under the Infrastructure Project Guidelines issued by State Bank of Pakistan and the Tariff Guidelines 2005, the planned financing of the Project Cost is by 75% long-term debt (the **Debt**) and 25% equity (the **Equity**).

4.1.8 Reference Generation Tariff

The PPA will be finalized by and between LPTL and the Power Purchaser, subject to NEPRA's approval of a 25 year tariff acceptable to LPTL. The Reference Generation Tariff has a typical two-part structure with an energy charge (the **Energy Purchase Price**) for the energy actually dispatched and a capacity charge (the **Capacity Purchase Price**) based on the dependable capacity.

The Reference Generation Tariff, as approved by NEPRA, will be integrated into the PPA, which shall be based on the format of the standardized PPA proposed by PPIB. LPTL hereby respectfully requests NEPRA to kindly ensure consistency between the adjustment formulae and indexations to be applied to the Reference Generation Tariff normally conveyed to the petitioner in NEPRA's tariff determination order since these formulae and indexation shall also form part of Schedule 1 to the PPA. Consistency must therefore be maintained, as requested, between NEPRA's tariff determination order and Schedule 1 to the PPA.

4.2 ADDITIONAL INFORMATION

4.2.1 Following pertinent information is hereto attached for NEPRA:

- (a) **SCHEDULE A – REFERENCE GENERATION TARIFF TABLE;**
- (b) **SCHEDULE B – Liberty Power Tech Limited's letter to the GOP dated June 15, 2007 - the EOI;**
- (c) **SCHEDULE C – GOP APPROVAL LETTER (No. 1(102) PPIB/07/PRJ) dated July 4, 2007;**
- (d) **SCHEDULE D – TRENDS IN PRICES OF VARIOUS METALS, COPPER & STEEL;**
and
- (e) **SCHEDULE E – ARTICLES AND MEMORANDUM OF ASSOCIATION LPTL.**

4.2.2 Additionally, the following have been attached as part of the Tariff Petition:

- (a) Board Resolution of LPTL;
 - (b) Affidavit of Mr. Ashraf Mukati; and
 - (c) Bank Draft No. 485032-511 dated October 25, 2007 amounting to PKR 2,751,750/- as requisite fee for the Tariff Petition, as notified by NEPRA.
- 4.2.3 Additional information, to the extent available, will be submitted by LPTL, if required by NEPRA.
- 4.2.4 This Tariff Petition is submitted in triplicate, together with the requisite fee.
- 4.2.5 Following submission of the Tariff Petition, LPTL envisages filing of the Generation License application with NEPRA shortly.

BASED ON THOROUGH ANALYSIS of the national electricity generation structure, the existing available power generation technologies, the existing infrastructure and in light of LPTL's engagement of the world's best contractors for the construction, operation and maintenance of the Facility, it is highly anticipated that LPTL's Project shall be one of the most competitive independent power producers using RFO in Pakistan.



5. PROJECT FINANCING – DEBT & EQUITY

5.1 DEBT FINANCING STRUCTURE

- 5.1.1 LPTL's preliminary discussions on the Debt financing with Allied Bank Limited and Meezan Bank Limited (together, the **Lead Arrangers**) and its advisors suggest financing of the Project through a **SUKUK ISSUE**, a completely Sharia compliant Islamic form of financing. The highly anticipated Sukuk issuance financing transaction is the first transaction of its kind in the Pakistan's power sector and is being termed as the largest 'ISLAMIC' project financing in Pakistan's history. Lead Arrangers are extremely confident that the debt required for the Financial Close of the Project will be arranged from the local banking market
- 5.1.2 As evidence of the highly anticipated and strong financing structure for the Project, it is submitted before NEPRA, for NEPRA's information, that the credit rating agency in Pakistan, PACRA, has assigned a strong tentative **AA- RATING** to the financing instrument, i.e. the Sukuk, for the Project. Such tentative rating by PACRA assumes, inter alia, NEPRA's approval of the Reference Generation Tariff.
- 5.1.3 A Sukuk represents an undivided proportionate beneficial ownership interest in an asset or portfolio and the corresponding right to the Sharia acceptable income streams generated by the underlying asset/portfolio. The global Sukuk market experienced an unprecedented growth during the last few years, and has already reached USD 41Bn (United States Dollars Forty One Billion). Although the size of the market is modest by global standards, the Sukuk market has been registering an impressive average growth of 40 per cent per annum. In Pakistan, it is a niche market with huge growth potential on the back of growing awareness of Sharia compliant avenues of financing.
- 5.1.4 The Sukuk market brings with it many benefits to both issuers and investors. Issuers can benefit from the huge increase in liquidity in the Islamic world, and can tap on these new sources of funds. An increased number of multilateral agencies are issuing Sukuks due to excessive liquidity available in Islamic world to finance developmental projects.

5.2 EQUITY FINANCING

5.2.1 The Liberty Group

The primary sponsors financing the Equity for the Project are 'Liberty Group' and the 'Mukaty' family. The Liberty Group is principally engaged in textile, energy and construction sectors and has a total annual turnover of PKR 7.0 Billion.

5.2.2 Liberty Mills Limited

Liberty Mills Ltd (**LML**) is one of the sponsors for the Project. LML was incorporated in Pakistan on February 22, 1965 as a private limited company and was converted into a public limited company on September 12, 1969. Its shares are quoted in the Karachi Stock Exchange. Today, LML is one of the largest textile processing units in the country, spreading over 15 acres of land with daily production of over half a million square meters of fabric. The principal activity of the company is manufacturing and processing of all kinds of fabrics.

