

BEFORE
THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
(NEPRA)

TARIFF PETITION

ON BEHALF OF

QUAID-E-AZAM THERMAL POWER (PRIVATE) LIMITED (QATPL)

FOR NEPRA'S APPROVAL OF REFERENCE GENERATION TARIFF FOR QATPL

FOR BHIKKI POWER PLANT OF 1180.130 MW (GROSS AT RSC)

AT

SHEIKHUPURA

DATED: FEBRUARY 15, 2016

ADDRESS: FIRST FLOOR, 7-C-1, GULBERG III, LAHORE

PHONE: (042) 35750936-8

FAX: (042) 35750939

COPY OF QATPL BOARD RESOLUTION

**Extracts of the Resolutions passed by the Board of Directors of
Quaid-e-Azam Thermal (Private) Limited at its 12th meeting of the
Board of Directors held on 15th day of February, 2016**

Resolutions:

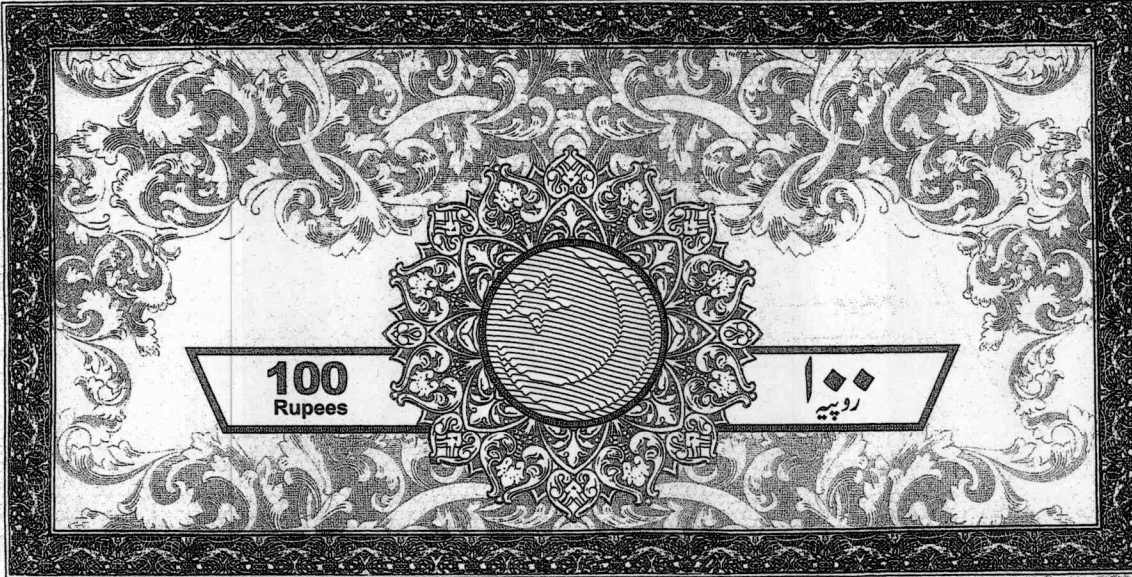
- (i) **RESOLVED THAT**, "the Board of Directors of Quaid-e-Azam Thermal Power (Pvt.) Limited (the "Company" or "QATPL") have hereby approved and permitted to file the tariff petition with National Electric Power Regulatory Authority ("NEPRA") in respect of 1180 MW (Gross/Net) Re-gasified Liquefied Natural Gas (RLNG) based Combined Cycle Power Plant to be located at Bhikki, Punjab (the "Project") and in relation thereto enter into and execute any and all required documents, make all filings, do any act and pay all applicable fees, whatever it may be in each case, of any nature whatsoever as may be required."
- (ii) **FURTHER RESOLVED THAT**, "in respect of tariff petition and applications etc. to be submitted to NEPRA, Mr. Ahad Khan Cheema, Chief Executive Officer of the Company, is the duly authorized representative on behalf of the Company for the purpose of filing the tariff petition and is hereby empowered and authorized for and on behalf of the Company to:
- (a) Review, execute, submit and deliver the tariff petition or applications (including modifications thereto) and related documentation required by NEPRA, inter alia, any consents, contract, document, power of attorney, affidavits, statements, letters, forms, applications, deeds, undertakings, approvals, memoranda, amendments, communications, notices, certificates, request and any other instruments of any nature whatsoever;
 - (b) Sign and execute necessary documentation, pay necessary fees, appear before NEPRA as needed and do all necessary things for the issuance of tariff for the Project;
 - (c) Represent and respond on behalf of the Company, in the public hearings, to all of NEPRA's queries, case officers, stakeholders and to attend pre and post hearing meetings;
 - (d) Do all such acts, matters and things as may be necessary for carrying out the purposes aforesaid and give full effect to the above-said; and
 - (e) Delegate all or any of the above powers in respect of the foregoing to any other officials of the Company as deemed appropriate.

CERTIFIED TO BE TRUE COPY

Company Secretary

Dated: February 15, 2016

**COPY OF AFFIDAVIT OF MR. AHAD KHAN
CHEEMA, CHIEF EXECUTIVE OFFICER,
QATPL**

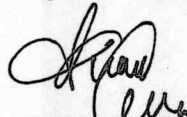


**BEFORE THE NATIONAL ELECTRIC POWER REGULATORY
AUTHORITY (NEPRA)**

AFFIDAVIT of Mr. Ahad Khan Cheema s/o Muhammad Aslam Cheema having CNIC no. 35202-0449427-1, Chief Executive Officer, Quaid-e-Azam Thermal Power (Private) Limited (the "Company"), a company wholly owned by Government of the Punjab, having its registered office at 7-C-1 Gulberg-III, Lahore.

I, the above named Deponent, do hereby solemnly affirm and declare as under:

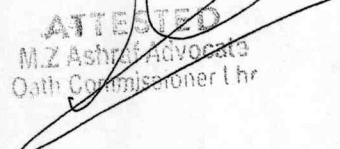
1. I am Chief Executive Officer and authorized representative of the Company.
2. That I have filed accompanying Tariff Petition together with supporting documents before the NEPRA and the contents of the same may kindly be read as an integral part of this affidavit.
3. That the content of the accompanying Tariff Petition, and all further documentation and/or information to be provided by me in connection with the accompanying Tariff Petition shall, are true to the best of my knowledge and belief of and according to the information received by the Deponent.


DEPONENT

VERIFICATION

Verified on oath on this 15th day of February, 2016 that the contents of this affidavit are true to the best of my knowledge and belief.


DEPONENT


ATTESTED
M.Z. Ashraf Advocate
Oath Commissioner Lahore

COPY OF BANK DRAFT

THE BANK OF PUNJAB

DEMAND DRAFT

D.D No. : 2016/00536/0047-0002
Issued on: 15/02/2016

Not Over Rs.*****1,412,720.00

Passion Reborn

On Demand pay to: NATIONAL ELECTRIC POWER REGULATORY AUTHORITY ISLAMABAD. for order

The sum of Rupees: One Million Four Hundred Twelve Thousand Seven Hundred Twenty Only

for value received.

PKR : *****1,412,720.00

TO: The Bank of Punjab

237 ISLAMABAD (BLUE AREA)

Authorized Signature

Authorized Signature

Valid for 6 months from the date of issuance, thereafter requires revalidation.

⑈ 36 236 75 ⑈ 08 3000 21:000000000000 ⑈ 0 20.⑈

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GLOSSARY

BOO	Build, Own and Operate
BTU	British Thermal Unit
CC	Combined Cycle
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
GSA	Gas Supply Agreement
GOP	Government of Pakistan
GST	General Sales Tax
HEI-HRL	Harbin Electric International Company Limited and Habib Rafiq (Private) Limited
HSD	High Speed Diesel
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
LHV	Lower Heating Value
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 2015	Policy For Power Generation Projects issued by the Federal Government of Pakistan in 2015
PPA	Power Purchase Agreement
PPIB	The Private Power & Infrastructure Board of the Government of Pakistan
QATPL	Quaid-e-Azam Thermal Power (Private) Limited
ROE	Return on Equity
SC	Single Cycle
SITE	Bhikki, Sheikhpura
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

1. DETAILS OF THE PETITIONER

NAME AND ADDRESS

Quaid-e-Azam Thermal Power (Pvt.) Limited
(A wholly owned company of Government of the Punjab)
First Floor 7-C-1, Gulberg III, Lahore
Tel# (042) 35750936-8
Fax# (042) 35750939

REPRESENTATIVE OF QUAID-E-AZAM THERMAL POWER (PRIVATE) LIMITED

Mr. Ahad Khan Cheema
Chief Executive Officer

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 2015

In accordance with the NEPRA Rules, read with the enabling provisions of the NEPRA Act and the Power Policy issued by the GOP in 2015 (the **Power Policy 2015**), Quaid-e-Azam Thermal Power (Private) Limited submits its petition for tariff approval before NEPRA, the competent regulatory authority lawfully authorized to determine tariff for power generation companies.

2.1.3 Fast Track Projects on RLNG

Government of Pakistan with the view to address the energy crisis in the country has been rigorously probing all feasible means of tackling the issue. Thus, after considering various options of reliable and clean energy in the earliest possible time span in the national interest, it was proposed that 3600 MW be generated by use of 600 MMCFD RLNG at Bhikki, Dist. Sheikhupura, Balloki Dist. Kasur and Haveli Bahadar Shah, Dist. Jhang on a fast track basis.

In pursuance of the aforesaid decision of the Government of Pakistan, Government of the Punjab took the initiative and committed to address the energy shortfall by way of setting up one of the three RLNG power projects on a fast track basis. The project shall be connected to the national grid with a gross capacity of 1180.130MW through RLNG based Combined Cycle power generation facility at Bhikki, Dist. Sheikhupura in an IPP mode.

2.2 GOP APPROVAL

2.2.1 GOP Letter of Intent

In its letter dated April 13, 2015 (the **Application for LOI**), Quaid-e-Azam Thermal Power (Private) Limited expressed its firm interest to GOP in setting up of a 1,000-1,500 MW (Gross at ISO) Re-Gasified Liquefied Natural Gas based Combined Cycle Power Plant at Bhikki, District Sheikhupura, Punjab. The Application for LOI, a copy of which is attached at **Schedule B**, was submitted to GOP through the Private Power Infrastructure Board (the **PPIB**), Ministry of Water & Power.

The GOP, through PPIB, issued the LOI to Quaid-e-Azam Thermal Power (Private) Limited for the Project on 13 July 2015.

2.3 GENERATION LICENSE

Application for grant of generation license along with relevant documents and requisite fees has been filed by QATPL on 15 July 2015. The Authority conducted hearing thereupon on 09 February 2016 and the decision thereof is pending.

2.4 SUBMISSION

2.4.1 **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 Power Policy 2015; **AND** in light of the LOI pursuant to which the GOP, through PPIB, has approved Quaid-e-Azam Thermal Power (Private) Limited's 1,000-1,500 MW Re-Gasified Liquefied Natural Gas based Combined Cycle Power Plant at Bhikki, District Sheikhupura, Punjab: **QUAID-E-AZAM THERMAL POWER (PRIVATE) LIMITED SUBMITS HERewith TO NEPRA**, the competent regulatory authority lawfully authorized to determine tariff for power generation companies, for its determination, a tariff petition (the **Tariff Petition**) for approval of the reference generation tariff for Single Cycle and Combined Cycle Operation (the **Reference Generation Tariff**) for QATPL's 1180.130 MW (Gross at RSC) power generation facility to be located at Bhikki, Sheikhupura.

3. Executive Summary

3.1 QUAID-E-AZAM THERMAL POWER (PRIVATE) LIMITED

Quaid-e-Azam Thermal Power (Private) Limited (**QATPL**) is a private limited company, wholly owned by the Government of Punjab (**GOPB**) and incorporated under the Companies Ordinance 1984 on 25 March 2015; a copy of its incorporation certificate is attached at **Schedule E**.

3.2 PROJECT SUMMARY

3.2.1 The Upfront RLNG Tariff was determined by NEPRA and intimated to the Federal Government on 3, April 2015 (**Upfront Tariff**).

3.2.2 On 10, April 2015 QATPL submitted a motion for leave for review (**Intervention**), setting out key issues for QATPL with the Upfront Tariff pursuant to which a hearing was held by NEPRA in June 2015. No decision was given in light of the hearing by NEPRA. However, the Intervention was followed by two subsequent letters from QATPL to bring to NEPRA's attention its objections to the Upfront Tariff.

3.2.3 The Petitioner initiated the bidding process (for the selection of EPC and LTSA contractors) based on the efficiency levels (established by NEPRA after detailed assessment of proven state of the art technologies in commercial operations in Pakistan) and other parameters enshrined in the Upfront Tariff prevailing at that point in time. Hence, the bidding process was structured accordingly while giving *inter alia* greater weightage to efficiency levels etc. It is pertinent to mention that this exposed the project company to a greater risk and investment requirements, which was obviously expected to be compensated through the Upfront Tariff.

3.2.4 The Upfront Tariff has now been withdrawn by NEPRA through notification dated 9 February, 2016 to the Federal Government in terms of section 31(4) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997. However, such a withdrawal in no manner should deviate materially from the underlying key parameters (efficiency levels, sharing mechanism etc.) assumed during the bidding process (drawn from the Upfront Tariff) without any compensation to the Petitioner.

3.2.5 QATPL has now been intimated by NEPRA to pursue a tariff petition (cost plus) otherwise NEPRA will proceed with suo moto determination.

3.2.6 In light of the LOI and following approval of QATPL's Reference Generation Tariff by NEPRA through this Tariff Petition, QATPL will finance, design, engineer, procure, construct, install, test, complete, commission, insure, operate and maintain a 1180.130 MW (Gross at RSC) power generation facility (the **Facility**) at Bhikki, District Sheikhupura, Punjab, Pakistan (the **Project**).

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

PROJECT SIZE	1180.130 MW (Gross at RSC); and 1156.675 MW (net at Site reference conditions)
PROJECT SITE	Bhikki, District Sheikhpura
TECHNOLOGY	Combined Cycle
EQUIPMENT	GE H Class-9HA.01 Gas Turbine
ENGINEERING & PROCUREMENT CONTRACTOR	HEI-HRL
CONSTRUCTION CONTRACTOR	HEI-HRL
POWER OFF-TAKER	CPPAG
GAS SUPPLIER	Sui Northern Gas Pipelines Limited
PROJECT COST	USD 919,800,914
CAPITAL STRUCTURE	75% debt and 25% equity
FINANCIERS	A consortium of local financial institutions
PRIMARY SPONSOR	Government of Punjab
LEVELIZED REFERENCE GENERATION TARIFF (LNG) – CC	PKR 6.8506 per kWh (subject to NEPRA's final determination)
LEVELIZED REFERENCE GENERATION TARIFF (HSD) – CC	PKR 11.1264 per kWh (subject to NEPRA's final determination)
LEVELIZED REFERENCE GENERATION TARIFF (LNG) – SC	PKR 7.8670 per kWh (subject to NEPRA's final determination)
LEVELIZED REFERENCE GENERATION TARIFF (HSD) – SC	PKR 13.5909 per kWh (subject to NEPRA's final determination)

3.3 KEY FEATURES

- (a) **Firm engineering, procurement and construction price with fixed and definitive commercial operations date (for combined cycle) of December 2017;** as contractually agreed with globally reputable EPC contractors – HEI-HRL. The appointment of HEI-HRL as EPC contractor was carried out by QATPL through an International Competitive Bidding process in line with all applicable procurement rules, including the Punjab Procurement Rules, 2014. In pursuance of the same QATPL has signed the Engineering, Procurement and Construction Contract with the successful bidder, HEI-HRL (the **EPC Contract**) and established LCs amounting to USD 233,211,000 and PKR 6,445,949,400 in its favor. A copy of the EPC Contract previously submitted to NEPRA in December 2015 is reattached as **Schedule F**.
- (b) **Long-Term Service Agreement:** as part of the international competitive bidding process for the appointment of EPC Contractor in terms of all applicable public procurement laws, bids were also required to be submitted for maintenance and supply of initial spare parts and parts on a long term basis for scheduled and unscheduled maintenance

of Gas Turbines, Gas Turbine Generators and associated Auxiliaries. QATPL is in the process of finalizing the LTSA with the successful bidder, GE.

- (c) **Financing arrangements with Local Banks;** with commitments obtained from various local financial institutions. Based on the arrangement agreed in principle, the mandated lead arrangers have provided an underwritten commitment to make available a finance facility of up to PKR 72.5 billion from the local banking market to finance the costs of the Project on a debt to equity ratio of 75:25. **Finalisation of financing terms is subject to determination of a viable tariff from NEPRA.**

4. PROJECT INTRODUCTION

4.1 KEY CONSIDERATIONS

4.1.1 Technology & Equipment

The Project entails setting up the Facility on build, own and operate (**BOO**) basis. The Facility will be a thermal IPP using Re-gasified Liquefied Natural Gas (**RLNG**) as the primary fuel and High-Speed Diesel (**HSD**) as back-up fuel. The proposed Project is based on the combined cycle technology with an RSC gross capacity of 1180.130 MW. The Facility configuration consists of two Gas Turbines, two HRSGs and one Steam Turbine.

The proposed technology has been selected by QATPL after detailed analyses of various power generation technologies available internationally.

The multi shaft French/US Origin GE H Class – 9HA.01 Gas Turbine was selected for the Project. These are heavy-duty gas turbines capable of achieving higher combined cycle efficiency. The H Class turbines have high reliability and are cost effective in conversion of fuel to electricity. The turbine technology used in the Project is air cool H Class turbines which is an advance version of tradition H class steam cool turbines. The current 9HA.01 Gas Turbine in air cool technology has undergone full speed full load tests in GE's state of the art testing facility in Greenville, SC, USA. This facility provides full-scale validation of gas turbine systems with superior load response and full over/under frequency testing capability well beyond grid-connected installations. This in-house testing has proven the performance of the gas turbine at maximum load conditions as well as under irregular grid condition, which have been simulated to reflect unstable grid conditions.

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 QATPL the site located at Bhikki, Sheikhpura, Punjab for the Project (the **Site**). The Site will be developed by QATPL to serve the Project's land, logistical, water, and drainage requirements.

The site selected and approved by GoPb is located about 2 km off Sheikhpura-Faisalabad (15km from Sheikhpura) - road on Qadirabad-Balloki Link Canal (left bank). The site was previously selected by GoPb for setting-up 1320 MW coal fired power plant. The land measuring 578 Kanals has already been acquired by QATPL. The site is adjacent to QB Link Canal, and adjacent to Shorkot-Pir Mahal-Jaranwala-Sheikhpura single railway track (approx. 200km from Shorkot). Gatti-Lahore double circuit 500kV transmission line traverses about 2 km from the site.

The location is favorable in term of accessibility and water availability. Power evacuation and spur gas pipeline's connectivity (about 18 km from the project site) with an Environmental Impact Assessment ("EIA"), attached as **Schedule G**, already completed and approved. Environmentally, the Project has cleared the EIA because of the relatively low emissions from gas based generation as compared to other fossil fuel based power generation.

From a power evacuation standpoint, the site posits an advantage because CPPA will not have to add significant transmission infrastructure to the area. As per the current power evacuation plan the project will feed net generation of 1156.675 MW to the nearest grid station of 500 KV located at Gatti District Sheikhpura. Detailed study to handle additional load by Gatti Grid Station has already been carried out and it has been confirmed by NTDC that said grid station can handle additional load of 1400 MW (**Schedule "O"**) to transport to national grid. The power will be evacuated from the Project through 500 KV transmission lines of 2 KM that will connect it to national grid through Grid Station. According to NTDC, PC-1 for the transmission line has been approved; NTDC has confirmed that the back feed power electricity by Oct 2016 and system will be ready for the evacuation of power subsequently.

For the gas supply pipeline the Company will secure connection from the existing Sui Northern Gas Pipelines Limited ("**SNGPL**") line originating from Sawan Gas field and passing through Qadirabad Balloki (Sheikhpura Main Road). From Qilla Sattar Shah to Bhikki the Project Company will build about 18 KM of spur gas pipeline which is estimated to cost PKR 1,360 Million. The pipeline is scheduled to be commissioned by the last quarter of 2016.

4.1.3 **Engineering, procurement and construction (the EPC) contractors and firm EPC Price**

For the purposes of the Project, QATPL has already appointed HEI-HRL as the engineering, procurement and construction contractor based on firm (non-re-openable) EPC prices and confirmed commercial operations date (the **COD**).

All contractual arrangements that have been entered into for the Project to date have been negotiated in light of and are based on the Upfront Tariff. In light of the locked EPC price and COD locked under the EPC Contract, which were particularly based on the Upfront Tariff, provision for out of scope items is now necessary to allow for variation in scope.

The EPC Contractor

M/s Harbin Electric International (**HEI**), established in 1983, has undertaken contracts to build large-scale power plant turnkey projects and provide complete equipment for power plants in more than 20 countries including Pakistan, Philippines, Vietnam, Bangladesh, Cambodia, Iran, India, Indonesia, Ecuador and Turkey. Installing almost 30,000 MW in the process and becoming one of the most important contractors in the domestic and global industry. HEI has enjoyed listed status in ENR as one of the world's top 225 international contractors for many years. The company's corporate performance continues to

set new records both within the Harbin Electric and among China's domestic enterprises.

Habib Rafiq (Pvt) Ltd (**HRL**) is one of the Largest Engineering & Construction Companies, offering High quality and Cost effective Engineering, Procurement, Construction and Project Management services in all types of engineering disciplines being into business since long.

HRL has executed multi-disciplined Mega Engineering Projects both in Pakistan and abroad.

Amongst the prominent power projects known to be executed / participated by HRL include

Construction of 747 MW Guddu Combined Cycle Power Plant Project at Guddu with Harbin Electric International Co., Ltd. (HEI) comprising of Steel Structure and complete civil works.

*Rehabilitation of 22 MW Jabban Hydro Electric Power Plant (EPC Contract)
Construction of 724 (2 x 362) MW AES Oil Fired Power Project at Lalpir*

Construction of 412 MW Rousch Combined Cycle Power Plant Project at Abdul Hakeem

Construction of 397 MW Combined Cycle Power Plant Extension Project at Kot Addu.

Construction of 400 (4 x 100) MW Gas Turbines at Kot Addu, as sub-contractor to M/s. ALSTHOM-EXPORT, France and complete construction and erection of balance of plant.

Construction of 300 MW Combined Cycle Power Plant Project at Guddu Barrage Kashmore Sindh

Construction of 300 MW Gas Turbines at Combined Cycle Power Project at Guddu in association with M/s. G.E (U.S.A)

Construction of Balloki 225 MW Combined Cycle Power Plant

Construction of Muridke 234 MW Combined Cycle Power Plant

4.1.4 LTSA and O&M contractors

General Electric ("GE") is the Original Equipment Manufacturer ("OEM") of the Gas Turbines and Gas Turbine Generators. The Long Term Service Agreement (the **LTSA**) of the Facility was contracted to GE through the International Competitive Bidding Process carried out for the selection of the EPC and LTSA contractor. QATPL is presently in advance negotiations with

GE for their contractual arrangements in respect of the Long Term Service Agreement for the Project (the **LTSA Contract**).

GE is the world's digital industrial company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across the industrial sectors. GE Power is a world leader in power generation with deep domain expertise to help power producers deliver electricity from a wide spectrum of fuel sources. GE is transforming the electricity industry with the digital power plant, the world's largest and most efficient gas turbine, full balance of plant, upgrade and service solutions as well as its data-leveraging software. The innovative technologies and digital offerings of GE help make power more affordable, reliable, accessible and sustainable.

The bidding process for the Operation and Maintenance (the **O&M**) of the Facility is underway under Punjab Procurement Regulatory Authority regulations.

4.1.5 **Power off-take**

The electricity generated will be sold to Central Power Purchasing Agency (Guarantee) Limited (the **Power Purchaser**), pursuant to the Power Purchase Agreement (the **PPA**), which in turn will distribute and modulate the capacity generated by QATPL. The PPA will be executed by and between QATPL and the Power Purchaser following NEPRA's approval of QATPL's 30 years Reference Generation Tariff.

4.1.6 **Gas supply arrangement**

GOP is actively pursuing the procurement of LNG from different international suppliers across the world. As informed, as per these ongoing efforts, GOP has recently entered into a long term agreement for the import and continuous supply of LNG with Government of Qatar.

QATPL is at an advance stage of entering into a Gas Supply Agreement (the **Gas Supply Agreement**) with **Sui Northern Gas Pipelines Limited** (the **Gas Supplier**) for the continuous supply of RLNG to the site of the power plant to ensure its base load operations. The LNG will be imported by Pakistan State Oil (PSO) under a sale and purchase agreement with international supplier(s) (including Government of Qatar) approved by the competent forum. Following regasification of LNG, transportation of the RLNG will be done through Sui Southern Gas Company Limited and Sui Northern Gas Pipelines Limited.

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 919,800,914 (the **Project Cost**).

The planned financing of the Project Cost is 75% long-term local debt (the **Debt**) and 25% equity (the **Equity**).

4.2 **Relief Sought**

4.2.1 Reference Generation Tariff

That NEPRA determines the generation tariff for QATPL, based on the assumptions and grounds stated herein, in terms of this Tariff Petition and does so on an urgent basis. The reasons for an urgent determination have been stated in detail in the covering letter to this Tariff Petition, which may be read as an integral part hereof.

The PPA will be executed by and between QATPL and the Power Purchaser, subject to NEPRA's approval of a 30 year tariff acceptable to QATPL. 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 terms approved by the competent authority.

It is also hereby requested that the immediate application of the Reference Generation Tariff/Interim Tariff be allowed / ordered in terms of Rule 4 of NEPRA (Tariff Standards and Procedure) Rules, 1998 alongwith other enabling provisions of law.

Any benefit/concession/incentives given, previously or in future, to any other IPP/power projects will also be given to the Company.

4.3 **ADDITIONAL INFORMATION [SUMMARY OF EVIDENCES]**

4.3.1 Following pertinent information is hereto attached for NEPRA:

- (a) **SCHEDULE A** – REFERENCE GENERATION TARIFF TABLE;
- (b) **SCHEDULE B** – Quaid-e-Azam Thermal Power (Private) Limited's letter to the GOP dated April 13, 2015 - the **APPLICATION FOR LOI**;
- (c) **SCHEDULE C** – **LETTER OF INTENT** No. 1(102)PPIB-8001/15/PRJ/44750 dated July 13, 2015;
- (d) **SCHEDULE D** – MEMORANDUM AND ARTICLES OF ASSOCIATION QATPL;
- (e) **SCHEDULE E** – CERTIFICATE OF INCORPORATION;

- (f) **SCHEDULE F** – EPC CONTRACT;
- (g) **SCHEDULE G** –ENVIRONMENTAL IMPACT STUDY;
- (h) **SCHEDULE H** – LIST OF PROJECTS WITH CONSTRUCTION PERIODS;
- (i) **SCHEDULE I** – DETAIL OF ADDITIONAL COSTS NOT COVERED IN EPC AGREEMENT SCOPE;
- (j) **SCHEDULE J** – BREAKDOWN OF ENGINEERING AND RELATED CONSULTANCY COST AND CONSULTANCY AGREEMENT;
- (k) **SCHEDULE K** – BREAKDOWN OF ADMINISTRATIVE EXPENSES;
- (l) **SCHEDULE L** – BREAKDOWN OF SECURITY AND SURVEILLANCE COST;
- (m) **SCHEDULE M** – BREAKDOWN OF TESTING AND COMMISSIONING COST; AND
- (n) **SCHEDULE N** – O&M COST COMPARISON FOR SELECTED PROJECTS.
- (o) **SCHEDULE O** - LETTER FROM NTDC – POWER EVACUATION
- (p) **SCHEDULE P** – CHECKLIST CONFIRMING THE COMPLIANCE OF INFORMATION/DOCUMENTS WITH TARIFF (STANDARDS AND PROCEDURES) RULES, 1998.

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

- (a) Board Resolution of QATPL;
- (b) Affidavit of Mr. Ahad Khan Cheema, Chief Executive Officer, QATPL ; and
- (c) Bank Draft No. 2016/00536/0047-0002 dated February 15, 2016 amounting to PKR 1,412,720/- as requisite fee for the Tariff Petition, as notified by NEPRA.

4.3.3 QATPL reserves the right to submit additional information(s)/ document(s)/ evidence as and when so required. Furthermore, any additional information, to the extent available, will be submitted by QATPL, if required by NEPRA.

4.3.4 This Tariff Petition is submitted in triplicate, together with the requisite fee.

4.3.5 QATPL's application for the Generation License is presently under process with NEPRA.

BASED ON THOROUGH ANALYSIS of the national electricity generation structure, the existing available power generation technologies, the existing infrastructure and in light of QATPL's engagement of EPC contractor for the engineering, procurement and construction of the Facility, it is highly anticipated that QATPL's Project shall be one of the most efficient and competitive independent power producers in Pakistan.

5. Project Financing – Debt & Equity

5.1 DEBT FINANCING STRUCTURE

- 5.1.1 Habib Bank Limited and National Bank of Pakistan (the **Lead Arrangers**) have finalized the commercial terms with QATPL for providing a finance facility of up to PKR 72.5 billion to finance the costs of the Project on a debt to equity ratio of 75:25 based on an underwritten commitment. The Lead Arrangers are extremely confident that the debt required for the Financial Close of the Project will be arranged from the local banking market provided a bankable tariff is determined by NEPRA.

Nevertheless, it is imperative to highlight that the banks (lenders) are concerned on withdrawal of the Upfront Tariff and are keenly expecting that the Petitioner be allowed a commercially viable tariff for the Project guaranteeing loan repayments and duly providing cushion for cost over-runs and unforeseen scope variation risks associated with the most advanced and high-tech plant (with highest efficiency) being implemented in the Project.

5.2 EQUITY FINANCING

The sponsor financing the Equity for the Project is the Government of Punjab. The Government has so far transferred PKR 22.5 Billion to the Company as equity to primarily backstop the letter of credit obligations, hence, QATPL is entitled to return on equity during the construction accordingly.

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 the Upfront Tariff. For NEPRA's benefit, the reference exchange rates used to convert the relevant costs into United States Dollars are 1USD = 105 PKR.
- 6.1.2 Please find below, for NEPRA's approval, a summary of QATPL's Project Cost under this Reference Generation Tariff:

Sr. No.	Investment / Cost	USD Million
1	EPC	564.76
2	Customs Duties & Cess	25.65
3	LTSA Initial Spare Parts	20.88
4	Gas Pipeline Cost	13.60
5	HSD Inventory	26.55
6	Non EPC & Project Development	90.76
	CAPEX	742.21
7	Financing Fees and Charges	22.60
8	Interest During Construction	64.85
9	DSRA	53.49
10	One month LNG escrow account	36.65
	Total Project Cost	919.80

For purpose of the petition exchange rate of PKR/USD 105 has been assumed to be applicable up to Commercial Operations Date (COD). Since the exact timing of payment to EPC contractor is not known at this point of time, therefore, it is proposed that an adjustment for relevant foreign currency fluctuation for off-shore EPC portion of payment in the foreign currency be made against the reference exchange rate of Rs.105/USD on the basis of monthly average exchange rates prevailing on 1st day of each month during the construction period. The adjustment shall be made only for the currency fluctuation against the reference parity values.

- 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	689.851
EQUITY	229.950
TOTAL PROJECT COST	919.801

Keeping in view the large funding size of Bhikki project, due diligence requirements of the lenders and industry norms, financial close is expected to be achieved within one year of the reference generation tariff determination by the Authority.

In case the ECA financing option for the project is availed, any additional financing cost including insurance fee shall be a pass through item as per actual.

PROJECT COST EXPLANATION

6.1.4 EPC Cost:

The EPC cost includes power generation sets together with all the necessary auxiliary machinery, equipment and systems and includes, inter alia, the erection, testing, commissioning and completion of the equipment and construction of the Facility. As stated in Sections 4.1.3 above, the Firm EPC Cost is the turnkey price being charged by for the Project and is based on firm legally binding agreement between QATPL and the HEI – HRL JV.

After carrying out a competitive and transparent bidding process, the EPC contract has been finalized with an EPC price of USD 539.26 m. However, the total EPC cost is calculated as follows after taking into account the expected additional costs:

USD 25.5M for items not covered in the EPC Agreement Scope

This includes expected additional costs (64% of which is in foreign currency) for system optimization (Gas buffer vessel system cost, Housing, Auditorium, training simulators, BOP (Balance of Plant) spare parts, Combustion dynamic monitoring system, etc.). A detailed schedule indicating these costs is placed as per **Schedule I**.

Early completion bonus

In view of the prevailing power crisis, the Petitioner (being a government owned company) has requested the EPC contractor to complete the project on an expeditious basis. In order to incentivize the EPC contractor to achieve early completion of the project (as per clause 14.16 of EPC contract placed as per **Schedule F**), a provision of early completion bonus at the rate of 5% of EPC price has been assumed to be a Pass Through item as per actual at the time of COD.

6.1.5 **LTSA initial Spare Parts**

LTSA initial spare parts of USD 20.88 Million [as per discounted LTSA bid] form part of Capex and are in foreign currency.

6.1.6 **Gas Pipeline Cost**

Project costs also include spur Gas Pipe Line Cost of 18 Kms from Qilla Sattar Shah to Bhikki Plant site. In case, the cost of pipeline is allowed by OGRA, the same will be excluded from the project cost.

6.1.7 **HSD Inventory:**

Funding required to meet 7 days HSD inventory requirement has been assumed as part of the project cost. The project company believes, that HSD inventory is for backup purposes only and to comply with the power purchaser's requirements. The Power Purchaser considers the availability of HSD as a strong mitigant in the event of non-supply of gas, at the same time due to contemplated GSA arrangements the probability of HSD being utilized is remote. The cost of HSD inventory, therefore, would need to be included as part of the Project Cost and will not be claimed separately as part of Working Capital during the operating phase. However, its long term maintenance, replenishment and/or replacement after recommended storage interval of around 1 year is an element of O&M costs to the company. The HSD inventory has been estimated at PKR 46.21 / liter (excluding GST) and the same will be indexed to prices as notified by the competent authority from time to time and allowed to the petitioner at COD.

6.1.8 **Custom duties and cess:**

Taxes and Customs Duty have been calculated by QATPL in light of the applicable laws of Pakistan and will be treated as pass through item as per actual

Based on the reference exchange rates of PKR 105 for 1 USD, the Taxes and Custom Duty for the Project have been calculated as 6.05% (custom duties 5% and Sindh Infrastructure Cess 1.05%) of the Offshore EPC Cost.

6.1.9 **Non EPC and Project Development costs:**

The project company has engaged a consortium of advisors with strong power sector experience. Based on their recommendations, company's estimates and industry trends, Non-EPC and project development costs have been budgeted at USD 90.759 M. These include engineering and related consultancy, administrative expenses, O&M mobilization cost, land cost, security and surveillance, insurance during construction, fixed O&M and LTSA during construction and testing and commissioning cost.

6.1.9.1 **Engineering and related consultancy**

The company has signed a consultancy contract with NESPAK for USD 9.6M covering project procurement, design review and implementation advisory services. Additional services including but not limited to pre – shipment inspections, foreign travelling, extra design review meetings in China, extra trips by foreign consultants, FAT (Factory Acceptance Test) inspections and third party manufacturing surveillance quality assurance services which are envisaged to be paid mainly to foreign consultants is estimated at USD 5.4M. It has been assumed that against each of the FATs, 3 to 4 inspections will be performed at a minimum, i.e. during manufacturing, post manufacturing and pre shipment which have been calculated to be approximately 198. Estimated breakdown of this cost component is placed as per **Schedule J**.