LML is a successful textile unit, and has managed to maintain an overall growth pattern over time. The focus of the management towards demand side is to increase the output of value added products and also to explore new markets and



customers. The company is a symbol of quality products and its manufacturing processes have been ISO-9002 and OEKO-TEX Standard certified. In addition, LML has been awarded numerous certificates of merit and achievements from the Karachi Stock Exchange. The principal sponsor of the Liberty Group is Mr. Salim N. Mukaty, a seasoned businessman, who along with his family holds more than 50% share of LML.

LML's total revenues for FY2006 stood at PKR 3.8 Billion. Being an export oriented company, the export sales of LML constitute over 70% of the total sales. The company has been able to sustain its sales growth by intense marketing efforts and focusing on large sized international buyers. Under the professional management, the company's financial performance has been improved in terms of its asset base of PKR 2.7 Billion and growing equity of PKR 848 Million.

Please find below some of LML's financial highlights based on historic data:

YEAR END JUNE	(PKR IN MILLIONS)		
	2004-05	2005-06	2006-07
TURNOVER	3,025	3,784	4,428
GROSS PROFIT	441	518	638
PROFIT AFTER TAX	186	171	276
SHAREHOLDERS EQUITY	708	945	1,176
TOTAL ASSETS	2,453	2,714	2,978

5.2.3 Liberty Energy Ltd

To cover the growing needs of power with continuous expansion of LML, a new company was formed by the Liberty Group in the name of Liberty Energy Limited in the year 2000. Through the formation of Liberty Energy, LML has become self sufficient in its electric power needs.



6. PROJECT COST & INVESTMENT

6.1 PROJECT COST SUMMARY

- 6.1.1 The total Project Cost, expressed in United States Dollars, has been calculated after thorough consideration and following detailed review of NEPRA’s determinations of the project costs for other similar IPPs. For NEPRA’s benefit, the reference exchange rates used to convert the relevant costs into United States Dollars are 1USD = 61PKR, 1Euro = 1.28 USD, 1Euro = 78.08 PKR.
- 6.1.2 Please find below, for NEPRA’s benefit and approval, a summary of LPTL’s Project Cost:

Sr. No.	INVESTMENT / COST	‘MILLION USD
1.	FIRM EPC WÄRTSILÄ COST	176.485
2.	NON WÄRTSILÄ RELATED EPC COST	3.399
3.	STAFF HOUSING COLONY COST	1.930
4.	LAND ACQUISITION & LAND DEVELOPMENT COST	2.430
5.	TAXES & CUSTOM DUTY	9.046
6.	SPONSOR DEVELOPMENT COST	3.156
7.	EMERGENCY & SAFETY SPARE PARTS	2.314
8.	PRE-COD O&M MOBILIZATION COST	2.700
9.	START-UP EXPENSES & UTILITIES	0.922
10.	PRE-COD INSURANCE COST	2.383
11.	INDEPENDENT ENGINEER COST (AS REQUIRED UNDER THE PPA)	0.850
12.	FINANCING CHARGES	4.214
13.	INTEREST DURING CONSTRUCTION	14.903
	TOTAL PROJECT COST	224.732

- 6.1.3 The Project Cost shall be financed through a Debt: Equity ratio of 75:25 and capital structure of the Project is proposed as follows:

	‘MILLION USD
DEBT	168.549
EQUITY	56.183

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TOTAL PROJECT COST	224.732
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6.2 PROJECT COST EXPLANATION

6.2.1 'Firm EPC Wärtsilä Cost'

Description

The Firm EPC Wärtsilä Cost includes power generation sets together with all the necessary auxiliary machinery, equipment and systems and includes, inter alia, the erection, testing, completion and commissioning of the equipment and construction of the Facility. The stated Firm EPC Wärtsilä Cost also includes cost of the fuel tank storage (which includes three tanks of 10,000 m³ for RFO and one tank of 2,000 m³ for high speed diesel); fuel loading and unloading pumping system; all heating and piping equipment and fire fighting and safety equipment. As stated in Sections 4.1.3 above, the Firm EPC Wärtsilä Cost is the turnkey price being charged by Wärtsilä for the Project and is based on firm legally binding agreement between LPTL and Wärtsilä.

The Firm EPC Wärtsilä Cost comprises of the following two components:

- (a) payment to Wärtsilä Finland (payable in Euro) in respect of the engineering and procurement of equipment & materials for the Project, equaling Euro 120,542,000/- (Euro One Hundred Twenty Million Five Hundred and Forty Two Thousand) (equaling USD 154,295,000/- (United States Dollars One Hundred Fifty Four Million Two Hundred and Ninety Four Thousand), based on the Euro/USD reference exchange rate of 1.28) (the **Offshore Wärtsilä EPC Cost**); and
- (b) payment to Wärtsilä Pakistan (payable in Pakistani Rupees) in respect of the construction, testing and commissioning of the Facility, equaling USD 22,190,000/- (United States Dollars Twenty Two Million One Hundred and Ninety Thousand) (the **Onshore Wärtsilä EPC Cost**).

Based on the Euro/USD reference exchange rate of 1.28, the Firm EPC Wärtsilä Cost is calculated to be USD 176,485,000/- (United States Dollars One Hundred Seventy Six Million Four Hundred and Eighty Five Thousand), as provided in the Project Cost summary table in Section 6.1.2 above.

While it is appreciated from the outset that LPTL's Firm EPC Wärtsilä Cost is higher than NEPRA's approved EPC cost for various IPPs, it is submitted that the increase in LPTL's Firm EPC Wärtsilä Cost is to be analyzed in light of the various factors affecting the EPC price for the Project in specific and the EPC prices throughout the world in general.