6.1.9.2 **Administrative expenses**

Based on the recommendations of the advisors, company's estimates and industry trend, administrative expenses have been budgeted at USD 18M. Administrative expenses covers the administrative and management expenses of QATPL for a period of 36 months (6 months from date of incorporation to Notice To Proceed and 30 months for the construction period). These include but not limited to company incorporation and set up costs, Pre-bid overseas conferences, Insurance overseas roadshows, payroll, utilities, rent rates and taxes, vehicles, training, travelling and communication costs, regulatory expenses, advertising and publicity / public relations, inauguration and foundation stone laying ceremonies, office equipment and supplies, etc. Breakdown of these expenses is placed under **Schedule K**.

6.1.9.3 **O&M mobilization**

O&M contractor is expected to be mobilized at least 4 months before the COD of first gas turbine. Since the O&M contractor selection and bidding process has recently been initiated, there are no specific comparable benchmarks available for estimation of this cost. Accordingly, based on the recommendations of the advisors, company's estimates and industry trend, O&M mobilization cost has been budgeted at USD 6M.

Reference is also made to UCH – II power plant, where the O&M mobilization cost of USD 4M was allowed for 404MW capacity whereas the O&M costs were on a sharing basis. Accordingly, the Bhikki plant being a standalone plant with no cost sharing and a much higher capacity and scale will entail a much higher O&M mobilization cost.

6.1.9.4 **Land cost**

Land area measuring 552.5 kanals has been acquired for the project at an actual cost of USD1.3M. The acquisition of additional land measuring 26 kanals from Evacuee Trust Property Board is in process. Additional cost relating to land development, potential acquisition of the temporary leasehold land and estimated dismantling/ rehabilitation charges are estimated in aggregate at USD 0.7M.

6.1.9.5 Security and surveillance

Govt. of Punjab has established a Special Protection Unit (SPU) for providing security to expatriates especially Chinese working on different development projects in Pakistan as part of its commitment for security of the foreign nationals. Although Bhikki power project is not part of CPEC (China Pakistan Economic Corridor), but the level of the security being provided to the Chinese and other expats working on Bhikki power project is upto the level of CPEC. SPU not only provides security to expats working at site but also at their residences, offices and during their movements.

In view of the above, the security and surveillance costs are budgeted at USD 12.5M. These mainly include but not limited to watch towers, police barracks, security staff cost, surveillance equipment, special protection unit cost etc.

Breakdown of these expenses is placed under **Schedule L**.

6.1.9.6 Insurance during construction

Given the Bhikki plant being the most advanced and state of the art technology, insurance cost is expected to be much higher and hence assumed at 1.35% of the total EPC cost. Insurance cover is also expected to cover additional risks of political violence such as strike, terrorism, sabotage etc., and therefore the insurance premium cost is expected to be relatively higher than the normal. It may be noted that since the turbines are not in commercial operation anywhere in the world, thus lacking any prior insurance coverage precedents, is likely to result in higher insurance premium. Moreover, due to the phased COD the combined cycle construction will be exposed to higher risks due to the parallel simple cycle operations.

6.1.9.7 Testing and commissioning cost

Testing and commissioning cost is budgeted at USD 29.634M based on a technical assessment carried out by the advisors. These costs include fuel cost during pre-synchronization of USD 23.2M, electricity cost for back feed from National Grid of USD 0.9M and fixed O&M and LTSA costs of USD 5.6M to be incurred during pre - COD and shut down periods. The RLNG and HSD price has been assumed at USD 7 / MMBTU (HHV) and PKR 46.21 / litre (HHV excluding GST) and the same will be indexed to prices as notified by the competent authority from time to time and allowed to the petitioner at COD.

The O&M contractor and LTSA contractor are required to be deployed at least four months and one month prior to the COD of first gas turbine respectively. Bhikki plant will have a phased COD (i.e. single cycle followed by combined cycle), therefore according to the recommendations from the technical advisors and industry norms, it is anticipated that the plant would require a shut - down period of at least two months. Accordingly, O&M fixed cost equivalent to five

months and LTSA fixed cost for one month prior engagement and two months of shut down period has been budgeted.

Breakdown of estimated testing and commissioning cost is placed as per **Schedule M**.

The EPC and LTSA Contracts were finalised and awarded keeping in mind the Upfront Tariff which allowed flexibility to QATPL to include the above costs as part of the Project Costs whilst maintaining returns. It is imperative that QATPL is allowed the above costs to be included in the project costs otherwise the EPC and LTSA structures would need to be revisited.

6.1.10 **Financing fees and charges**

In line with earlier determinations of NEPRA and industry norms, financing fees have been assumed at 3.50% of the loan amount. Further, provincial services sales tax / FED has also been assumed to be added in the aforesaid rate.

6.1.11 **Interest during Construction**

Interest during construction (IDC) shall be re-established at the time of COD on the basis of actual project financing and weighted average quarterly LIBOR/KIBOR and applicable premiums. As mentioned before the timeline for completion of project is currently set at 30 months which is substantially lower than the typical time required for completing such large scale projects (list provided as **Schedule H**). Since the Project Company is following an aggressive completion timeline with the EPC contractor, given the liquidity, project management and other incidental risks associated with such a large scale and highly advanced technology project, an adequate flexibility would be required in the construction period to compensate any additional IDC in case of delay. However, in case the Project Company achieves COD prior to such date, the calculations will be adjusted to reflect the same.

6.1.12 **Debt Service Reserve Account (DSRA)**

In line with the financing agreements being finalized with project lenders and established financing norms, QATPL is required to fund DSRA equivalent to debt service (principle and interest) amount covering two quarterly installments at COD. Accordingly, DSRA has been estimated at USD 53.491M.

6.1.13 **One Month LNG Escrow**

In line with the earlier determinations by the Authority and gas supplier requirements, one month LNG escrow account has to be created, as finalized in draft GSA. This has been assumed at USD 36.7 M based at per day cost of RLNG fuel. The RLNG price has been assumed at USD 7 / MMBTU (HHV) and the same will be indexed to prices as notified by the competent authority from time to time and allowed to the petitioner at COD.

7. REFERENCE GENERATION TARIFF SUMMARY

7.1 Based on the RLNG price of USD 7.00 per MMBTU (HHV), an output of 1156.675 MW (net at reference conditions) and detailed financial analyses, the proposed Reference Generation Tariff for Single Cycle Operations is hereunder:

The proposed Single cycle tariff figures are as follows:

Proposed levelized project tariff (Rs per KWh)	Single cycle	
	RLNG	HSD
Fuel cost component	7.1134	12.6895
Variable O&M	0.3336	0.4814
Total Energy Purchase Price	7.4470	13.1709
Fixed O&M (Local)	0.1373	0.1373
Fixed O&M (Foreign)	0.1597	0.1597
Cost of working capital	0.0895	0.0895
Capacity charge @ 92%	0.4201	0.4201
Total tariff	7.8670	13.5909

The proposed combined cycle tariff figures are as follows:

Proposed levelized tariff (Rs per KWh)	RLNG	HSD
Fuel cost component	4.6212	8.7491
Variable O&M	0.3336	0.4814
Total energy purchase price	4.9548	9.2305
Fixed O&M (Local)	0.1373	0.1373
Fixed O&M (Foreign)	0.1597	0.1597
Cost of working capital	0.0895	0.0895
Insurance	0.0790	0.0790
Return on Equity	0.5561	0.5561
Debt service cost – repayment	0.4335	0.4335
Debt service cost – interest	0.2891	0.2891
Capacity charge @ 92%	1.8959	1.8959
Total tariff	6.8506	11.1264

Key underlying Project and operating assumptions for the Combined cycle tariff are provided below:

Design, fuel and operating assumptions		Unit	
Gross capacity (reference site conditions)	MW	1,180.130	
Net capacity	MW	1,156.675	
Annual availability	%	92%	
		RLNG	HSD
Efficiency – CC	%	60.11%	53.04%
Efficiency – SC	%	39.05%	36.57%
Base fuel price (excluding GST)	USD per MMBTU-HHV / PKR per litre (HHV)	7.00	46.21
Project cost assumptions			
EPC cost	USD in M	564.760	
Project cost before IDC	USD in M	854.951	
Total project cost	USD in M	919.801	
O&M, insurance and cost of working capital assumptions			
Variable O&M (foreign)			
LTSA variable fee [USD 441.61per FFH]	USD per kWh	0.0008	
LTSA cost not covered in agreement scope	USD per kWh	0.0002	
O&M operator fee	USD per kWh	0.0022	
Total	USD per kWh	0.0032	
Fixed O&M (Local) – Non LTSA	USD per kwh	0.0013	
Fixed O&M (Foreign) [USD 6.96M per annum]	USD per kwh	0.0015	
Total	USD per kwh	0.0028	
Cost of working capital	%	3mKIBOR + 2%	
Insurance	% of total EPC cost	1.35%	
Financing assumptions			
Equity	%	25%	
Debt	%	75%	
Equity IRR	%	16%	
Cost of debt	%	3mKIBOR + 3%	

Reference Tariff Tables based on RLNG and HSD are attached at **Schedule A**.

8. Energy Purchase Price

8.1 SUMMARY

As already mentioned above, to counter the energy shortage in the country, the Ministry of Water and Power/Power Purchaser requested that all the RLNG based projects should be operated in a phased manner i.e. Single cycle operations for GT1 and GT2 followed by the Combined cycle operations thereafter. Accordingly, the petitioner requests individual tariffs for Single cycle operations GT1, Single cycle operations GT2 and Combined cycle operations.

The tariff has a typical two-part structure with an Energy Purchase Price (EPP) for the energy actually despatched and a Capacity Purchase Price (CPP) based on the available capacity.

For Combined cycle operations, the CPP will cover Fixed O&M (Local), Fixed O&M (Foreign), Insurance, cost of working capital, Return on Equity and Debt servicing. For both Single and Combined cycle operations, the EPP will cover fuel cost (LNG and HSD), and Variable O&M (Foreign) cost.

The price of fuel will be a pass through item as indexed using a robust indexation mechanism as proposed in the section on fuel below

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 foreign variable O&M component (the **Foreign Variable O&M Component**).

Single cycle Tariff Mechanism:

For Single cycle operations a two tier tariff structure comprising of CPP and EPP has been proposed. The CPP will cover Fixed O&M (Local), Fixed O&M (Foreign) and cost of working capital only whereas the EPP will cover fuel cost, and Variable O&M (Foreign) cost

The above structure has been proposed as the power producer is not in a position to produce electricity on simple cycle operation on the basis of pre COD sale, without proper commissioning, COD and proper tariff for such operation, inter alia, for the following reasons:

1. 5 to 7 months power generation of the plant on single cycle operations will produce electricity worth over PKR 20 billion of sale to the power purchaser. This cannot be considered as a Pre-COD sale. If phased COD is not permitted, the plant will be exposed to full LDs on total size of the plant in case the combined cycle commissioning gets delayed. Whereas the power producer

- would have received more than 530 M units of electricity from the plant every month.
2. The plant will have to put in place O&M regime, LTSA regime as well as all required insurances.
 3. The plant will face degradation of efficiency and power output during the single cycle operation which will not be protected if only combined cycle COD is envisaged.
 4. Over 5000 fire hours will be consumed which is more than 8% of the factored fire hours for major over haul.
 5. A significant part of the warranty period will be consumed.
 6. The plant will not be obliged to produce power and arranging working capital if it is not commissioned under PPA. Thus availability of plant will not be guaranteed.
 7. Single cycle operation may enhance cost of insurance due to side by side construction and operation of plant.
 8. Single cycle operations of plant is likely to be at around 39.05% efficiency which would be still better than many plants currently in operation in Pakistan and thus feasible for the power purchaser in merit order.
 9. The Petitioner submits that phased commissioning be allowed for the reasons mentioned above keeping in view the power shortage in the country. Considering the operation of Gas Turbines during the transition period between single cycle COD of individual units and the COD of combined cycle, degraded performance parameters i.e. efficiency and power output must be allowed.
 10. Gas Turbine Performance degradation (output and heat rate) due to its operation in Open Cycle mode for approximately 5000-6000 hours, to be accounted for, at COD while determining the base line net plant output and heat rate.

8.1.2 FUEL COST COMPONENT

ASSUMPTIONS

This component represents the fuel consumption at an efficiency level of 39.05% (for LNG – Single cycle operations), 36.57% (for HSD – Single cycle operations), 60.11% (for LNG – Combined cycle operations) and 53.04% (for HSD – combined cycle operations) all at 92% plant load factor. As a general comment, we submit that there will be a separate fuel cost component for each generation scenario stated below and the energy invoice will be based on the applicable fuel and generation scenario.

Plant degradation i.e. degradation in net output and heat rate will need to be determined/considered from the COD for the first year of operation, since plant especially the Gas Turbines degradation start very rapidly during the first few thousand hours of GT operation, and keep on degrading.

Degradation in Performance due to under frequency operation of the units, due to the low grid system frequency also needs to be compensated.

During the plant performance testing all blow downs are closed 100%, which is not the case in actual operation of the plant. This loss must be compensated, while determining the base line performance of the plant.

Any variation in the plant performance i.e. efficiency and output of the Gas Turbines and Plant due to change of Fuel Specifications is also requested to be allowed.

EFFICIENCY

The Petitioner, as stated earlier, selected the EPC Contractor following a detailed procurement process carried out under the Punjab Procurement Laws. The process took account of the Upfront Tariff benchmarks. That is, the Petitioner's decisions were based on taking full advantage of the incentives and thresholds stated in the Upfront Tariff and, to this end, the Petitioner through its unrelenting efforts and efficient procurement process has been able to negotiate levels (i.e. 61.59%) that are unprecedented in Pakistan.

The Authority, having now withdrawn the Upfront Tariff, has requested the Petitioner to apply through a cost-plus petition, which by its very nature, would result in any gains achieved by the Petitioner to be reconsidered. This is not an acceptable position. The Petitioner, however, is nonetheless willing to share efficiency gains with the consumer and is doing so on the basis of the Federal and Provincial Government's desire to provide affordable power to consumers. The Petitioner is also aware of the Authority's obligations under the NERPA laws, when determining tariffs, to balance the interests of consumers and encourage licensees to provide efficient service.

The efficiency factor is based on the following:

- Petitioner is placed on high risk of maintaining highest efficiency regimes, that are to be validated globally. The actual efficiency levels shall be adjusted at the time of COD.
- The Petitioner also submits that the technology being employed for the Project is state of the art and accordingly in order to achieve an optimal risk adjusted return (for any possible downward revision in efficiency levels) it should retain the part of the benefit of higher than threshold realized efficiency.
- Another problem with ascertaining a minimum Efficiency threshold by the Regulator that it will lead to OEM specific efficiency levels and will give

rise to monopoly of a specific OEM in the power market and hence will discourage healthy competition.

- It is also submitted that due to the scale of these projects and the level of commitment shown by the Government to undertake these projects has resulted in an efficient procurement.
- Furthermore, if the Efficiency levels are actualized, it would deter future investors from seeking to optimize Plant's efficiency level (which would not be in accordance with the stated objectives under the Power Policy of 2015) and instead opt for least Capex driven bidding and still able to achieve tariff adjustments at actual established efficiency levels at COD.
- The bidding process was structured keeping in view the upfront tariff determination which had an incentive for achieving higher efficiency. As a result, the Company achieved a much higher efficiency contract. Similarly, the company will try its best to actually achieve the efficiency if there is an incentive to do so.

In the above context, the Authority is left with following options to re-determine the tariff / efficiency:

- a) The efficiency may be based on the overall Pakistan market / previous upfront determination; or
- b) H Class plant efficiencies existing in the world may be made the benchmark. Information pertaining to the bids for the three RLNG projects have already been shared with the Authority. These bids will help NEPRA in setting up the said benchmark.

In view of the above submissions, this tariff petition has been submitted assuming option (b) above, as the preferred and just option. For the purpose of calculation of this tariff petition, the highest efficiency of any machine in operation around the globe has been taken as the benchmark. Accordingly, the net thermal efficiency for the LNG combined cycle and single cycle operations has been assumed at 60.11% and 39.05% respectively, as quoted by Siemens (as OEM), as a benchmark, during the bidding process. It is proposed that any excess efficiency over and above 60.11% established at the time of COD after applying all applicable/permissible (IPP industry) corrections / degradations including but not limited to:

- recoverable and non-recoverable adjustments,
- grid frequency variation,
- blow-down adjustment,
- temperature adjustments,

- fuel calorific value variation and
- miscellaneous adjustment

shall be shared between the power purchaser and the petitioner on a 60:40 basis respectively. Non-recoverable adjustments to be allowed on monthly intervals based on agreed OEM degradation curves. It is stressed, the Petitioner is proposing (without objection) that maximum benefits compared to the Upfront Tariff benchmarks are passed on to the consumer (i.e. between [57% and 60.11%] all efficiency gains are being passed on the consumer).

The sharing formula will ensure the unprecedented efficiency levels negotiated by the Petitioner and will provide due incentive to the Petitioner to achieve the same. In addition, it is expected that NEPRA will allow downward revision, if any, to the efficiency levels after testing at COD.

8.1.3 INDEXATION & ESCALATION

The Fuel Cost Component (FCC) is proposed to be adjusted on account of fuel price variation as and when notified by the relevant authority.

8.2 FOREIGN VARIABLE O&M COST COMPONENT

ASSUMPTIONS

The petitioner is in the process of entering into LTSA with OEM GE for maintenance of equipment at USD 441.6 per factored fired hour. The Petitioner is in process for selection of O&M contract and expects the total foreign variable O&M cost to remain within a cost of Rs. 0.3336 / kWh.

O&M cost comparison for selected projects considered for arriving at 0.3336/ kWh is placed as per **Schedule N**.