For the benefit and perusal of NEPRA, it is hereby submitted that the key reasons for increase in LPTL's Wärtsilä related EPC cost are:

- (a) Increase in global prices of various metals, copper, and steel: Various metals and steel are presently being used, as an international practice, by recognized EPC contractors for manufacture of equipment & materials for power generation projects. With the rapid growth of the global economy being fed by these metals and steel, the international market prices for the same have drastically increased in recent times. For the benefit and perusal of NEPRA, please find attached the latest trends in the prices of various metals and steel at **Schedule D**.
- (b) Increase in global appetite for power generation: Generally as a global phenomenon, the recent upturn in the global economy has brought with it



an exponential increase in demand for electric power consumption. With most of South America, Asia and former African colonies undergoing a rapid economic development phase, the demand for EPC contractors (involved in the engineering, procurement and construction of power generation facilities) has risen.

- (c) Specific requirements of the Power Purchaser: At the express request of the Power Purchaser, LPTL has specifically included in Wärtsilä's scope of work for the Project, the procurement of equipment & materials and the construction of grid station with four bays for 132 KV. This is an increase from the grid station with two bays requirement in other IPPs.

6.2.2 'Non Wärtsilä Related EPC Cost'

The Non EPC Construction Cost includes the cost of items which are not part of Wärtsilä's scope of work pursuant to the EPC contracts with Wärtsilä. Such costs mainly include, inter alia, procurement, erection and/or installation of (i) telecommunication systems; (ii) water (including pipeline for Facility and main storage tank) and waste water pipelines; (iii) sludge disposal systems; (iv) on Site corporate office (v) water treatment and reverse osmosis system and softening plant; (vi) fence around switchyard; (vii) all earth work compaction surface leveling after foundation (viii) switch yard surface covering (ix) plant excavation and (x) tube wells etc. It is highlighted for NEPRA's benefit that the Non Wärtsilä Related EPC Cost does not include the costs related to the procurement of materials, civil works and construction of the staff housing colony, which have been dealt separately in Section 6.2.3

Pursuant to a recent water content analysis carried out for the Project, 'hard water' has been found on Site for usage. Following various technical analyses and detailed discussions between Wärtsilä and LPTL, the available 'hard water' has been determined to be unusable in its present state for the purposes of the Project. Thus LPTL has included, as part of the Non Wärtsilä Related EPC Cost, the procurement, erection and installation of a water treatment plant for the Project. Establishment of the water treatment plant being an essential and integral part of the Project, it is however highlighted for NEPRA that the costs related to the water treatment plant have resulted in an increase in LPTL's Project Cost, as compared to various predecessor IPPs.

6.2.3 Staff Housing Colony Cost

For the benefit of NEPRA and in order to clearly set out the costs related to the procurement of materials, civil works and construction of the staff housing colony, such costs have neither been included in the Firm EPC Wärtsilä Cost nor in the Non Wärtsilä Related EPC Cost, as presented in the Project Cost summary table in Section 6.1.2 above. These costs are required to be incurred for the benefit of the Project's staff and security personnel and are in line with the previous determinations of NEPRA. It is hereby submitted that these costs are justified due to the following key reasons:

- (a) The Facility is proposed to be located on the Site, which is about 50 kilometers from main Faisalabad city. In absence of any appropriate living arrangements and urban or rural centers in close proximity to the Site for the Facility's staff and personnel, the housing colony is an essential requirement for the Project.
- (b) Based on LPTL's research of the industries in the area surrounding the Site, it has been observed that majority of the respective staff and

personnel working in such industries have been provided housing facilities within respective parameters of such industries. Considering provision of housing colonies on site is a practice being followed by most of the industrial units surrounding the Site, NEPRA is hereby requested to allow the same for the Project.

6.2.4 **Land Acquisition & Land Development Cost**

These costs cover the purchase of 25 acres of land for the Project together with stamp duty and registration fees; the fees of the broker and the related legal fees; the cost of filling the Site by approximately 2 feet to levelize it with the access road; cost of roads inside and outside the Facility complex; costs related to soil testing, topographic and geotechnical surveys, environment studies and permits; and construction of the boundary wall at Site.

6.2.5 **Taxes & Custom Duty**

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

Based on the reference exchange rates of 1.28 for Euro/USD, the Taxes and Custom Duty for the Project have been calculated as the sum of:

- (a) 5% of the Offshore Wärtsilä EPC Cost; and
- (b) 6% of the Onshore Wärtsilä EPC Cost.

Based on the sum of above, the proposed Taxes and Custom Duty equals USD 9,046,000 (United States Dollars Nine Million and Forty Six Thousand), as provided in the Project Cost summary table in Section 6.1.2 above.

6.2.6 **Sponsor Development Cost**

The Sponsor Development Cost includes the costs incurred by the sponsors for the purpose of Project development and include all costs, fees and expenses incurred or to be incurred solely by the Sponsors. These costs include, inter alia, costs of feasibility studies, load flow and short circuit studies; fees of engineering and technical consultants; fees for LPTL's legal consultants; costs related to the performance guarantee to be furnished to PPIB /NTDC; costs related to the Company L/C to be furnished to NTDC and various regulatory fees to be paid to NEPRA.

6.2.7 **Emergency & Safety Spare Parts**

The costs related to 'Emergency & Safety 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. Such an arrangement would ensure smooth running of the Facility as instead of taking a defective component out and testing it, the emergency and safety spare parts may be used and the removed defective component being fixed, tested and used as a spare for the next checking time.

The costs related to Emergency & Safety Spare Parts have been estimated at 1.5% of the Offshore Wärtsilä EPC Cost, equaling USD 2,314,000 (United States Dollars Two Million Three Hundred and Fourteen Thousand) (based on the

Euro/USD reference exchange rate of 1.28), which is in line with NEPRA's determinations for LPTL's predecessor IPPs.