INDEXATION AND ESCALATION

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

- (a) the USD/PKR exchange rate, based on the revised TT & OD selling rate of United States Dollar notified by the National Bank of Pakistan; and
- (b) US CPI, notified by the US Bureau of Labor Statistics.
- (c) In case there is any local variable component, this will be subject to local CPI indexation.

9. CAPACITY PURCHASE PRICE

9.1 SUMMARY

The Capacity Purchase Price component of the reference generation tariff is payable on the basis of the contract capacity established at the COD and annually thereafter. Net dependable capacity used for Single and Combined cycle operations for LNG and HSD is as follows:

	Combined cycle (2GTsx1 ST)		Single cycle (1 GT)	
	LNG	HSD	LNG	HSD
Gross Capacity	1,180,130 kW	1,076,880 kW	364,222 kW	363,852 kW
Net Capacity	1,156,675 kW	1,039,980 kW	358,506 kW	357,114 kW
Auxiliary load	23,455 kW	36,900 kW	5,716 kW	6,738 kW

A detailed breakup and explanation of various components of the Capacity Purchase Price Component is provided below.

9.1.1 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**).

9.2.1 FIXED O&M COST COMPONENT

9.2.1.1 ASSUMPTIONS

Fixed O&M (**Foreign**) has been based on fixed annual LTSA costs of USD 6.960M. Further, LTSA costs not covered in LTSA scope has been assumed at 20% of aforesaid fixed fee. The fixed O&M contractor fee has been assumed at USD/kWh 0.0007 on the basis of industry trends/ benchmarks details of which have been placed as per **Schedule N**.

Fixed O&M (**Local**) has been based on budgeted company overhead/ estimated administrative cost during operations of USD 12M. Further, O&M contractor fee has been assumed at USD/kWh 0.0012 on the basis of industry trends/ benchmarks details of which have been placed as per **Schedule N**.

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

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). The insurance cost component has been calculated after considering risk exposure at 1.35% of the EPC cost.

9.2.3 COST OF WORKING CAPITAL COMPONENT

9.2.3.1 ASSUMPTIONS

The Petitioner has estimated its working capital requirement equivalent to 60 days of cash cycle taking into account the normal payment cycle of the PPA applicable to energy payments receivable from the Power Purchaser. Cost of short term borrowing has been assumed at 3mKIBOR + 2%. Further, cost of 60 days SBLC at the rate of 2% per annum has been assumed as part of the working capital cost. It is proposed that the cost of working capital be adjusted for variation in KIBOR and fuel prices.

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.

9.2.4 THE RETURN ON EQUITY

9.2.4.1 ASSUMPTIONS

The Return on Equity component of the tariff (including Return on Equity During Construction) has been based on an internal rate of return of 16% which is in line with the Power Policy 2015 and previous rulings of the Authority on the matters related to RLNG generation. Calculations are based on expected equity utilization up to COD.

Corporate income tax and Withholding tax payable on income and dividends are assumed to be pass-through and are not included in the Tariff.

9.2.4.2 INDEXATION AND ESCALATION

The ROE (including Return on Equity During Construction) 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

9.3 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**);

9.3.1 DEBT SERVICE COMPONENT

9.3.1.1 ASSUMPTIONS

The Petitioner has assumed 100% of the debt amount from local banks and financial institutions in calculating the debt servicing component of the tariff.

The following assumptions have been made in calculating this component:
Amount of debt: USD 689.851 M in local financing

- Term of debt: 10 years plus 30 months grace period
- Interest rate: 3-month KIBOR plus 3.0%
- Base KIBOR: 6.36%
- Repayment: quarterly

The Project drawdown schedule and related Interest during Construction (IDC) is based on expected cost utilization up to COD. This will be adjusted at COD on account of actual variation in interest on the basis of actual drawdown for the period during construction.

Any savings in interest rate spread shall be shared between power purchaser and QATPL in the ratio of 60:40.

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.

10. ONE TIME ADJUSTMENTS

10.1 ADJUSTMENTS AT COD

At COD, the tariff components will be adjusted by the inflation factors and reference exchange rates, as the case may be, as defined and described herein.

The relevant reference tariff components will also be adjusted on account of variation in FCY/PKR, and by the then prevailing KIBOR (if applicable). Furthermore, any debt related cost will be adjusted at COD.

Debt service, DSRA and ROE components will be adjusted on account of actual variation in debt and equity drawdown, actual interest during construction, financing costs/fees, actual customs duties and taxes. Once adjusted, the Debt service and ROE will be updated according to the relevant indexations.

Spur Gas pipeline cost if allowed by OGRA shall be excluded from the Project cost at COD.

Fuel price assumed to estimate HSD inventory, LNG Escrow Account and Fuel consumption cost during testing and commissioning phase shall be indexed to price variations announced by competent authority from time to time at COD.

O&M indexation for the O&M cost incurred during construction phase shall be given as one time adjustment at COD.

DSRA shall be adjusted at actual KIBOR.

10.1.1 In summary, at COD, the Reference Generation Tariff will be updated on the basis of:

- (a) Actual interest incurred during the construction period including any upward variation in IDC resulting from delay in COD;
- (b) Fuel Price variation;
- (c) Custom Duties and Taxes;
- (d) Changes in KIBOR and exchange rate variations; and
- (e) Changes in Gas pipeline costs, HSD inventory and LNG Escrow Account.

10.2 Adjustment due to Variation in Net Capacity

It is proposed that all the tariff components of capacity purchase price be adjusted at the time of COD based upon the Initial Dependable Capacity (IDC) tests to be carried out for determination of Contract Capacity.

10.3 Adjustment due to Variation in Net Thermal Efficiency

It is proposed that fuel component of energy purchase price be adjusted at the time of COD based upon the net thermal efficiency established after applying all corrections/adjustments [as indicated earlier] based on tests to be carried out at COD.

In case the net thermal efficiency established at COD after applying all corrections/adjustments exceeds 60.11%, excess efficiency gains will be shared in 60:40 [Power Purchase: IPP] ratio as is applicable in Coal, Wind and Solar Upfront Tariffs.

10.4 PASS-THROUGH ITEMS

In addition to the pass-through items stipulated in the standardized PPA and in the Petition herein, early completion bonus, any taxes (including but not limited to corporate taxes, minimum turnover tax, alternate corporate tax etc), duties and levies, Workers Welfare Fund, Workers Profit Participation Fund and/or governmental impositions of whatsoever nature; and financing cost of SBLC's or any other instruments required under the GSA not factored in the tariff calculations will be treated as part of the Project / operating cost as per actual basis and will be passed through to the power purchaser.

In case the ECA financing option for the project is availed, any additional financing cost including insurance fee shall be a pass through item as per actual.

11. GENERAL ASSUMPTIONS

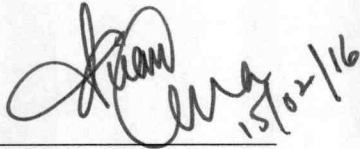
The following have been assumed while calculating the Reference Generation Tariff and changes in any of these assumptions will result in changes in the Reference Generation Tariff.

- All calculations have been performed in USD and unindexed.
- Where applicable, an exchange rate of PKR 105 per USD has been used to convert the figures into USD.
- For Single cycle operations gross capacity of both the GTs has been assumed at 364.222 MW on LNG operations and 363.852 MW on HSD whereas for Combined cycle operations gross capacity of the plant has been assumed at 1,180.130 MW on LNG operations and 1076.880 MW on HSD.
- The configuration of proposed power plant has been assumed at 2 + 2 + 1 i.e. 2 GT's + 2 HRSG's + 1 ST.
- Plant / load factor i.e. average availability of the plant has been assumed at 92%.
- The tariff control period has been assumed to be 30 years from the date of COD. Construction period has been assumed to be 30 months.
- Auxiliary load for the plant has been assumed to be 23.455 MW on LNG and 36.900 MW on HSD.
- For Single cycle operations thermal efficiency of 39.05% on RLNG and 36.57% on HSD has been assumed, whereas, thermal efficiency of 60.11% on RLNG and 53.04% on HSD has been assumed for Combined cycle operations.
- Any efficiency gains determined at COD may be shared with the power purchaser in ratio of 60:40.
- Degradation has been considered as a normal feature of plant and hence assumed to be a pass through under the tariff. The monthly degradation schedule would be agreed with the Power Purchaser under the Power Purchase Agreement.
- In line with earlier tariff determinations, a discount rate of 10.0% has been used to calculate NPV for the purpose of this tariff determination.
- All invoicing and payment terms are assumed to be in accordance with the finalized PPA terms.
- Any benefit/concession/incentives given to any other IPP/projects will also be given to the Company.

- Any additional costs incurred to cater for any modifications or additions required by the Power Purchaser will form part of the Project Cost at the COD.
- Impact of foreign currency fluctuations relating to project cost payments to be made post construction period such as retention money are also assumed to be compensated.
- Grid connection shall be the responsibility of NTDC.
- No corporate taxes (including but not limited to minimum turnover tax, alternate corporate tax, normal tax etc.) has been assumed. As these are assumed to be pass through item.

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 QATPL'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 QATPL:



Chief Executive Officer

SCHEDULE A
REFERENCE GENERATION TARIFF TABLE – RLNG COMBINED CYCLE

Year	Fuel component	Var. O&M	Total EPP	Energy Purchase Price (Rs./kWh)			Capacity Purchase Price (PKR/kWh/Year)			Total Tariff		
				Fixed O&M local	Fixed O&M foreign	Cost of W/C	Insurance	ROE	Debt Repayment	Interest Charges	Total CIPP	Capacity charge @ 92%
1	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.4552	0.6535	2.1302	2.3154
2	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.4993	0.6093	2.1302	2.3154
3	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.5477	0.5609	2.1302	2.3154
4	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.6008	0.5078	2.1302	2.3154
5	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.6590	0.4496	2.1302	2.3154
6	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.7229	0.3857	2.1302	2.3154
7	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.7930	0.3156	2.1302	2.3154
8	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.8699	0.2388	2.1302	2.3154
9	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.9542	0.1544	2.1302	2.3154
10	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	1.0467	0.0619	2.1302	2.3154
11	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
12	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
13	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
14	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
15	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
16	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
17	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
18	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
19	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
20	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
21	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
22	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
23	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
24	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
25	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
26	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
27	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
28	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
29	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
30	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104
Average												
1-10	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.7149	0.3938	2.1302	2.3154
11-30	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.0000	0.0000	1.0216	1.1104
1-30	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.2383	0.1313	1.3911	1.5121
Levelized												
1-30	4.6212	0.3336	4.9548	0.1373	0.1597	0.0895	0.0790	0.5561	0.4335	0.2891	1.7442	1.8959
										US Cents/kWh		
										6.5244		
										6.8506		
										6.5244		
										6.8506		
										6.5244		

REFERENCE GENERATION TARIFF TABLE – HSD COMBINE CYCLE

Year	Fuel component	Var. O&M	Total EPP	Energy Purchase Price (Rs./kWh)			Capacity Purchase Price (PKR/kWh/Year)			Total Tariff				
				Fixed O&M local	Fixed O&M foreign	Cost of W/C	Insurance	ROE	Debt Repayment	Interest Charges	Total CPP	Capacity charge @ 92%	Rs /kWh	Cents / kWh
1	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.4552	0.6535	2.1302	2.3154	11.5460	10.9962
2	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.4993	0.6093	2.1302	2.3154	11.5460	10.9962
3	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.5477	0.5609	2.1302	2.3154	11.5460	10.9962
4	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.6008	0.5078	2.1302	2.3154	11.5460	10.9962
5	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.6590	0.4496	2.1302	2.3154	11.5460	10.9962
6	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.7229	0.3857	2.1302	2.3154	11.5460	10.9962
7	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.7930	0.3156	2.1302	2.3154	11.5460	10.9962
8	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.8699	0.2388	2.1302	2.3154	11.5460	10.9962
9	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.9542	0.1544	2.1302	2.3154	11.5460	10.9962
10	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	1.0467	0.0619	2.1302	2.3154	11.5460	10.9962
11	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
12	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
13	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
14	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
15	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
16	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
17	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
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19	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
20	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
21	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
22	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
23	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
24	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
25	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
26	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
27	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
28	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
29	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	-	-	1.0216	1.1104	10.3409	9.8485
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Average														
1-10	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.7149	0.3938	2.1302	2.3154	11.5460	10.9962
11-30	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.0000	0.0000	1.0216	1.1104	10.3409	9.8485
1-30	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.2383	0.1313	1.3911	1.5121	10.7426	10.2311
Levelized														
1-30	8.7491	0.4814	9.2305	0.1373	0.1597	0.0895	0.0790	0.5561	0.4335	0.2891	1.7442	1.8959	11.1264	10.5966



Ref No: QAS-15/04/13-06

April 13, 2015

Managing Director
Private Power and Infrastructure Board
50 Nazimuddin Road , F7/4 ,
Islamabad

**Application for LOI for 1000-1,500 MW LNG based Power Plant to
be Established at Bhikki (Punjab)**

Dear Sir

Economic development of any country depends on continuous supply of energy at an affordable price. The demand for various fuel sources is changing the overall energy mix to support cost effective methods for energy generation for sustaining economic growth. The escalating demand for energy has encouraged the people around the world to explore new vistas and think beyond the conventional sources of energy.

Project Background

Government of Punjab (GoPb), realizing the urgency of power situation has undertaken various initiatives to overcome the current crisis which includes development of a ReGasified-LNG Power Plant. By introducing LNG in the fuel mix, it would achieve fuel diversity and enhance power availability in a relatively shorter period of time. This Project is expected to build 1,000-1,500 MW power plant, which shall enhance the power generation capacity. The gas will be made available by Ministry of Petroleum & Natural Resources.

Project	Bhikki Power Plant	
Site Location	Bhikki, Punjab	
Project Area	80-100 Acres	
Sponsors	Government of The Punjab,	
Project Company	Quaid-e-Azam Thermal Power (Private) Limited	
Capacity	1,000-1,500 MWp AC	
Plant Efficiency	58%	
Construction Period	3D-36 Months	
Project Cost (Expected)	Description	Per MW USD M
	EPC Cost	0.7916
	Customs Duty and Taxes	0.0377
	Non-EPC Cost and Project Development	0.0792
	Interest During Construction	0.0368

Energy Department, 8th Floor, EFU House, 6-D Main Gulberg,
Jail Road, Lahore
Phone: (+92 42) 99268011 / 99268017
Fax: +92 42-99268016
Email: ed.contact@energy.punjab.gov.pk

	Financial Fees and Charges	0.0238
	One Month LNG Escrow Account	0.0502
	Total	1.0193
Proposed Financing Plan	Description	% Age
	Equity	25%
	Debt	75%
Proposed Financing Terms	For a period of 10 years.	
Proposed Tariff	US 9.78 ¢ / kWh NEPRA Up Front Tariff	
Project Appraisal	ROE Guaranteed	15%
Technical Advisors	NESPAK and Associates	
Time Lines	PQD: March 2015	
	Work Award: Sept 2015	

It is hereby requested to grant Letter of Intent for the abovementioned Power Project. The guarantee for the same will follow shortly.

Regards

Najam Ahmad Shah
Najam Ahmad Shah
Chief Executive Officer

- a) Additional Chief Secretary Energy, Energy Department, Government of the Punjab
- b) Chairman, QATPL Solar Board
- c) Coordinator to C.M on Energy Projects, 8 Club Road , CM Secretariat, Lahore



GOVERNMENT OF PAKISTAN
MINISTRY OF WATER AND POWER
(PRIVATE POWER & INFRASTRUCTURE BOARD)

No. 1(102) PPIB-2001/15/PRJ/44730

13th July 2015

Mr. Najam Ahmad Shah
Chief Executive Officer
Quaid-e-Azam Thermal Power (Pvt.) Ltd. (QATPL)
Energy Department, Government of Punjab
3rd Floor, 83A/E-1, Main Boulevard, Gulberg III
Lahore. (Fax: 042 35790368)

SUBJECT: LETTER OF INTENT (LOI) FOR 1,500 MW INDEPENDENT POWER GENERATION PROJECT BASED ON LNG TO BE ESTABLISHED AT BHIKKI DISTRICT SHEIKHUPURA, (PUNJAB)

Dear Sir,

Reference is made to your letter dated 8th July 2015 whereby a bank guarantee No. BOP/2015/361 dated 8th July 2015 issued by The Bank of Punjab, in the amount of US \$ 1,500,000 (hereinafter referred to as the 'Performance Guarantee') is submitted for issuance of LOI for the subject Project.

2. The amount of submitted Performance Guarantee of US\$ 1,500,000 corresponds to a 1,500 MW Project. As highlighted earlier, NTDC's letter No. GM(WPP)/NTDC/CE-III/6245-66 dated 14th May 2015 communicates that 1,200 MW power can be evacuated from the Project. Considering that QATPL has applied for LOI for a 1,000 – 1,500 MW capacity project, you are requested to finalize exact capacity with NTDC being the Power Purchaser, to be procured and evacuated by it.

3. We understand that QATPL would be in the process of finalizing exact capacity with NTDC as well as obtaining firm R-LNG allocation considering the ECC decision dated 6th June 2015 and these confirmations will be arranged prior to obtaining Letter of Support, as these will be among the pre-requisites for achieving Financial Closure.

4. Nevertheless, enclosed please find herewith duly signed Letter of Intent (LOI) in duplicate for the subject project. You are requested to sign the enclosed LOI at the place indicated therein and return one original copy to us no later than 20th July 2015.

Best regards,

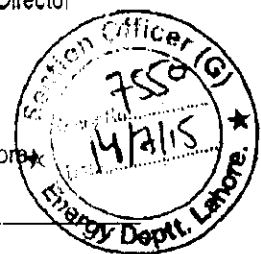
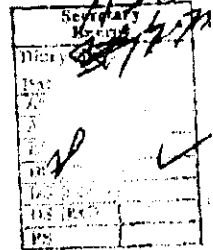


Encl: As Above

Addl. Chief Secy. Energy	
Diary No. 14/7/2015	
Dated 14/7/2015	
Secy. Energy	
AS (I)	
AS (II)	
DS (A)	
DS (P)	
DS (P&T)	
DS (RC)	
PS	

Yours sincerely,

(Shah Jahan Mirza)
Managing Director



1. Secretary, Ministry of Water and Power, Islamabad
2. Chairman, National Electric Power Regulatory Authority, Islamabad
3. ✓ Additional Chief Secretary (Energy), Energy Department, Government of Punjab, Lahore
4. Managing Director, National Transmission and Despatch Company Ltd., Lahore

SO/PT
Fax/Com
QATPL

House No. 50, Nazimuddin Road, F-7/4, Islamabad - Pakistan
Tel: (9251) 9100129 up to 9100129 Fax: (9251) 9100130 & 9100131
Email: ppib@ppib.gov.pk Internet: http://www.ppib.gov.pk



GOVERNMENT OF PAKISTAN
MINISTRY OF WATER AND POWER
(PRIVATE POWER & INFRASTRUCTURE BOARD)

No. 1(102) PPB-8061/15/PRJ/44750

13th July 2015

Mr. Najam Ahmad Shah
Chief Executive Officer
Quaid-e-Azam Thermal Power (Pvt.) Ltd.
Energy Department, Government of Punjab
3rd Floor, 83A/E-1, Main Boulevard, Gulberg II,
Lahore
(Fax: 042 35790366)

SUBJECT: LETTER OF INTENT (LOI) FOR 1,500 MW INDEPENDENT POWER GENERATION PROJECT
BASED ON LNG TO BE ESTABLISHED AT BHIKKI DISTRICT SHEIKHUPURA, (PUNJAB)

Dear Sir,

Whereas Government of Pakistan (the 'GoP') through Private Power and Infrastructure Board (the 'PPIB') is desirous of attracting investment in power generation projects in Pakistan pursuant to the Power Generation Policy 2015 read with the applicable guidelines and NEPRA Upfront Tariff (Approval and Procedure) Regulations 2011 (hereinafter referred to as the 'Policy');

Whereas, Government of Punjab (GOPb) through Energy Department Punjab vide letter No. SO(P)21-135/2015 dated 3rd June 2015 has conveyed that GOPb realizing the urgency of power situation has undertaken various initiatives to overcome the current crisis which includes development of 1,500 MW gas fired LNG based Power Plant at Bhikki, Sheikhupura (the "Project") utilizing re-gasified fuel for its power generation;

Whereas, GOPb has setup a special purpose company with the name and title of Quaid-e-Azam Thermal Power (Pvt.) Ltd., under the laws of Pakistan, with its registered office at 3rd Floor, 83A/E-1, Main Boulevard, Gulberg II, Lahore (the "Project Company");

Whereas, the Project Company has been incorporated under the Energy Department, GOPb (the "Sponsor");

Whereas, GOPb through Energy Department has requested issuance of LOI to the Project Company pursuant to the Power Generation Policy 2015;

Whereas, the National Electric Power Regulatory Authority (NEPRA) has announced Upfront Tariff for the LNG based power plants through Tariff Determination No. NEPRA/UTRLNG-01/4824-4826 dated 3rd April 2015;

Whereas, upon approval and recommendation of the GOPb, PPIB issued Notice to Proceed No. 1(102) PPB-15/PRJ-RUNG/44750 dated 8th July 2015 to the Project Company (Notice to Proceed); and

Whereas the Sponsor/Project Company having delivered an irrevocable, unconditional, on demand bank guarantee No. BOP/2015/361 dated 8th July 2015, on terms acceptable to PPIB, issued by The Bank of Punjab in the amount of US \$ 1,500,000 (United States Dollars One Million Five Hundred Thousand Only) (at the rate of United States Dollars US \$ 1000 per MW)

(hereinafter referred to as the 'Performance Guarantee') in favor of PPIB for issuance of LOI for the Project.

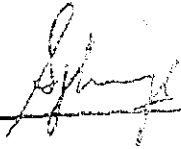
Now Therefore,

The GoP through PPIB, is pleased to issue this Letter of Intent (the 'LOI') subject to the following terms and conditions:

1. The Sponsor/Project Company is required to submit, within three (3) months from the Notice to Proceed, petitions before National Electric Power Regulatory Authority (NEPRA) to obtain, tariff determination and generation license under Regulation of Generation, Transmission and Distribution of Electric Power Act 1997;
2. The Sponsor/Project Company is required to obtain Letter of Support from PPIB (LOS) within one (01) month of Tariff Determination by NEPRA (Tariff Determination) under and in accordance with the Policy;
3. In the event, the Sponsor/Project Company delays, defaults or fails to: (i) submit petition to NEPRA for Tariff Determination within three (3) months from the issuance of Notice to Proceed; or (ii) obtain Letter of Support (LOS) from PPIB within one (01) month of the Tariff Determination, PPIB shall be entitled to, encash the Performance Guarantee and the LOI shall stand terminated without any notice. Provided, Sponsor/Project Company shall not be in delay, default or failure if: (a) it has completed all the requirements prescribed under the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 for the determination / approval of the Tariff, (b) it has completed all the requirements prescribed under the Policy for obtaining the LOS, and (c) subject to Para 4 below, Sponsor/Project Company delay, default or failure is solely attributable to the GOP entities; or (d) subject to Para 5 below, Sponsor/Project Company delay, default or failure is attributable to the reasons beyond the control of the Sponsor / Project Company;
4. In the event of delay, default or failure to obtain Tariff Determination or LOS by the Sponsor / Project Company is solely attributable to the GOP entities, then the PPIB shall, acting in its sole determination, upon an application in writing made to it by the Sponsor / Project Company at least thirty (30) days before the expiry of this LOI stating the reasons of delay, default or failure in obtaining Tariff Determination or LOS attributable to the GOP entities, grant an extension in the term of this LOI commensurate with such period of delay, default or failure provided further that the Performance Guarantee (in the same amount of existing Performance Guarantee) shall be extended by the Sponsor/Project Company for a period not less than three (3) months beyond such extended term of the LOI;
5. In the event of any delay, default or failure in obtaining the Tariff Determination or LOS is due to events beyond the reasonable control of the Sponsor / Project Company, then PPIB shall, acting in its sole discretion, upon an application in writing made to it by the Sponsor / Project Company at least thirty (30) days before the expiry of this LOI, grant in writing to the Sponsor / Project Company a one-time extension of up to a maximum period of three (3) months beyond the LOI expiry date, provided however, that such an extension in the term of the LOI would only be granted upon submission of the Performance Guarantee (in double the amount) with validity of three (3) months beyond the extended LOI;
6. The Project Company shall arrange firm R-LNG allocation for the term of the project;
7. The Project Company shall obtain consent of the Power Purchaser for procurement and evacuation of power of 1,600 MW capacity;
8. This LOI shall be effective from the date hereof and unless terminated or extended earlier, continue to be in full force and effect until the issuance of LOS or for period of six (06) months, whichever is earlier;
9. The rights and obligations of the parties pursuant to and under this LOI shall be governed by the laws of Pakistan;

10. This LOI shall in no way be construed as an award of the Project as no such vested legal or contractual rights shall accrue, in favour of Sponsor or Project Company, till such time, valid Project Agreements (as defined in the LOS) are executed in accordance with the terms and conditions contained therein; and
11. Issuance of this LOI or its termination by PPIB or expiry cannot form the basis of any claim for compensation or damages against the Government of Pakistan, PPIB or any of its agencies on any grounds whatsoever, during or after the expiration or termination as the case may be.

Kindly sign the attached copy of this LOI at the place indicated and return the same to us no later than seven (07) days.

<p>For & on behalf of</p> <p>Private Power & Infrastructure Board (PPIB)</p> <p style="text-align: center;"></p> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p>(Shah Jahan Mirza) Managing Director</p>	<p>For & on behalf of</p> <p style="text-align: center;">Quaid-e-Azam Thermal Power (Pvt.) Ltd. (QATPL)</p> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p style="text-align: center;">(.....)</p> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/>
---	---

Cc:

1. Secretary, Ministry of Water and Power, Islamabad
2. Chairman, National Electric Power Regulatory Authority, Islamabad
3. Additional Chief Secretary (Energy), Energy Department, Government of Punjab, Lahore
4. Managing Director, National Transmission and Despatch Company Ltd., Lahore

The Companies Ordinance, 1984

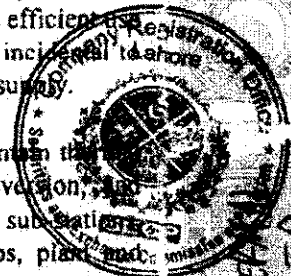
(PRIVATE COMPANY LIMITED BY SHARES)

Memorandum of Association Of

- I. The name of the Company is Qaid e Azam Thermal Power(Private)Ltd.
- II. The registered office of the Company will be situated in the Province of Punjab, Pakistan.
- III. The objects for which the Company is established are all or any of the following:-

A. THE MAIN OBJECTS FOR WHICH THE COMPANY IS ESTABLISHED ARE:

1. To carry on all or any of the businesses of generating, purchasing, importing, transforming, converting, distributing, supplying, exporting and dealing in electricity and all other forms of energy including thermal power and products or services associated therewith and of promoting the conservation and efficient use of electricity and to perform all other acts which are necessary or incidental to the business of electricity generation, transmission, distribution and supply.
2. To locate, establish, construct, equip, operate, use, manage and maintain the power plants, power grid station, transforming, switching, conversion, transmission facilities, grid stations, cables, overhead lines, sub-stations, switching stations, tunnels, cable bridges, link boxes, heat pumps, plant and equipment for combined heat and power schemes, offices, computer centres, shops, dispensing machines for pre-payment cards and other devices, showrooms, depots, factories, workshops, plants, printing facilities, warehouses and other storage facilities.
3. To carry on all or any of the businesses of wholesalers, retailers traders, importers, exporters, suppliers, distributors, designation, developers, manufacturers, installer, filters, testers, repairers, maintainers, contractors, constructors, operators, LPG, RFO, natural gas including LNG, users, inspectors, reconditions, improvers, alterers, protectors, removers, hirers, replacers, importers, and exporters, of and dealers in, electrical, appliances, System, Product and services used for energy conversation, equipment's, machinery, material and installation, including but not limited to cables, wires, maters,

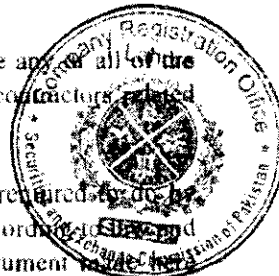


Qaid e Azam Thermal Power (Pvt) LTD

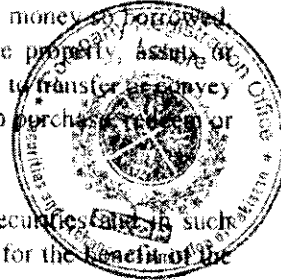
Qaid e Azam Thermal Power (Pvt) LTD

pylons, tracks, reils, pipelines and any other plant, apparatus equipment, systems and things incidental to the efficient generations, procurement, transformation supply and distribution of electricity.

4. To carry on or expand the facilities and to take over or assume ~~any or all of the~~ belongings, funds, assets, rights, privileges, obligations, and ~~contractors related~~ to or in respect of such facilities.
5. To do anything which a public electricity is empowered or required to do by virtue of or under a license or other authorization granted according to ~~State and~~ its implementing rules and regulations or any statutory instrument ~~to be made~~ under or any statutory notification or re-enactment thereof, and to plan, survey, design and supply equipment, and carry out the electrification of cities, cantonments, towns, villages, housing, colonies, industrial status, complexes gas and oil refineries, workshops, building, highways, bridges, ports, air terminals, and other pry within its area of supply.
6. To act as agents or representatives of foreign and local manufacturers, consultants of plants, machinery, material or other articles for sale to any Government, local authorities, firms, companies, association of persons or individual and also to import and export such (except managing agency).
7. To carry on the business of general order supplies including Government, semi-Government Agencies, Armed Forces , Army Military or Defences and commission agents, indenters , traders and as general merchants, wholesalers, retailers, dealers, distributors, stockiest agents, sub-agents in any goods or products within the scope of the object of the Company, subject to any permission required under the law.
8. To prepare feasibilities and to conduct studies for engineering, electrical, mechanical and allied projects.
9. To ascertain the tariff for supply of power that will secure recovery of operating cost, interest charges and depreciation of assets redemption at due times of loan other than those covered by depreciation expansion projects, payment of taxes, and a reasonable return on investment, obtain any approval thereof as may be required by law or license for the time being in force, to quote the tariff to purchasers of electric power.
10. To pay all costs, charges and preliminary expenses, if any, incidental to the promotion, formation, registration and establishment of the company.
11. To borrow or raise money by means of loans or by obtaining lease facility from directors, banks, government or other financial institution, leasing companies,

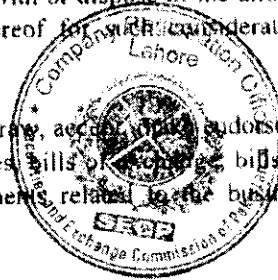


investment companies and other lending institution for the purpose of business of the company in such manners as the company may think fit and particular by issue of debentures, perpetual or otherwise convertible into shares or non-convertible perpetual annuities and as security for any such money to be borrowed and mortgage pledge, or charge whole or any part of the property, assets or revenue of the company, by special assignment or otherwise to transfer or convey the same absolutely or in trust as may seem expedient and to purchase, redeem or pay of any such securities.

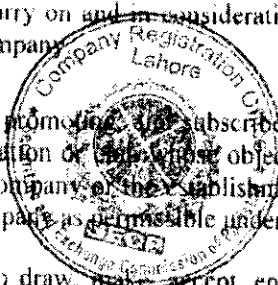


12. To invest the surplus funds of the Company upon such securities ~~and in~~ such manner as shall from time to time be thought necessary or for the benefit of the Company.
13. To remunerate any person or Company and pay commission or brokerage in cash or otherwise howsoever for services rendered or to be rendered in placing or assisting to place or guaranteeing the placing of any shares in the Company's capital or any debentures or other securities of the Company and to adopt become bound by and carry into effect any agreement or arrangement which may have been entered into for that purpose with any person or Company on behalf of the company.
14. To advance, lease or deposit money to any person with or without taking any security therefore and upon such other terms as may be thought fit by the Company but only in furtherance of objects of the company.
15. To apply for tender, offer, accept, purchase or otherwise acquire any contracts and concession for or in relation to the projection, execution, carrying out, improvements, management, administration or control of works and conveniences and undertake, execute, carryout, dispose of or otherwise turn to account the same.
16. To enter into arrangement with the government or authority (supreme, municipal, local or otherwise) or any corporation, company or person that may seem conducive to the company's objects or any of them and to obtain from any such government, authority, corporation, company or person any charters, contracts, rights, privileges and commission which the Company may think desirable and to carry on exercise and comply with any such charters, contracts, decrees, rights, privileges and concession.
17. To set up a countywide network for power generation systems, procure equipment, purchase material and allied items and arrange its management/operations and maintenance to serve the needs of the subscribers.

18. To sell, lease and in any other manner, deal with or dispose of the undertaking or Property of the Company or any part thereof for such consideration as the company may think fit.
19. To open bank account of the Company and draw, accept, endorse, discount, Execute and issue cheques, promissory notes, bills of exchange, bills of lading or other negotiable or transferable instruments related to the business of the Company.
20. To amalgamate with any company having objects altogether or in part similar to those of this company, and to enter into partnership or any arrangement for sharing profits, union of interest, co-operating, joint venture, reciprocal, concession, or otherwise with any person or company carrying on or engaged in, or about carry on or engaged in business or transaction which this company is authorized to carry on or engage in or any business or transaction capable of being conduct so as directly or indirectly to benefit this comp[any].
21. To purchase, take on lease, or in exchange, hire, apply for or otherwise acquire and hold for any interest, any rights, privileges, lands, buildings, easements, trademarks, patents, patent rights, copyrights, licences, machinery, plants, stock-in-trade and any movable and immovable property of any kind, necessary or convenient for the purposes of or in connection with the Company's business or any branch or department thereof and to use, exercise, develop, and grant licences in respect of or otherwise turn to account any property, rights and information so acquired, subject to any permission required under the law. To purchase or otherwise acquire any patents, brevets, inventions, trademarks, licenses, concessions and the like conferring any exclusive or non-exclusive or limited right to use any invention which may seem capable of being used for any of the purposes of the Company or the acquisition of which may seem calculated directly or indirectly to benefit the Company, and to use, exercise, develop or grant licenses in respect of or otherwise turn to account, the property and rights so acquired. To act as representatives, for any person, firm or company and to undertake and perform sub-contracts, and also act in the business of the Company through or by means of agents, sub-contractors or otherwise, to do all or any of the things mentioned herein in any part of the world and either alone or in collaboration with others and by or through agents, sub-contractors or otherwise, to invest in subsidiaries to buy, export, transfer, supply or otherwise, and to deal in matters, applications and accessories, ancillary and related to the business, object or objects of the Company or otherwise as permitted by law.
22. To acquire and carry on all or any part of the business or property and to undertake any liabilities of any person, firm, association or company's possession of property suitable for any of the purposes of the Company or carrying on any

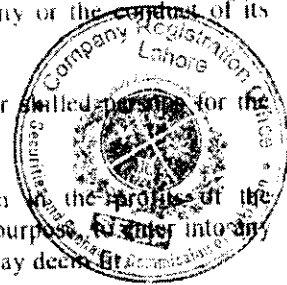


business which this Company is authorised to carry on and in consideration for the same, to pay cash or to issue shares of the Company.