6.2.8 **Pre-COD O&M Mobilization Cost**

Pre-COD O&M Mobilization Cost covers, inter alia, expenses of LPTL and O&M contractor's personnel prior to COD and the same have not been included in the remuneration to be paid to the O&M contractor following COD. Such costs include LPTL staff salaries during construction; cost of construction design review and construction management; hiring local personnel for operation and maintenance of the Project and training of such personnel abroad on diesel engine and auxiliaries etc; costs of trip and courses and selection of an expatriate to carry out the operation and management of Project.

6.2.9 **Start-up Expenses & Utilities**

Start-up Expenses & Utilities includes, inter alia, the cost of utilities (including electricity, telephone, water supply, internet etc.) during construction; and cost of initial filling of fuel, diesel and lubricants for start-up and testing.

6.2.10 **Pre-COD Insurance Cost**

Pre-COD Insurance Cost covers the insurance cost of LPTL's assets during construction, which are incurred prior to COD. These costs have been taken at 1.35%, as already allowed by NEPRA, of the Firm EPC Wärtsilä Cost.

6.2.11 **Independent Engineer Cost**

Pursuant to the requirements under the PPA, an Independent Engineer is to be appointed by LPTL for 9 (Nine) months during construction of the Project. The cost of Independent Engineer accounts for such requirement.

6.2.12 **Financing Charges**

Financing Charges include the costs related to the Debt financing of the Project. Such costs include, inter alia, the lenders' up-front fee and commitment fee; charges related to various letters of credit; fees payable and stamp duty applicable on the financing documents; agency fee; security trustee fee and lenders' Project monitoring fee. It is assumed that local funding would be available for the Project however, in case foreign financing is procured for the Project, the additional financing charges will be considered as pass through. Actual Financing Charges will be adjusted at COD in accordance with the injection of debt and equity respectively.

6.2.13 **Interest During Construction**

Interest During Construction (IDC) has been calculated on the basis of anticipated interest rates, equity injections, and the construction payment schedule. Actual IDC and return on equity during construction will be adjusted at COD in accordance with the injection of debt and equity respectively.



7. REFERENCE GENERATION TARIFF SUMMARY

7.1 Based on the RFO price of PKR 24,490/ton (price includes fuel transportation cost of PKR 2,350, subject to adjustment as per actuals), an output of 195 MW (net at reference conditions) and detailed financial analyses, the proposed Reference Generation Tariff is hereunder:

	CAPACITY PURCHASE PRICE US CENTS/kWh AT 60%	ENERGY PURCHASE PRICE US CENTS/kWh	TOTAL REFERENCE GENERATION TARIFF US CENTS/kWh
LEVELIZED TARIFF	4.0620	8.7588	12.8207
AVERAGE TARIFF (1-25 YEARS)	3.2268	8.7587	11.9858

TOTAL REFERENCE GENERATION TARIFF	
AVERAGE (1-10 YEARS)	US CENTS 13.7947/kWh
AVERAGE (11-25 YEARS)	US CENTS 10.7798/kWh
AVERAGE (1-25 YEARS)	US CENTS 11.9858/kWh
LEVELIZED TARIFF	US CENTS 12.8207/kWh

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8. ENERGY PURCHASE PRICE

8.1 SUMMARY

8.1.1 The Energy Purchase Price component of the Reference Generation Tariff is based on the actual kWh off-take, and consists of:

- (a) the fuel component (the **Fuel Component**);
- (b) the local variable O&M component (the **Local Variable O&M Component**); and
- (c) the foreign variable O&M component (the **Foreign Variable O&M Component**).

8.1.2 A summary of the Energy Purchase Price is provided in the following table:

PERIOD	ENERGY PURCHASE PRICE - PKR/kWh			
	FUEL COST COMPONENT	FOREIGN VARIABLE O&M COST COMPONENT	LOCAL VARIABLE O&M COST COMPONENT	TOTAL ENERGY PURCHASE PRICE
YEARS 1-25	4.8256	0.3813	0.1359	5.3428

8.1.3 The generation sets being proposed for the Project have advanced technology machines providing high thermal efficiencies. After factoring the impact of fuel cleaning, average plant aging, and a 100% plant load factor, this translates to approximately 45% net site efficiency at 100% load factor, running on RFO.

8.2 FUEL COST COMPONENT

8.2.1 ASSUMPTIONS

Based on the Facility capacity of the Project on full load factor, about 1000 tons of RFO per day will be required for power generation at the Facility, which can be transported to the Site by approximately 25 tank lorries of 40 tonne each.

The cost of fuel consumption for the plant, assuming thermal efficiency of 45% at 100% capacity factor (subject to part load adjustment and temperature de-rating curve), represents the fuel cost component (the **Fuel Cost Component**) of the Energy Purchase Price. The main assumptions used to derive at the Fuel Cost Component are provided below:

RFO PRICE:	PKR 24,490 per ton (including transportation cost of PKR 2,350, subject to adjustment as per actuals). GST is not included in the RFO Price and shall be a pass through to the Power Purchaser at actuals.
HEAT RATE	8000 KJ/kWh at 100% plant capacity factor
OUT PUT CAPACITY	195 MW (net at Site reference conditions)
CALORIFIC	LHV 40.60 MJ/KG



VALUE	
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8.2.2 INDEXATION & ESCALATION

The Fuel Cost Component shall be adjusted on account of (i) Fuel price variation of fuel consumed using FIFO method during operation period; (ii) the actual transportation charges and (iii) the actual related GST. Fuel consumed during construction and testing period shall be recovered from the Power Purchaser at actuals.

8.2.3 INDEXATION FORMULA

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

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

Where:

- FC_(Rev) = Revised Fuel Cost Component.
- FP_(Ref) = PKR 24,490 per ton (including transportation cost of PKR 2,350, subject to adjustment as per actuals)
- FP_(Rev) = The new price of RFO per metric ton with freight (as per actuals) and GST (at actuals).

8.3 LOCAL VARIABLE O&M COST COMPONENT

8.3.1 ASSUMPTIONS

This component includes the cost of lubricant consumption, which is directly related to the electricity actually generated. The rate will be indexed to the prevailing WPI of manufacturing in Pakistan. This component also includes the cost of lubricants/chemicals and membranes for water treatment plant since, as discussed earlier, the water available at Site cannot be used for the purposes of the Project without treatment. If used in its existing available state, the untreated water will deteriorate the life of the Facility and its efficiency.

8.3.2 INDEXATION AND ESCALATION

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

8.3.3 INDEXATION FORMULA

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

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

Where:

- V O&M_(LRev) = the revised applicable Local Variable O&M



Cost Component of the Energy Purchase Price, quarterly indexed to WPI of manufacturing in Pakistan.

$WPI_{(Rev)}$ = the revised WPI of manufacturing in Pakistan, as notified by the Federal Bureau of Statistics.

$WPI_{(Ref)}$ = the WPI of manufacturing in Pakistan as on January 1, 2007, as notified by the Federal Bureau of Statistics.

8.4 FOREIGN VARIABLE O&M COST COMPONENT

8.4.1 ASSUMPTIONS

This component primarily includes imported spare parts to be replaced on normal scheduled maintenance and unscheduled maintenance. Also, it includes specialized technical services from manufacturer during maintenance of the Facility. The generation sets and associated equipment require overhauling as per manufacturer's recommendation schedules, which are based on actual running hours. The actual timing of the Major Overhaul depends on despatch of plant.

As the manufacturer of the equipment for the Project is European, Wärtsilä, the spare parts and technical services will also be procured from Europe. Based on the same, it is hereby submitted to NEPRA that the variable O&M foreign component is indexed to the European CPI. This tariff component will also be adjusted by variations in the Euro/PKR exchange rate throughout the life of the Project.

8.4.2 INDEXATION AND ESCALATION

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

- (a) the Euro/PKR exchange rate, based on the revised TT & OD selling rate of Euro notified by the National Bank of Pakistan; and
- (b) European CPI, as issued by the European Bureau.

8.4.3 INDEXATION FORMULA

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

$$VO\&M_{(FRev)} = \frac{\text{Relevant Reference Generation Tariff Component} * (\text{EuroCPI}_{(Rev)} / \text{Euro CPI}_{(Ref)}) * (\text{Euro}_{(Rev)} / \text{Euro}_{(Ref)})}{1}$$

Where:

$VO\&M_{(FRev)}$ = the revised applicable Foreign Variable O&M Component of the Energy Purchase Price quarterly indexed to European CPI and the Euro/PKR exchange rate variation.

$\text{Euro CPI}_{(Rev)}$ = the revised European CPI, as issued by the European Bureau.

$\text{Euro CPI}_{(Ref)}$ = the European CPI as on January 1, 2007, as issued by

the European Bureau.

$Euro_{(Rev)}$ = the revised TT & OD selling rate of Euro, as notified by the National Bank of Pakistan.

$Euro_{(ref)}$ = PKR 78.08.



9. CAPACITY PURCHASE PRICE

9.1 SUMMARY

9.1.1 The Capacity Purchase Price component of the Reference Generation Tariff is payable on the basis of dependable capacity, as on COD and periodically thereafter. This payment is calculated on PKR/kW/Month basis of capacity and, in order to calculate a unit rate in PKR/kWh, a notional 60% capacity factor has been utilized.

9.1.2 The Capacity Purchase Price is further broken down into the following two components:

- (a) the Escalable Capacity Purchase Price; and
- (b) the Non-Escalable Capacity Purchase Price.

9.2 THE ESCALABLE COMPONENT

The Escalable Capacity Purchase Price component of the Reference Generation Tariff comprises of the following components for the Project:

- (a) the fixed operations and maintenance cost (the Fixed O&M Cost Component);
- (b) the insurance cost (the Insurance Cost Component);
- (c) the cost of working capital facility (the Cost of Working Capital Component);
- (d) the return on equity during construction (the ROEDC) and post COD (the ROE).

A summary of the Escalable Capacity Purchase Price component of the proposed Reference Generation Tariff is provided in the table below:

ESCALABLE COMPONENT (PKR/KW/hr)						
PERIOD	FIXED O&M	INSURANCE	COST OF WORKING CAPITAL	ROEDC	ROE	WITH-HOLDING TAX
Years 1-25	0.1427	0.0851	0.0981	0.0724	0.3104	0.0310

9.2.1 FIXED O&M COST COMPONENT

9.2.1.1 ASSUMPTIONS

The Fixed O&M Component of the Capacity Purchase Price represents the fixed costs of the management and staff of the Project; fixed cost of staff for O&M and fire fighting; plant administration; security; motor pool; transportation; overheads; office costs; professional fees such as audit, tax and legal; as well as some minor fixed operational costs, such as environmental monitoring fee, that do not change with dispatch levels while the cost remains fixed.



The Fixed O&M Cost Component has been prepared based on the following breakdown of the local (the **Local Fixed O&M Cost Component**) and foreign (**Foreign Fixed O&M Cost Component**) parts of the Fixed O&M Cost Component:

LOCAL FIXED O&M COST COMPONENT	40%
FOREIGN FIXED O&M COST COMPONENT	60%

9.2.1.2 INDEXATION & ESCALATION

The following indexations shall be applicable to the Fixed O&M Cost Component:

- (a) The Local Fixed O&M Cost Component shall be quarterly indexed to the WPI of manufacturing in Pakistan, as notified by the Federal Bureau of Statistics; and
- (b) The Foreign Fixed O&M Cost Component shall be quarterly indexed to both:
 - (i) the Euro/PKR exchange rate, based on the revised TT & OD selling rate of Euro notified by the National Bank of Pakistan; and
 - (ii) the European CPI, issued by the European Bureau.