23. To establish, promote or assist in establishing or promoting, and to subscribe to or become a member of any other company, association or firm, whose objects are similar or in part similar to the objects of this Company, or the establishment or promotion of which may be beneficial to the Company as permissible under law.
24. To open accounts with any bank or banks and to draw, make, accept, endorse, execute, issue, negotiate and discount cheques, promissory notes, bills of exchange, bills of lading, warrants, deposit notes, debentures, letters of credit and other negotiable instruments and securities.
25. To borrow or raise money by means of loans or other legal arrangements from local and foreign banks, or other financial institutions, or in such manner as the Company may think fit and in particular by issue of debentures, debenture stock, perpetual or otherwise convertible into shares and to mortgage, or charge the whole or any part of the property or assets of the Company, present or future, by special assignment or to transfer or convey the same absolutely or in trust as may seem expedient, and to purchase, redeem or payoff any such securities.
26. To purchase or otherwise acquire and to sell, change, surrender, lease, mortgage, charge, convert, turn to account, dispose of and to deal with property and rights of all kinds and in particular, mortgages, charges, hypothecations, debentures, concessions, options, contracts, patents, licences, shares, bonds, policies, book debts, business concerns, undertakings and actions of all kinds.
27. To sell or otherwise dispose of the whole or any part of the undertaking of the Company, either together or in portions for such consideration as the Company may think fit and in particular, for shares, debenture-stock or securities of any company purchasing the same.
28. To invest the capital of the Company from time to time as may be determined by the Company and subject to any permission as required under the law.
29. To act as representatives, for any person, firm or company and to undertake and perform sub-contracts, and also act in the business of the Company through or by means of agents, sub-contractors or otherwise, to do all or any of the things mentioned herein in any part of the world and either alone or in collaboration with others and by or through agents, sub-contractors or otherwise, to invest in subsidiaries to buy, export, transfer, supply or otherwise, and to deal in matters, applications and accessories, ancillary and related to the business, object or objects of the Company or otherwise as permitted by law.
30. To pay all costs, charges, and expenses preliminary or incidental, incurred in the formation or about the promotion and establishment of the Company and to remunerate any person, firm or company for services rendered or to be rendered

in or about the formation or promotion of the Company or the conduct of its business.

- 
31. To employ contractors, managers, consultants and other skilled persons for the Company.
 32. To give any employee of the Company commission on the profits of the Company's business or any branch thereof and for the purpose to enter into any agreement or scheme of arrangement as the Company may deem fit.
 33. To establish and support or aid in the establishment and support of associations, institutions, funds and conveniences calculated to benefit persons who are or have been directors of, or who have been employed by or who are serving or have served the Company or any other company which is a subsidiary or associate of the Company or the dependents of such persons and to grant pensions, gratuities, allowances, relief and payments in any other manner calculated to benefit the persons described herein.
 34. To distribute any of the Company's property and assets among the members in specie or in any other manner in case of winding up of the Company.
 35. To guarantee the performance of contracts and obligations of the Company in relation to the payment of any loan, debenture-stock, bonds, obligations or securities issued by or in favour of the Company and to guarantee the payment or return on such investments.
 36. To carry out joint venture agreements with other companies or countries within the scope of the objects of the Company.
 37. To take out any insurances that the Company deems necessary or appropriate and to pay the premium thereof.
 38. To constitute and regulate separate branches or departments of the Company's business and to appropriate thereto respectively any of the assets of the Company and any of the capital, issued or to be issued, of the Company and from time to time to vary the constitution or regulations of any such branches or departments or any such appropriations and if thought fit to amalgamate all or any of the said branches or departments.
 39. To procure the Company to be registered or recognized in any country or place outside Pakistan and to keep branch registers.
 40. To institute and defend in any forum legal proceedings of every kind or description whatsoever, enter into arbitration agreements and refer disputes to arbitration, pay, satisfy or receive payments in respect thereof, or compound or

compromise any claim, demand, action, suit or proceeding of any nature whatsoever made or brought by or against the Company.






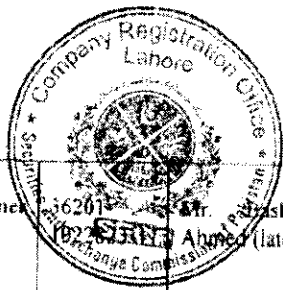
41. To carry on any other business or activity of any nature which may seem to the Company to be capable of conveniently or advantageously being carried on in connection or conjunction with any business of the Company, hereinabove or hereinafter authorized or to be expedient.
42. To apply for and obtain necessary consents, permissions and licences from any government, provincial, local and other authorities for enabling the Company to carry on any of its objects into effect as and when required by law.
43. To invest and deal with any moneys of the Company in bonds, stocks or any other securities or such other investments and in such manner as may from time to time be determined by the Company and to hold, sell or otherwise deal with such investments, but in any event not to act as an investment company.
44. To act as representatives, for any person, firm or company and to undertake and perform sub-contracts, and also act in the business of the Company through or by means of agents, sub-contractors or otherwise, to do all or any of the things mentioned herein in any part of the world and either alone or in collaboration with others and by or through agents, sub-contractors or otherwise, to invest in subsidiaries to buy, export, transfer, supply or otherwise, and to deal in matters, applications and accessories, ancillary and related to the business, object or objects of the Company or otherwise as permitted by law.
45. To subscribe or guarantee money for any purpose which may be considered likely, directly or indirectly, to further the objects of the Company or for any national, charitable, benevolent, public, general or useful object or for any exhibition.
46. To do and perform all other acts as are incidental or conducive to the attainment of the above objects or any of them.
47. Notwithstanding anything stated in any object clause, the company shall obtain such other approval or licence from the competent authority as may be required under any law for the time being in force, to undertake a particular business.
48. The company shall not engage in banking business or business of investment company or any unlawful business and that nothing in object clauses shall be construed to entitle it to engage in such business or undertaking business of banking company, investment, leasing, payment sales receipt scheme and insurance business directly or indirectly. The company shall not launch multilevel marketing, pyramid and Ponzi scheme.

IV. The Liability of the members of the Company is limited.

V. The Authorized Share Capital of the Company is Rs.10,000,000/- (Rupees ten million Only) divided into 100,000 (Hundred Thousand) Equally Shares of Rs.100/- (Rupees Hundred Only) each with power to increase, reduce, consolidate or otherwise re-organise the share capital and to divide the shares of the company into different classes in accordance with the provisions of the Companies Ordinance, 1984.

VI. We the several persons whose names and addresses are subscribed hereunder are desirous of being formed into a Company in pursuance of the Memorandum of Association and we respectively agree to take the number of shares in the Capital of the Company set opposite to our respective names.

S. N o.	Name and Surname (present & former) in full (in Block Letters)	CNIC No. (in case of foreigner Passport No.)	Father's/Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Residential address in full	Number of shares taken by each subscriber	Signatures
1	Government of Punjab, Energy Department through Mr. Mohammad Jehanzeb Khan	-	-	-	-	8th Floor, LFO House Building, 6-D jail road, Main Gulberg Lahore	99,996	
	Mr. Mohammad Jehanzeb Khan	173018-276764-5	Mr. Muhammad Aurangzeb Khan	Pakistani	Additional Chief Secretary Energy Department	16-Golf Road, GOR-I Lahore City, District, Lahore, Pakistan	1	
3	Mr. Yusuf Khan	14101-9473520-1	Mr. Abu Kalaam Khan	Pakistani	Secretary Finance Department	1-B, Broomhead Road, GOR-I, Lahore City, District, Lahore, Pakistan	1	



4	Mr. Dr. Aamer Ahmed.	36201	Mr. Arshir Ahmed (late)	Pakistani	Secretary Planning and Development Department	4-Tollinton Lane, GOR I Lahore.	1	<i>Aamer Ahmed</i>
5	Mr. Dr. Arshad Mahmood	35202-7783745-3	Mr. Izzat Ali	Pakistani	Secretary Mines and Minerals	18-Club Road GOR-I, Lahore.	1	<i>Arshad</i>

Total number of shares taken

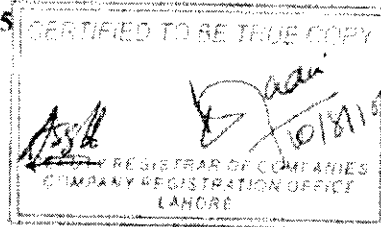
100,000

[One Hundred Thousand]

Dated the 5th day of March 2015

Witness to above signatures.

Najeeb



Signatures

Full Name: Muhammad Najeeb Ullah

NIC Number: 35202-8315608-9

Father's/Husband's Name: Muhammad Abdullah

Full Address: House No. 78 Yousaf Street Ichhra, Lahore

Occupation: Office Assistant

THE COMPANIES ORDINANCE, 1984

(COMPANY LIMITED BY SHARES)

ARTICLES OF ASSOCIATION

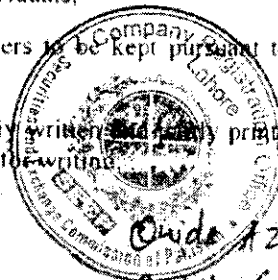
OF

QUAID E AZAM THERMAL POWER (PRIVATE) LIMITED

1. The regulations contained in Table "A" in the First Schedule to The Companies Ordinance, 1984 shall not apply to the Company except in so far as the same are expressly made applicable by the said Ordinance, or these Articles. The regulations for management of the Company, and for the observance thereof by the members of the Company, and their representatives shall, subject as aforesaid and to any exercise of the statutory power of the Company in reference to the repeal or alteration of or addition to its regulations by Special Resolution as prescribed by the said Ordinance, be such as are contained in these Articles.

INTERPRETATION

2. In the interpretation of these Articles the following expressions shall have the following meanings, unless repugnant to or inconsistent with the subject Articles.
- 2.1: "The Ordinance" means the Companies Ordinance, 1984, or any statutory modification or re-enactment thereof for time being in force in Pakistan;
- 2.2: "Board" means a Board of the Directors, elected by the shareholders, to act on their behalf in the management of the Company affairs;
- 2.3: "The Company" or "This Company" means Quaid E Azam Thermal Power (Private) Limited;
- 2.4: "The Directors" means the Directors and Alternate Directors for the time being of the Company, or as the case may be, the Directors and Alternate Directors assembled at a Board;
- 2.5: "Dividend" includes bonus shares;
- 2.6: "Month" means a calendar month;
- 2.7: "The Office" means the Registered Office for the time being of the Company;
- 2.8: "Persons" includes corporation as well as individuals;
- 2.9: "The Register" means the Register of members to be kept pursuant to the Ordinance;
- 2.10: "In Writing" means written or printed or partly written and partly printed or lithographed or typewritten or other substitute for writing.

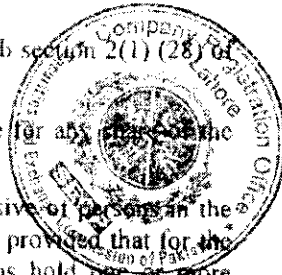


Quaid E AZAM THERMAL
Power (PVT) LTD

- 2.11: Words importing singular number include the plural number and vice versa;
- 2.12: Words importing masculine gender include the feminine gender;
- 2.13: Subject as aforesaid any words or expressions defined in the Ordinance; shall except where the subject or context forbids bear the same meaning in these Articles.

PRIVATE COMPANY

3. The Company is "Private Company" within the meaning of sub section 2(1) (28) of the Ordinance and accordingly:
- (1) No invitation shall be issued to the public to subscribe for any shares of the Company.
- (2) The numbers of the members of the Company (exclusive of persons in the employment of the Company), shall be limited to fifty, provided that for the purpose of this provision, where two or more persons hold one or more shares in the company jointly, they shall be treated as single member; and
- (3) The right to transfer shares of the Company is restricted in manner and to the extent herein appearing.



BUSINESS

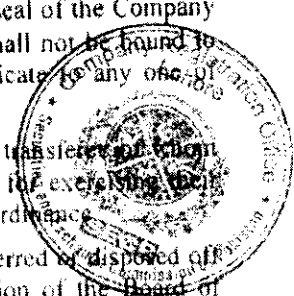
4. The company is entitled to commence business from the date of its incorporation. The business of the company shall include all or any of the objects enumerated in the Memorandum of Association. The business of the company shall be carried out at such place or places anywhere in Pakistan or elsewhere as the directors may deem proper or advisable from time to time.

SHARES AND CAPITAL

5. The Authorized share capital of the Company is Rs.10,000,000/- (Rupees ten million Only) divided into 100,000 (Hundred Thousand) ordinary shares of Rs.100/- (Rupees Hundred Only) each with powers of the Company to increase or reduce the same and to divide the shares into several classes.
6. The shares shall be under the control of the Board of Directors who may allot or otherwise dispose off the same to such persons, on such terms and conditions and at such times, as the Board of Directors think fit. Shares may also be allotted in consideration other than cash.
7. Fully paid shares shall be allotted to all subscribers in the first instance and the Company shall not be bound to recognize any equitable, contingent, future or partial claim to or interest in a share on the part of any person other than the registered share holder, save as herein provided or saves as ordered by some Court of competent jurisdiction.
8. The certificate of title to shares shall be issued under the seal of the Company.
9. Every member shall be entitled to one certificate for the shares registered in his name, or at the discretion of the directors to several certificates, each for one or more of such shares.

TRANSFER AND TRANSMISSION OF SHARES

10. Every person, whose name is entered as a member in the Register of Members shall without payment, be entitled to a certificate under the common seal of the Company specifying the shares held by several persons. The Company shall not be bound to issue more than one certificate and delivery of a share certificate to any one of several joint holders shall be sufficient delivery to all.
11. The directors may decline to register any transfer of shares to which they do not approve and shall be bound to show any reasons for exercising their discretion subject to the provisions of Section 77 and 78 of the Ordinance.
12. No share can be mortgaged, pledged, sold, hypothecated, transferred or disposed of by any member to a non-member without the previous sanction of the Board of Directors.
13. The legal heirs, executors or administrators of a deceased holder shall be the only persons to be recognised by the directors as having title to the shares. In case of shares registered in the name of two or more holders, the survivors and the executors of the deceased shall be the only persons to be recognised by the company as having any title to the shares.



BORROWING POWERS

14. Subject to the provision of the Ordinance, the Directors may from time to time at their absolute discretion raise or borrow any sum, or sums of money for the purpose of the company from banks, firms or companies, particularly a person holding the office of the director, and may secure the payment of money in such manner and upon such terms, and conditions in all respects as they think fit particularly by the issue of debentures of the company or by making, drawing, accepting or endorsing on behalf of the company any promissory note or bills of exchange or giving or issuing any other security of the Company.
15. Debentures and other securities may be made assignable free from any equities between the Company and the persons to whom the same may be issued.
16. Any debentures or other security may be issued at a discount, premium or otherwise and with any special privilege as to redemption, surrender, drawing, allotment of shares, attending and voting at general meeting of the Company or subject to compliance of the provisions of the Ordinance.

RESERVES

17. The directors may from time to time before recommending any dividend set aside out of the profit of the company such sums as they think fit as a reserve for redemption of debentures or to meet contingencies for equalization of or for special dividends or for rebuilding, repairing, restoring replacing, improving, maintaining or altering any of the property of the Company or for such other purpose as the directors may in their absolute discretion think conducive to the interest of the Company.



GENERAL MEETINGS

18. A General meeting, to be called annual general meeting shall be held in accordance with the provisions of section 158, within eighteen months from the date of incorporation of the Company and thereafter once at least in every year within a period of four months following the close of its financial year and not more than fifteen months after the holding of its last preceding annual general meeting as may be determined by the directors.
19. The directors may, whenever, they think fit, call an extra ordinary general meeting, and extra ordinary general meetings shall also be called on such requisition, or in default, may be called by such requisitionists, as is provided by section 159 of the Ordinance.

NOTICE AND PROCEEDINGS OF GENERAL MEETING

20. Twenty-One days' notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the day and the hour of meeting and, in case of special business, the general nature of that business shall be given in manner provided by the Ordinance for the general meeting, to such persons as are, under the Ordinance or the regulation of the Company, entitled to receive such notice from the Company, but the accidental omission to give notice to, or the non-receipt of notice by, any member shall not invalidate the proceedings at any general meeting.
21. All business shall be deemed special that is transacted at an extraordinary general meeting, and also all that is transacted at annual general meeting with the exception of declaring dividend, the consideration of the accounts, balance sheet and the reports of the directors and auditors, the election of the directors, the appointment of, and the fixing of the remuneration of, the auditors.

QUORUM

22. No business shall be transacted at any general meeting unless a quorum of members is present at that time when the meeting proceeds to business; save as herein otherwise provided, members having twenty-five percent of the voting power present in person or through proxy and two members personally present will be quorum of the Company's meeting.
23. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if called upon the requisition of members, shall be dissolved; in any other case, it shall stand adjourned to the same day in the next week at the same time and place, and, if at the adjourned meeting quorum is not present within half an hour from the time appointed for the meeting, the members present being not less than two, shall be a quorum.
24. The Chairman of the Board of Directors, if any, shall preside as Chairman at every general meeting of the Company, but if there is no such Chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for the

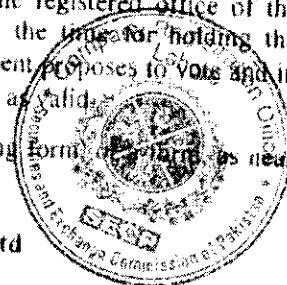
meeting, or is unwilling to act as Chairman, any one of the Directors present may be elected to be Chairman, and if none of the directors is present, or willing to act as Chairman, the members present shall choose one of their number to be Chairman.

25. The Chairman may, with the consent of any meeting at which the Chairman is present (and shall if so directed by the meeting), adjourn the meeting from time to time but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When the meeting is adjourned for ten days or more, notice of the adjourned meeting shall be given in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment of the business to be transacted at an adjourned meeting.
26. At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands unless a poll is (before or on the declaration of the show of hands) demanded. Unless a poll is so demanded, a declaration by the Chairman that a resolution has, on a show of hands, being carried, or carried unanimously, or by particular majority, or lost an entry to that effect in the book of the proceedings of the company shall be conclusive evidence of the fact, without proof of the number or proportion of the votes recorded in favour of, or against that resolution.
27. A poll may be demanded only in accordance with the provisions of section 167 of the Ordinance.
28. If a poll is duly demanded, it shall be taken in accordance with the manner laid down in section 168 of the Ordinance and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.
29. A poll demanded on the election of Chairman or on a question of adjournment shall be taken at once.
30. In the case of an equality of votes, whether on a show of hand or on a poll, the Chairman of the meeting at which the show of hands take place, or at which the poll is demanded, shall have and exercise a second or casting vote.

VOTES OF MEMBERS

31. Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member present in person shall have one vote except for election of Directors in which case, the provisions of section 178 of the Ordinance shall apply. On a poll every member shall have voting rights as laid down in section 160 of the Ordinance.
32. A member of unsound mind, or in respect of whom an order has been made by any Court having jurisdiction in lunacy, may vote, whether on show of hands, or on a poll, by his committee or other legal guardian, and any such committee or guardian may, on a poll vote by proxy.
33. On a poll votes may be given either personally or by proxy.
34. (1) The instrument appointing a proxy shall be in writing under the hand of the appointer or of his attorney duly authorized in writing. A proxy must be a member

- (2) The instrument appointing a proxy and the power of attorney or other authority (if any) under which it is signed, or a notarially certified copy of that power or authority, shall be deposited at the registered office of the company not less than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.
35. An instrument appointing a proxy may be in the following form, or as near thereto as may be:-



Quaid E Azam Thermal Power (Pvt) Ltd

I Son of in the district of being a member of the Quaid E Azam Thermal Power (Pvt) Ltd hereby appoint of as my proxy to vote for me and on my behalf at the (annual, extraordinary, as the case may be) general meeting of the company, to be held on the day of and at any adjournment thereof.

DIRECTORS

36. The number of directors shall not be less than two. The Board of Directors shall comprise of up to Thirteen (13) Directors which will be nominated by the Government of Punjab. However the following persons shall be the first directors of the Company:
- | | |
|---|----------------------------|
| 1. Additional Chief Secretary (Energy). | Mr. Mohammad Jehanzeb Khan |
| 2. The Secretary, Finance Department. | Mr. Yusuf Khan |
| 3. The Secretary, P&D Department. | Dr. Aamer Ahmed |
| 4. The Secretary, Mines & Minerals. | Dr. Arshad Mahmood |
37. The remuneration of the directors shall from time to time be determined by the Company in general meeting subject to the provisions of the Ordinance.
38. Save as provided in Section 187 of the Ordinance, no person shall be appointed as a director unless he is a member of the Company.
39. **QUORUM OF DIRECTORS:** A Meeting of the Board for the time being at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretion by or under the Articles vested in or exercisable by the Board generally. Two Directors personally present shall constitute a quorum.

POWERS AND DUTIES OF DIRECTORS

40. The business of the company shall be managed by the directors, who may pay all expenses incurred in promoting and registering the company, and may exercise all such powers of the company as are not by the Ordinance or any statutory modification thereof for the time being in force, or by these regulations, required to be exercised by the company in general meeting, subject nevertheless to the

provisions of the Ordinance or to any of these regulations, and such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the company in general meeting but no regulations made by the company in general meeting shall invalidate any prior act of the directors which would have been valid if that regulation had not been made. The directors shall appoint a chief executive in accordance with the provisions of sections 198 and 199 of the Ordinance.

41. The amount, for the time being remaining undischarged, of moneys borrowed or raised by the directors for the purposes of the company (other than the issue of share capital) shall not at any time without the sanction of the company in general meeting, exceed the issued share capital of the company.
42. The directors shall cause minutes to be made in books provided for the purpose:
 - (a) of all appointments of officers made by the directors;
 - (b) of the names of the directors present at each meeting of the directors and of any committee of the directors;
 - (c) of all resolutions and proceedings at all meetings of the company and of the directors and of committees of directors.

DISQUALIFICATION OF DIRECTORS

43. No person shall become the director of a company if he suffers from any of the disabilities or disqualifications mentioned in section 187 of the Ordinance and, if already a director, shall cease to hold such office from the date he so becomes disqualified or disabled.

Provided, however, that no director shall vacate his office by reason only of his being a member of any company which had entered into contracts with, or done any work for, the company of which he is director, but such director shall not vote in respect of any such contract or work, and if he does so vote, his vote shall not be counted.

PROCEEDINGS OF DIRECTORS

44. The directors may meet together for the dispatch of business, adjourn and otherwise regulate their meetings, as they think fit. Questions arising at any meeting shall be decided by a majority of votes. In case of an equality of votes, the chairman shall have and exercise a second or casting vote. A director may, and the secretary on the requisition of a director shall, at any time, summon a meeting of directors. It shall not be necessary to give notice of a meeting of directors to any director for the time being absent from Pakistan.
45. The directors may elect the chairman of their meetings and determine the period for which he is to hold office; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the directors present may choose one of their number to be chairman of the meeting.
46. A resolution in writing signed by all the directors for the time being entitled to receive notice of a meeting of the directors shall be as valid and effectual as if it had

been passed at a meeting of the directors duly convened and held.

FILLING OF VACANCIES

47. At the first annual general meeting of the company, all the directors shall stand retired from office, and directors shall be elected in their place in accordance with section 178 of the Ordinance for a term of three years.
48. A retiring director shall be eligible for re-election.
49. The directors shall comply with the provisions of sections 174 to 178 and sections 180 and 184 of the Ordinance relating to the election of directors and matters ancillary thereto.
50. Any casual vacancy occurring on the board of directors may be filled up by the directors, but the person so chosen shall be subject to retirement at the same time as if he had become a director on the day on which the director in whose place he is chosen was last elected as director.
51. The company may remove a director but only in accordance with the provisions of the Ordinance.

DIVIDENDS AND RESERVE

52. The company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the directors. No dividends shall be paid otherwise than out of the profits of the Company.

THE SEAL

53. The directors shall provide for the safe custody of the seal and the seal shall not be affixed to any instrument except by the authority of a resolution of the board of directors or by a committee of directors authorized in that behalf by the directors and the presence of at least two directors; and those two directors shall sign every instrument to which the seal of the company is so affixed in their presence.

ACCOUNTS

54. The directors shall cause to be kept proper books of account as required under section 230 of the Ordinance.
55. The books of account shall be kept at the registered office of the company or at such other place as the directors shall think fit and shall be open to inspection by the directors during business hours.
56. The directors shall be required by sections 233 and 236 of the Ordinance, cause to be prepared and to be laid before the company in general meeting such profit and loss accounts or income and expenditure accounts and balance sheets duly audited and reports as are referred to in those sections.

AUDIT

57. Once at least in every year the accounts of the Company shall be audited and the correctness of profit and loss accounts or income and expenditure accounts and balance sheet ascertained by an auditor or auditors and the provisions of the Ordinance in regard to audit and the appointment and qualification of auditors shall be observed.
58. Auditors shall be appointed and their duties regulated in accordance with sections 252 to 255 of the Ordinance.



WINDING UP

59. If the company is wound up, whether voluntarily or otherwise the liquidator may, with the sanction of a special resolution, divide amongst the contributors in specie or kind, the whole or any part of the assets and liabilities of the company, subject to the section 421 and other provisions of the Ordinance as may be applicable.

INDEMNITY

60. Every director and other officer or servant of the company shall be indemnified by the company against, and it shall be the duty of the directors to pay out of the funds of the company, all costs, losses and expenses which any such officer or servant may incur or become liable to by reason of any contract entered into or thing done by such officer or servant as such in any way in the discharge of the duties of such officer or servant including traveling expenses.
61. No director or other officer of the company shall be liable for the acts, receipts, neglect or default of any other director or officer or for joining in any receipt or other act for conformity or for any loss or expenses happening to the company through the insufficiency or deficiency of title to any property acquired by order of the directors for or on behalf of the company or for the insufficiency or deficiency of any security or investment in or upon which any of the money of the company shall be invested or for any loss or damage arising from bankruptcy, insolvency or tortuous act of any person with whom any money, securities or effects shall be deposited or for any loss occasioned by any error of judgment or oversight on his part or for any other loss, damage or misfortune whatever which shall happen in the execution of his office or in relation thereto unless the same happens through his dishonesty.

NOTICES

62. (1) A notice may be given by the company to any member either personally or by sending it by post to him to his registered address or (if he has no registered address in Pakistan) to the address, if any, within Pakistan supplied by him to the company for the giving of notices to him.
- (2) Where a notice is sent by post, service of the notice shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the notice and, unless the contrary is proved, to have been effected at the time at which the letters would be delivered in the ordinary course of post.
63. A notice may be given by the company to the joint-holders of the share by giving the notice to the joint-holder named first in the register in respect of the share.



ARBITRATION

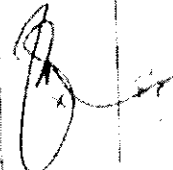
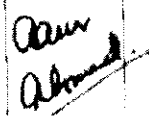

64. Whenever any difference arises between the company on the one hand and any of the members, their executors, administrators or assignees on the other hand touching the intent or construction or the incidence or consequences of these presents, or of the statute or touching any thing then or thereafter done, created, omitted, or suffered in pursuance of these presents or of the statute of touching breach or alleged breach or otherwise relating to the premises, or to any statute affecting the company, or to any of the affairs of the company, including the fixing of the fair value of the shares of the company, every such difference shall be referred to the decision of an arbitrator to be appointed by the parties in difference or if they cannot agree upon a single arbitrator to the decision of two arbitrators of whom one shall be appointed by each of the parties in difference or any umpire to be appointed by the two arbitrators.

SECRECY CLAUSE

65. Every director, manager, member of the committee, officer, servant, accountant or other person employed in the business of the Company shall if so require by the directors before entering upon his duties, sign a declaration pledging to observe a strict secrecy respecting all transactions of the company with the customers and the state of accounts with individuals, matters relating thereto and shall by such declaration pledge himself not to reveal any of the matters which come to his knowledge in the discharge of his duties except when required to do so by the directors or by a Court of Law and except so far as may be necessary in order to comply with any of the provisions in these presents contained.

We the several persons, whose names and addresses are subscribed below are desirous of being formed into a Company in pursuance of the Articles of Association and we respectively agree to take the number of shares in the capital of the Company set opposite our respective names:-


No.	Name and Surname (present & former) in full (in Block Letters)	CNIC No. (in case of foreigner Passport No.)	Father's/Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Residential address in full	Number of shares taken by each subscriber	Signatures
1	Government of Punjab, Energy Department through Mr. Mohammad Jehanzeb Khan					8th Floor, EFU House Building, 6-D jail road, Main Gulberg, Lahore	99996	
2	Mr. Mohammad Jehanzeb Khan	173018-276764-5	Muhammad Aurangzeb Khan	Pakistani	Additional Chief Secretary Energy	16-Golf Road, GOR-I, Lahore, Pakistan	1	

					Department		
3	Mr. Yusuf Khan	14101-9473520-1	Mr. Abbas Khan	Pakistani	Secretary Finance Department	1-B, Broomhead Road, GOR-1, Lahore	
4	Dr. Aamer Ahmed	36201-1022823-1	Mr. Bashir Ahmed (late)	Pakistani	Secretary Planning and Development Department	4-Tollinton Lane GOR 1, Lahore	
5	Dr. Arshad Mahmood	44400-4830878-9 35202-778374-9	Mr. Izzat Ali	Pakistan	Secretary Mines and Minerals	18-Club Road GOR-1, Lahore	

Total number of shares taken 100,000
 (One Hundred Thousand)
 CERTIFIED TRUE COPY
 10/3/15
 REGISTRAR OF COMPANIES
 COMPANY REGISTRATION OFFICE
 LAHORE

Dated the 5th day of March 2015

Witness to above signatures.


 Signatures

Full Name: Muhammad Najeeb Ullah

NIC Number: 35202-8315608-9

Father's/Husband's Name: Muhammad Abdullah

Full Address: House No. 78 Yousaf Street Ichhra, Lahore

Occupation: Office Assistant



SECURITIES AND EXCHANGE COMMISSION
COMPANY REGISTRATION OFFICE, LAHORE



Quaid Azam Thermal
Power (Pvt) Ltd

CERTIFICATE OF INCORPORATION

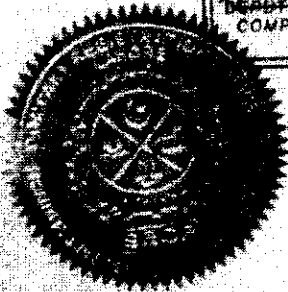
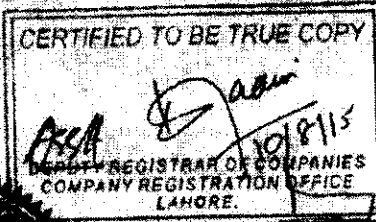
[Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984)]

Corporate Universal Identification No. 0092611

I hereby certify that **QUAID-E-AZAM THERMAL POWER
(PRIVATE) LIMITED** is this day incorporated under the Companies Ordinance,
1984 (XLVII of 1984) and that the company is Limited by Shares.

Given under my hand at Lahore this Twenty Fifth day of March, Two
Thousand and Fifteen.

Fee Rs. 104,000/-



(LIAQAT ALI DOLLA)
Additional Registrar

No. ARL/ 2512 DATED: 25/03/15

Project Name and Location	Country	Client	Description of Works	Start Time	Completion Time	Construction Period (Months)
1500 MW Bismayah Combined Cycle Power Plant Project	Iraq	MGH-Mass Group Holding Ltd.	Two (02) power blocks comprising 1500 MW of Power output connected to 132kV Transmission Line. 2GE 9F series GTs	September 2014	August 2017	35
700 MW Bazian Combined Cycle Power Plant Project	Iraq	Qaiwan Company for Trading, General Contracts, Oil Services and General Transport Ltd.	Phase - I: Simple Cycle comprising four (04) GE Gas Turbines with an output of 700 MW.	September 2014	December 2015	15
1500 MW Dohuk Combined Cycle Power Project	Iraq		8 GE - 9E Gas Turbines with configuration of 8+8+2	October 2013	May 2016	31
1500 MW Sulaymaniyah Combined Cycle Power Project	Iraq		8 GE - 9E Gas Turbines with configuration of 8+8+2	July 2013	March 2016	32
1500 MW Erbil Combined Cycle Power Project	Iraq		8 GE - 9E Gas Turbines with configuration of 8+8+2	April 2012	January 2015	32
4 x 360 MW Afsin Elbistan B Thermal Power Plant	Turkey		4 x 360 MW	June 2000	October 2006	76
1554 MW Gebze Natural Gas Combined Cycle Power Plant Adapazari	Turkey		4 GE GTs + 4 HRSG + 2 Alstom STG	April 2000	October 2002	30
1523 MW Izmir Natural Gas Combined Cycle Power Plant	Turkey		4 GE GTs + 4 HRSG + 2 Alstom STG	August 2000	March 2003	31
Jebel Ali Extension	UAE		760 MW CCPP	January 2015	2018	36
Pengerang	Malaysia		1220 MW CCPP	2014	2019	60
Plock	Poland		600 MW CCPP	December 2014	2017	36
Oregon Clean Energy Center	USA		869 MW CCPP	November 2014	2017	36
Stonewall	USA		778 MW CCPP	November 2014	2017	36
Dangjin 4	South Korea		890 MW CCPP	2014	2017	36
JangMoon	South Korea		1800 MW CCPP	2014	2017	36
Jazan Products	Saudi Arabia		1520 MW CCPP	March 2013	2016	36
Moxie Liberty	USA		829 MW CCPP	August 2013	2016	36
Moxie Patriot	USA		829 MW CCPP	December 2013	2016	36
Enecogen Rotterdam	Netherlands		850 MW CCPP	April 2009	2011	28-36
Mellach	Austria		832 MW CCPP	January 2009	2011	36
Shuweihat S2	UAE		1768 MW CCPP	December 2008	2011	36
PEGO	Portugal		844 MW CCPP	February 2008	2010	24-34
POWER SERAYA 30/40	Singapore		780 MW CCPP	August 2007	2010	30
SUGEN 1-3	India		1134 MW CCPP	June 2005	2009	48-54
747 MW CCPP Guddu	Pakistan		2 GE 9FA + 2 HRSGs +1 STG	2008	2015	54
425 MW CCPP Nandipur	Pakistan		3 GE 9E + 3 HRSGs +1 STG	2008	2015	54