9.2.1.3 INDEXATION FORMULA

Local Fixed O&M Cost Component

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

FO&M_(LRev)	=	Relevant Reference Generation Tariff Component *
		(WPI_(Rev) / WPI_(Ref))

Where:

- FO&M_(LRev) = the revised Local Fixed O&M Component of the Capacity Purchase Price quarterly indexed to WPI of manufacturing in Pakistan.
- WPI_(Rev) = the revised WPI of manufacturing in Pakistan, as notified by the Federal Bureau of Statistics.
- WPI_(Ref) = the WPI of manufacturing in Pakistan as on January 1, 2007, as notified by the Federal Bureau of Statistics.

Foreign Fixed O&M Cost Component

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

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

Where:

- FO&M_(FRev) = the revised Foreign Fixed O&M Component of the Capacity Purchase Price, quarterly indexed to European CPI and the Euro/PKR exchange rate variation.
- Euro CPI_(Rev) = the revised European CPI, issued by European Bureau.
- Euro CPI_(Ref) = the European CPI as on January 1, 2007, as issued by European Bureau.
- Euro_(Rev) = the revised TT & OD selling rate of Euro, as notified by the National Bank of Pakistan.
- Euro_(Ref) = PKR 78.08.

9.2.2 INSURANCE COST COMPONENT

9.2.2.1 ASSUMPTIONS

The Insurance cost component consists of all-risk insurance/reinsurance for the Project, as well as business- interruption insurance (which is a lender-stipulated requirement).

9.2.2.2 INDEXATION & ESCALATION

The Insurance Cost Component shall be quarterly indexed to both:

- (a) the USD/PKR exchange rate, based on the revised TT & OD selling rate of USD notified by the National Bank of Pakistan; and
- (b) the US CPI, issued by US Bureau of Labor Statistics.

9.2.2.3 INDEXATION FORMULA

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

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

Where:

- Insurance_(Rev) = the revised Insurance Cost Component of the Capacity Purchase Price, 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 January 1, 2007, as issued by US Bureau of Labor Statistics.



USD_(Rev) = the revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan.

USD_(Ref) = PKR 61.00.

9.2.3 COST OF WORKING CAPITAL COMPONENT

9.2.3.1 ASSUMPTIONS

A working capital loan facility (the **Working Capital Facility**) of USD 22.067 Million is assumed in order to finance the inventory level of RFO equivalent to 30 days generation at 100% load factor and energy payments 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% spread) with no commitment fee and L/C charges.

9.2.3.2 INDEXATION & ESCALATION

The Cost of Working Capital Component of the Escalable Component of the Reference Generation Tariff shall be indexed to both:

- (a) the Fuel Price variation; and
- (b) the quarterly changes in the 3 month KIBOR.

9.2.3.3 INDEXATION FORMULA

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

$$CWC_{(Rev)} = \text{Relevant Reference Generation Tariff Component} * (FP_{(Rev)} / \text{Fuel Base Rate}) * (Kibor_{(Rev)} / Kibor_{(Ref)})$$

Where:

- CWC_(Rev) = Revised Cost of Working Capital component.
- Fuel Base Rate = PKR 24,490 per ton (including transportation cost of PKR 2,350, subject to adjustment as per actuals)
- FP_(Rev) = The new price of RFO per Metric Ton with freight as per the mechanism stated in section 8.2.3 of this Tariff Petition.
- Kibor_(Rev) = The revised 3 month KIBOR rate at the end of each Quarter.
- Kibor_(Ref) = 10.45%.

9.2.4 THE ROE AND ROEDC

9.2.4.1 ASSUMPTIONS

The ROEDC and ROE component of the Escalable Capacity Purchase Price component of the Reference Generation Tariff is based on the following parameters:



INTERNAL RATE OF RETURN	15%, after dividend withholding tax of 7.5%
CURRENCY OF FUNDING	Local Equity : PKR Foreign Equity: USD
CORPORATE TAX RATE	0%
MINIMUM TURNOVER TAX	0%

9.2.4.2 INDEXATION AND ESCALATION

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 the National Bank of Pakistan; and

9.2.4.3 INDEXATION FORMULA

The ROE and ROEDC component of the Non-Escalable Component of the Reference Generation Tariff shall be indexed using the following formula:

ROECD & ROE_(Rev) = Relevant Reference Generation Tariff Component*

(USD_(Rev)/USD_(Ref))

Where:

- ROEDC & ROE_(Rev)=

the revised ROE / ROEDC component of the Capacity Purchase Price, quarterly indexed the USD/PKR exchange rate variation.
- USD_(Rev)
=

the revised TT & OD selling rate of US Dollar, as notified by the National Bank of Pakistan.
- USD_(Ref)
=

PKR 61.00.

9.2.5 WITHHOLDING TAX COMPONENT

9.2.5.1 ASSUMPTIONS

For the purposes of computation of the Withholding Tax Component, a 7.5% Withholding Tax on dividends has been assumed. Any change in the Withholding Tax shall be a pass through.

9.2.5.2 INDEXATION & ESCALATION

Withholding shall be allowed at 7.5% or the actual applicable rate on the ROE and ROEDC. In case of foreign equity, Withholding Tax shall be adjusted for variation in USD/PKR exchange rate variation. The adjustment on account of USD/PKR exchange rate variation shall also be applicable to the foreign component of the Equity.



9.3 NON-ESCALABLE CAPACITY PURCHASE PRICE

The Non-Escalable Capacity Purchase Price component of the Reference Generation Tariff comprises of the principal (the **Principal**) and interest (the **Interest**) component of the debt procured for the Project (the **Debt Service Component**);

A summary of the Non-Escalable Capacity Purchase Price component of the Reference Generation Tariff is provided in the table below:

NON – ESCALABLE COMPONENT (RS/KW/MONTH)			
PERIOD	LOAN REPAYMENT	INTEREST CHARGES	TOTAL
YEAR 1	0.3091	0.7944	1.1035
YEAR 2	0.3528	0.7507	1.1035
YEAR 3	0.4027	0.7008	1.1035
YEAR 4	0.4597	0.6438	1.1035
YEAR 5	0.5247	0.5788	1.1035
YEAR 6	0.5989	0.5046	1.1035
YEAR 7	0.6836	0.4199	1.1035
YEAR 8	0.7803	0.3232	1.1035
YEAR 9	0.8906	0.2128	1.1035
YEAR 10	1.0166	0.0869	1.1035
YEAR 11-25	0.0000	0.0000	0.0000

9.3.1 DEBT SERVICE COMPONENT

9.3.1.1 ASSUMPTIONS

It is apparent from the table provided in section 9.3 of this Tariff Petition that there is no charge on account of Loan Repayment and Interest Charges after 10 years since all Debt would be repaid by the end of the 10th year. The assumptions used in calculation of the Debt Service Component are:

AMOUNT OF DEBT	USD 168.549 Million (75% of Project Cost including IDC)
TERM OF LOAN	Grace period + 10 years of quarterly equal principal repayment after COD
INTEREST RATE	3 months KIBOR + 3% Spread
CURRENCY	PKR

9.3.1.2 INDEXATION & ESCALATION

Assuming the Project is financed through 100% local Debt financing, the Interest part of the Debt Service Component shall be quarterly indexed to the 3 month KIBOR.

9.3.1.3 INDEXATION FORMULA

The Interest portion of the Debt Service Component shall be indexed based on the following formula:

$$\Delta I = \text{Relevant Generation Tariff Component} * (\text{Kibor}_{(\text{Rev})} / \text{Kibor}_{(\text{Ref})})$$

Where:

ΔI = the variation in interest charges applicable on local loan corresponding to variation in quarterly KIBOR.

$\text{Kibor}_{(\text{Rev})}$ = the revised 3 month KIBOR rate at the end of each quarter.

$\text{Kibor}_{(\text{Ref})}$ = 10.45%.



10. ONE TIME ADJUSTMENTS

10.1 ADJUSTMENTS AT COD

- 10.1.1 The ROE, ROEDC, EPC Cost, Insurance, Custom Duties & Taxes, IDC and the Debt Service Component shall also be adjusted at COD for the reference exchange rate variation during construction.
- 10.1.2 Assuming 100% local debt financing, the Debt Service Component shall also be adjusted by variations in the 3 month KIBOR during construction.
- 10.1.3 The Cost of Working Capital Component shall also be updated with prevailing fuel price at COD and the prevailing 3 month KIBOR.
- 10.1.4 Hedging cost during construction and EPC payment will be made part of the Project Cost, as required by the Lenders. Otherwise, subject to the Lenders' consent, the final local amount at COD would be based on actual Exchange Rates used by the banks to make payment to the EPC contractor.
- 10.1.5 In summary, at COD, the Reference Generation Tariff will be updated on the basis of:
- (a) Actual interest incurred during the construction period;
 - (b) Fuel Price variation;
 - (c) Custom Duties and Taxes;
 - (d) Exchange rate variations;
 - (e) Insurances;
 - (f) Changes in KIBOR; and
 - (g) Project Cost, with reference to exchange rate variations and KIBOR.

10.2 BASE CHANGES

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

10.3 PASS-THROUGH ITEMS

- 10.3.1 Any taxes and levies etc. not factored in the Reference Generation Tariff calculation, shall be treated as pass-through items in the PPA.
- 10.3.2 Any cost over-run beyond the reasonable control of LPTL, will be a pass-through.



11. GENERAL ASSUMPTIONS

The following have been assumed while calculating the Reference Generation Tariff and changes in any of these assumptions will result in changes in the Reference Generation Tariff.

- 11.1 Debt : Equity ratio is assumed to be 75:25.
- 11.2 Interest rate for Debt is assumed at 13.45% (KIBOR + 3% Spread).
- 11.3 100% of Debt has been assumed to be local provided however that in the event LPTL uses a mix of foreign and local loan, the future benefits of the lower interest rates shall be passed on to the Power Purchaser as per GOP policy.
- 11.4 Debt tenure is assumed to be Grace period + 10 years quarterly repayment.
- 11.5 Customs duties on imported plant equipment are assumed to be 5% in accordance with the Power Policy 2002. Any increase in the customs duty shall be adjusted as per actuals.
- 11.6 With-holding tax has been assumed at 6% on the local component of the contract. Any increase in the with-holding taxes shall be adjusted as per actuals.
- 11.7 No corporate income tax and no minimum turnover tax have been assumed.
- 11.8 With-holding tax of 7.5% on dividends has been assumed.
- 11.9 Any change in taxes/duties shall be adjusted as per actuals and will be paid by the Power Purchaser in terms of the PPA
- 11.10 A constant ROE is assumed which results in an IRR of 15% over 25 years.
- 11.11 No hedging cost has been assumed for exchange rate fluctuations during construction.
- 11.12 The “Firm EPC Wärtsilä Cost” is based on construction of grid station with four bays for 132 KV. Any increase in the same proposed by the Power Purchaser shall increase the Firm EPC Wärtsilä Cost.
- 11.13 The Power Purchaser is assumed to be responsible for financing and constructing the interconnection to the grid.
- 11.14 The Reference Generation Tariff is calculated on the basis of a notional 60% plant load factor.
- 11.15 The price of RFO is assumed to be 24,490 PKR/ton, which includes the transportation cost of fuel to Site at PKR 2,350, subject to adjustment at actuals. The transportation cost shall be charged as per actuals.
- 11.16 The Reference Generation Tariff Table shall be updated at Financial Close as well as on the COD of the Project, in order to adjust the Reference Generation Tariff according to the prevailing KIBOR and exchange rates (PKR/USD, USD/Euro and PKR/Euro).
- 11.17 The exchange rate has been assumed to be 61.00 for PKR/USD; 78.08 for PKR/Euro; and 1.28 for USD/Euro.

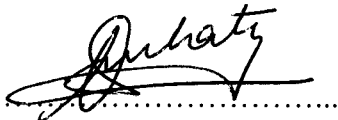
- 11.18 Working capital has been financed by a separate Working Capital Facility, and is not included in the Project Cost.
- 11.19 Project contingency and maintenance reserves are not included in Reference Generation Tariff calculations. If required by Lenders, these will be adjusted accordingly in the Reference Generation Tariff.
- 11.20 Cost of debt service reserve account SBLC, if required by the Lenders, shall be included in the Project Cost.
- 11.21 The cost of the letter of credit in favour of the Power Purchaser is included in the Project Cost.
- 11.22 Anticipated average Site conditions that have been used in calculation of the net output and heat rate are an altitude of 200 m above sea level, average ambient temperature of 30°C and 60% average relative humidity. If there is any change in the foregoing assumptions, the same shall have an impact on the de-rating curve.
- 11.23 Plant availability of 88% is assumed.
- 11.24 Annual Unscheduled Outages (MWh) (i.e. Partial Forced outages and Forced Outages, as per the standardized PPA) up to 348 hours x Available Capacity (MW) shall be without any liquidated damages. Liquidated damages for unscheduled outages in excess thereof and their computation shall be in accordance with the PPA.
- 11.25 Scheduled outage periods shall be 30 Days per generator in any year, except in any year in which a major overhaul is required, in which case scheduled outage periods shall be 60 Days per unit.
- 11.26 All invoicing and payment terms are assumed to be in accordance with the 2006 standardized PPA.
- 11.27 All fuel used during Facility testing after synchronization is assumed to be paid by the Power Purchaser.
- 11.28 Energy Purchase Price is assumed to be paid to LPTL by the Power Purchaser during capacity testing.
- 11.29 Heat Rate curve / temperature curve for each percentage of despatched load will be taken into account for fuel consumption.
- 11.30 Cost of cold start and hot start will be paid by the Power Purchaser.
- 11.31 For the entire start time that the steam turbine is not running for few hours, the fuel cost increase will be charged separately at each start time as per increase of fuel consumption at specified heat rate. The fuel cost shall include assumptions related to simple cycle, which shall be dealt with in the PPA.
- 11.32 GST on fuel shall be treated as a pass through under the PPA.
- 11.33 Indexation of ROE and ROEDC to US CPI is assumed.
- 11.34 If Power Purchaser requires the despatched delivery in excess of 132 KV, any additional cost will be paid by the Power Purchaser to LPTL and NEPRA will adjust the additional cost in tariff.



- 11.35 All other assumptions not expressly stated herein are based on the 2006 standardized PPA. Consequently any change in any such assumption may lead to change in the tariff.
- 11.36 Any incentives given to any other project of the same technology shall also be given to LPTL.
- 11.37 All of the above assumptions and terms and conditions will be incorporated in the PPA between LPTL and the Power Purchaser.

In light of the submissions, the financial analysis and information contained in this Tariff Petition, along with the Schedules attached hereto, and in the national interest of expediting LPTL's power generation facility establishment process initiated by GOP on a fast track basis, this Tariff Petition is submitted for NEPRA's approval of the Reference Generation Tariff

Respectfully submitted for and on behalf of LPTL:



.....
MR. ASHRAF MUKATI
CHIEF EXECUTIVE OFFICER
LIBERTY POWER TECH LIMITED

SCHEDULE A
REFERENCE GENERATION TARIFF TABLE

~~A~~

Reference Generation Tariff Table

Year	Variable charge, Rs/kWh			Capacity charge, Rs/kW/Hour (100% PLF)							Capacity @ 60% Rs/kWh		Total tariff @ 60%	
	Fuel	Variable O&M	Total	Escalable (Fixed O&M)	Withholding taxes (div)	Working Capital	Escalable (Insurance)	ROE DC	ROE	Loan Repayment	Interest Charges	Total	Rs/kWh	US¢/kWh
1	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.3091	0.7944	1.8432	8.4148	13.7947
2	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.3528	0.7507	1.8432	8.4148	13.7947
3	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.4027	0.7008	1.8432	8.4148	13.7947
4	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.4597	0.6438	1.8432	8.4148	13.7947
5	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.5247	0.5788	1.8432	8.4148	13.7947
6	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.5989	0.5046	1.8432	8.4148	13.7947
7	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.6836	0.4199	1.8432	8.4148	13.7947
8	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.7803	0.3232	1.8432	8.4148	13.7947
9	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.8906	0.2128	1.8432	8.4148	13.7947
10	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	1.0166	0.0869	1.8432	8.4148	13.7947
11	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
12	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
13	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
14	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
15	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
16	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
17	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
18	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
19	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
20	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
21	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
22	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
23	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
24	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
25	4.8256	0.5172	5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.0000	0.0000	0.7397	6.5757	10.7798
Levelised tariff (1-25 Years)			5.3428	0.1427	0.0310	0.0981	0.0851	0.0724	0.3104	0.3677	0.3793	1.4867	7.8206	12.8207

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