DETAIL OF ADDITIONAL COSTS NOT COVERED IN EPC AGREEMENT SCOPE

SCH

7

Contingency, Design Improvement						
Sr. #	Listed Item	Description / Justification	Remarks / Reference	Native cost US\$	Foreign portion	Local portion
1	Combustion Monitoring System of Gas Turbines [Exhaust Spread Monitor]	The combustion monitoring system monitors the condition and status of the combustion parts of the gas turbine. It is not part of the GE standard package and have to be ordered separately. It keeps record of the out of flame fuel injectors and calculate the exhaust spread (the temperature difference between the two combustors with maximum and minimum temperatures). It generates alarm and trips the GT if the spread is above the set points.	Not included as Optional item	500,000	500,000	
2	Buffer-Vessel	For the bump-less fuel-changeover of to liquid fuel, in case the in service compressor trips, it would regulate the differential pressure between Gas Compressor and Filtering Skid, accounting for the discharge flow rate of Gas Compressor and consumption flow rate of GTs. The system was kept optional in the EPC contract. [Case 4]	Optional item in Technical Bid	4,250,000	4,250,000	
3	Plant Simulator System & Training Centre	A plant simulator for the training of Operations and Maintenance Engineers and Staff would add to the plant performance and lessen the human error in both fields. Also in future Universities could use this facility for training of engineers, since the technology at this plant would be cutting edge. This is normally practiced all over the world in form of work placements, where credit is given to students for taking these courses. Additionally a training centre would be constructed at site to house the Plant Simulator System and other training facilities.	Not included in RFP	2,300,000	2,000,000	
4	Site Housing Complex with Additional Recreational Facilities	The plant staff and reputable international O&M Companies would require on-site accommodation for themselves and/or their families. This would ensure their safety and security, as travelling back and forth to Plant Site could expose them to security threats. Games Room with pool tables, table tennis, foosball table. Basketball Court, Tennis Court, Badminton Court, Squash Court, Gymnasium, Media Room and Swimming Pool.	Not included in RFP	6,700,000		6,700,000
	Auditorium	To hold conferences/seminars and concerts etc.	Not included in RFP	3,000,000	1,500,000	1,500,000
6	BOP Spares	In addition to the spares covered under the EPC, additional spares could be procured to ensure that in case of a breakdown parts would be readily available. This will be based on the List of Recommended Spare Parts of the EPC Contractor. Employer will purchase these and hand them over to the O&M Contractor who will keep replenishing it regularly. These will be in the ownership of the Employer.	Not included in RFP	6,000,000	6,000,000	
7	Acquisition of Land	Acquisition of Land for Construction of Site Housing Complex, Site Recreational Facilities, Training Facility and Auditorium. [32 Acres Temporary Site Facility Area at a Cost of 2.5 Million Rupees]	Not included in RFP	770,000		
8	Fuel Gas treatment plant for removal/analysis of trace m	If certain metal contaminants i.e. Pb, Va, Na, K, Ca, Mg are present in the fuel gas above the permitted range then gas is to be analyzed and treated before feeding to the Gas Turbines. For this, trace Metal Contaminant Plant is required to analyze & treat the fuel gas as per required specification of Gas Turbine OEM.	Not included in RFP	2,000,000	2,000,000	
	Total Projected Cost		25,520,000	16,250,000	9,270,000	

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SCHEDULE

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CONTRACT FOR ENGINEERING CONSULTANCY SERVICES

between

**QUAID-E-AZAM THERMAL POWER (PVT.) LIMITED
(QATPL)**

and

**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED
(NESPAK)**

for

**REGASIFIED LIQUEFIED NATURAL GAS (RLNG) BASED
1000-1500 MW COMBINED CYCLE POWER PLANT AT BHIKKI**

MAY 2015

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CONTRACT FOR ENGINEERING CONSULTANCY SERVICES
between
QUAID-E-AZAM THERMAL POWER (PVT.) LIMITED
(QATPL)
and
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED
(NESPAK)
for
REGASIFIED LIQUEFIED NATURAL GAS (RLNG) BASED
1000-1500 MW COMBINED CYCLE POWER PLANT AT BHIKKI

This CONTRACT (hereinafter called the "Contract") is made on the 15th day of May (month) of 2015 (year), between, on the one hand Quaid-e-Azam Thermal Power Private, Limited, Third Floor, 83-A/E-1, Main Boulevard, Gulberg III, Lahore (hereinafter called the "Employer" which expression shall include the successors, legal representatives and permitted assigns) and, on the other hand, National Engineering Services Pakistan, Private, Limited, NESPAK HOUSE, 1-C, Block-N, Model Town Extension, Lahore (hereinafter called the "Consultants" which expression shall include the successors, legal representatives and permitted assigns).

WHEREAS

- (a) the Employer has requested the Consultants to provide certain consulting services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the "Services"); and
- (b) the Consultants, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract;

NOW THEREFORE the Parties hereby agree as follows:

- 9
- 1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

- 11
- (a) the General Conditions of Contract;
 - (b) the Special Conditions of Contract;
 - (c) the following Appendices:

Appendix A: Description of the Services
Appendix B: Reporting Requirements
Appendix C: Key Personnel and Sub-Consultants
Appendix D: Breakdown of Contract Price in Foreign Currency
Appendix E: Breakdown of Contract Price in Local Currency
Appendix F: Services & Facilities to be Provided by the Employer
Appendix G: Integrity Pact (for Services above Rs. 10 million)
Appendix H: Payment Schedule

Appendix I: Summary of Cost of Consultants and Associated Sub-Consultants

2. The mutual rights and obligations of the Employer and the Consultants shall be as set forth in the Contract, in particular:
- (a) the Consultants shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) the Employer shall make payments to the Consultants in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names in two identical counterparts, each of which shall be deemed as the original, as of the day, month and year first above written.

Witness

Signatures

Name

Title

[Signature]

M. Badar ul Muir

CEO

For and on behalf of

Quaid-e-Azam Thermal Power (Pvt.) Limited

(EMPLOYER)

Signatures

Name

Title

[Signature]

NAJAM AHMED SHAH

CEO QA THERMAL

(Seal)

Witness

Signatures

Name

Title

[Signature]

AKHTAR HUSSAIN MAYO

PROJECT MANAGER

For and on behalf of

National Engineering Services Pakistan (Pvt.) Limited

(CONSULTANTS)

Signatures

Name

Title

[Signature]

AAMIR ASHRAF

GM/Head

(Seal)

AAMIR ASHRAF
General Manager / Head
(Power & Mechanical Division)
NESPAK, Nespak House,
Lahore.

II. GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) "Applicable Law" means the laws and any other instruments having the force of law in the Islamic Republic of Pakistan, as those may be issued and in force from time to time;
- (b) "Contract" means the Contract signed by the Parties, to which these General Conditions of Contract (GC) are attached, together with all the documents listed in Clause 1 of such signed Contract;
- (c) "Contract Price" means the price to be paid for the performance of the Services, in accordance with Clause 6;
- (d) "Effective Date" means the date on which this Contract comes into force and effect pursuant to Sub-Clause 2.1;
- (e) "GC" mean these General Conditions of Contract;
- (f) "Government" mean the Government of the Islamic Republic of Pakistan and/or Provincial Government(s);
- (g) "Foreign Currency" means currency other than the currency of Islamic Republic of Pakistan;
- (h) "Local Currency" means the currency of the Islamic Republic of Pakistan;
- (i) "Member" in case the Consultants consist of a joint venture of more than one entity, means any of the entities, and "Members" means all of these entities;
- (j) "Party" means the Employer or the Consultants, as the case may be, and "Parties" means both of them;
- (k) "Personnel" means persons hired by the Consultants or by any Sub-consultant as employees and assigned to the performance of the Services or any part thereof;

- (l) "SC" means the Special Conditions of Contract by which the GC are amended or supplemented;
- (m) "Services" means the work to be performed by the Consultants pursuant to this Contract, as described in Appendix A;
- (n) "Sub-consultant" means any entity to which the Consultants subcontract any part of the Services in accordance with the provisions of Sub-Clause 3.6;
- (o) "Third Party" means any person or entity other than the Employer, the Consultants or a Sub-consultant; and
- (p) "Project" means the work specified in SC for which engineering consultancy services are desired.

1.2 Law Governing the Contract

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.

1.3 Language

9 This Contract has been executed in the English language which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract. All the reports and communications shall be in the English language.

1.4 Notices

11 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an Authorized Representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, or facsimile to such Party at the address of the Authorized Representatives specified under Sub-Clause SC 1.6. A Party may change its address for notice hereunder by giving the other Party notice of such change.

1.5 Location

The Services shall be performed at such locations as are specified in Appendix A and, where the location of a particular task is not so specified, at such locations as mutually agreed by the Parties.

1.6 Authorized Representatives

Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Employer or the Consultants shall be taken or executed by the Authorized Representatives specified in the SC.

1.7 Taxes and Duties

Unless specified in the SC, the Consultants, Sub-consultants, and their Personnel shall pay such taxes, duties, fees, and other impositions as may be levied under the Applicable Law, the amount of which is deemed to have been included in the Contract Price.

2. COMMENCEMENT, COMPLETION, MODIFICATION, AND TERMINATION OF CONTRACT

2.1 Effectiveness of Contract

This Contract shall come into force and effect on the date (the "Effective Date") of the Employer's notice to the Consultants instructing the Consultants to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SC have been met.

2.2 Termination of Contract for Failure to Become Effective

If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as shall be specified in the SC, either Party may, by not less than twenty eight (28) days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party except for the work (if any) already done or costs already incurred by a Party at the request of the other Party.

2.3 Commencement of Services

The Consultants shall begin carrying out the Services at the end of such time period after the Effective Date as shall be specified in the SC.

2.4 Expiration of Contract

Unless terminated earlier pursuant to Sub-Clause 2.9, this Contract shall expire when, pursuant to the provisions hereof, the Services have been completed and the payments of remunerations including the direct costs if any, have been made. The Services shall be completed within a period as is specified in the SC, or such extended time as may be allowed under Sub-Clause 2.6.

The term "Completion of Services" is as specified in the SC.

2.5 Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services or of the Contract Price, may only be made in writing, which shall be signed by both the Parties.

2.6 Extension of Time for Completion

If the scope or duration of the Services is increased:

- (a) the Consultants shall inform the Employer of the circumstances and probable effects;
- (b) the increase shall be regarded as Additional Services; and
- (c) the Employer shall extend the time for Completion of the Services accordingly.

2.7 Force Majeure

2.7.1 Definition

- (a) For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party and which makes a Party's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial actions (except where such strikes, lockouts or other industrial actions are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.

- (b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Sub-Consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both (A) take into account at the time of the conclusion of this Contract and (B) avoid or overcome in the carrying out of its obligations hereunder.
- (c) Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

2.7.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the Contract shall not be considered to be a breach of, or default under this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event; (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract; and (b) has informed the other Party in writing not later than fifteen (15) days following the occurrence of such an event.

2.7.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.7.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultants shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purpose of the Services and in reactivating the Services after the end of such period.

2.8 Suspension of Payments by the Employer

The Employer may, by written notice of suspension to the Consultants, suspend all payments to the Consultants hereunder if the Consultants fail to perform any of their obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultants to remedy such failure within a period not exceeding thirty (30) days after receipt by the Consultants of such notice of suspension.

2.9 Termination

2.9.1 By the Employer

The Employer may terminate this Contract, by not less than thirty (30) days written notice of termination to the Consultants, to be given after the occurrence of any of the events specified in paragraphs (a) through (e) of this Sub-Clause 2.9.1 and sixty (60) days' in the case of the event referred to in paragraph (f):

- (a) if the Consultants do not remedy a failure in the performance of their obligations under the Contract, within thirty (30) days after being notified or within any further period as the Employer may have subsequently approved in writing;
- (b) if the Consultants become (or, if the Consultants consist of more than one entity, if any of their Members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- (c) if the Consultants fail to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 7 hereof;
- (d) if the Consultants submit to the Employer a statement which has a material effect on the rights, obligations or interests of the Employer and which the Consultants know to be false;
- (e) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days;
- (f) if the Employer, in its sole discretion, decides to terminate this Contract.

2.9.2 By the Consultants

The Consultants may terminate this Contract, by not less than thirty (30) days written notice to the Employer, such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Sub-Clause 2.9.2:

- (a) if the Employer fails to pay any monies due to the Consultants pursuant to this Contract and not subject to dispute pursuant to Clause 7 within forty-five (45) days after receiving written notice from the Consultants that such payment is overdue;

- (b) if the Employer is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultants may have subsequently approved in writing) following the receipt by the Employer of the Consultants' notice specifying such breach;
- (c) if, as a result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days;
- (d) if the Employer fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 7 hereof.

2.9.3 Cessation of Services

Upon receipt of notice of termination under Sub-Clause 2.9.1, or giving of notice of termination under Sub-Clause 2.9.2, the Consultants shall take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultants, and equipment and materials furnished by the Employer, the Consultants shall proceed as provided, respectively, by Sub-Clauses 3.8 or 3.9.

2.9.4 Payment upon Termination

9 Upon termination of this Contract pursuant to Sub-Clauses 2.9.1 or 2.9.2, the Employer shall make the following payments to the Consultants:

- 11
- (a) Remuneration and reimbursable direct costs expenditure pursuant to Clause 6 for Services satisfactorily performed prior to the effective date of termination. Effective date of termination for purposes of this Sub-Clause means the date when the prescribed notice period would expire;
 - (b) except in the case of termination pursuant to paragraphs (a) through (d) of Sub-Clause 2.9.1, reimbursement of any reasonable cost incidental to the prompt and orderly termination of the Contract, including the cost of the return travel of the Personnel, according to Consultants Traveling Allowance Rules.

In order to compute the remuneration for the part of the Services satisfactorily performed prior to the effective date of termination; the respective remunerations shall be proportioned.

2.9.5 Disputes about Events of Termination

If either Party disputes whether an event specified in paragraphs (a) through (e) of Sub-Clause 2.9.1 or in paragraph (a) through (d) of Sub-Clause 2.9.2 hereof has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Clause 7 hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

3. OBLIGATIONS OF THE CONSULTANTS

3.1 General

The Consultants shall perform the Services and carry out their obligations with all due diligence, efficiency, and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with Sub-consultants or third parties.

3.2 Consultants Not to Benefit from Commissions, Discounts, etc.

9
The remuneration of the Consultants pursuant to Clause 6 shall constitute the Consultants' sole remuneration in connection with this Contract or the Services, and the Consultants shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Consultants shall use their best efforts to ensure that the Personnel, any Sub-consultants, and agents of either of them similarly shall not receive any such additional remuneration.

3.3 Confidentiality

The Consultants, their Sub-consultants, and the Personnel of either of them shall not, either during the term or after the expiration of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Employer's business or operations without the prior written consent of the Employer.

3.4 Liability of the Consultants

The Consultants are liable for the consequence of errors and omissions on their part or on the part of their employees in so far as the design of the Project is concerned to the extent and with the limitations as mentioned herein below.

If the Employer suffers any losses or damages as a result of proven faults, errors or omissions in the design of a project, the Consultants shall make good such losses or damages, subject to the conditions that the maximum liability as aforesaid shall not exceed twice the total remuneration of the Consultants for design phase in accordance with the terms of the Contract.

The liability of the Consultants expires after one (1) year from the stipulated date of completion of construction or after three (3) years from the date of final completion of the design whichever is earlier.

The Consultants may, to protect themselves, insure themselves against their liabilities but this is not obligatory. The extent of the insurance shall be up to the limit specified in second para above. The Consultants shall procure the necessary cover before commencing the Services and the cost of procuring such cover shall be borne by the Consultants up to a limit of one percent of the total remuneration of the Consultants for the design phase for every year of keeping such cover effective.

The Consultants shall, at the request of the Employer, indemnify the Employer against any or all risks arising out of the furnishing of professional services by the Consultants to the Employer, not covered by the provisions contained in the first para above and exceeding the limits set forth in second para above provided the actual cost of procuring such indemnity as well as costs exceeding the limits set forth in fourth para above shall be borne by the Employer.

3.5 Other Insurance to be Taken out by the Consultants

The Consultants (a) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at their (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Employer, insurance against the risks, and for the coverage, as are specified in the SC; and (b) at the Employer's request, shall provide evidence to the Employer showing that such insurance has been taken out and maintained and that the current premiums have been paid.

3.6 Consultants' Actions Requiring Employer's Prior Approval

The Consultants shall obtain the Employer's prior approval in writing before taking any of the following actions:

- (a) appointing such Personnel as are listed in Appendix-C merely by title but not by name;
- (b) entering into a subcontract for the performance of any part of the Services, it being understood (i) that the selection of Sub-consultants and the terms and conditions of the subcontract shall have been approved in writing by the Employer prior to the execution of the subcontract, and (ii) that the Consultants shall remain fully liable for the performance of the Services by the Sub-consultants and its Personnel pursuant to this Contract;
- (c) any other action that may be specified in the SC.

3.7 Reporting Obligations

The Consultants shall submit to the Employer the reports and documents specified in Appendix B in the form, in the numbers, and within the periods set forth in the said Appendix.

3.8 Documents Prepared by the Consultants to be the Property of the Employer

All plans, drawings, specifications, reports, and other documents and software prepared by the Consultants in accordance with Sub-Clause 3.7 shall become and remain the property of the Employer, and the Consultants shall, not later than upon termination or expiration of this Contract, deliver (if not already delivered) all such documents and software to the Employer, together with a detailed inventory thereof. The Consultants may retain a copy of such documents and software.

Restriction(s) about the future use of these documents is specified in the SC.

3.9 Equipment and Materials Furnished by the Employer

Equipment and materials made available to the Consultants by the Employer, or purchased by the Consultants with funds provided exclusively for this purpose by the Employer, shall be the property of the Employer and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultants shall make available to the Employer an inventory of such equipment and materials and shall dispose of such equipment and materials in accordance with the Employer's instructions or afford salvage value of the same. While in possession of such equipment and materials, the Consultants, unless otherwise instructed by the Employer in writing, shall insure them at the expense of the Employer in an amount equal to their full replacement value.

3.10 Accounting, Inspection and Auditing

The Consultants (i) shall keep accurate and systematic accounts and records in respect of the Services hereunder, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges, and cost, and the basis thereof, and (ii) shall permit the Employer or its designated representatives periodically, and up to one year from the expiration or termination of this Contract, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Employer.

4. CONSULTANTS' PERSONNEL AND SUBCONSULTANTS

4.1 Description of Personnel

The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Consultants' Key Personnel are described in Appendix C. The Key Personnel and Subconsultants listed by title and/or by name, as the case may be, in Appendix C are deemed to be approved by the Employer.

4.2 Removal and/or Replacement of Personnel

- Handwritten: 1/11*
- Handwritten: 9*
- (a) Except as the Employer may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Consultants, it becomes necessary to replace any of the Key Personnel, the Consultants shall provide as a replacement a person of equivalent or better qualifications;
 - (b) If the Employer, (i) finds that any of the Personnel have committed serious misconduct or have been charged with having committed a criminal action; or (ii) has reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Consultants shall, at the Employer's written request specifying the grounds therefor, provide as a replacement a person with qualifications and experience acceptable to the Employer.
 - (c) Except as the Employer may otherwise agree, the Consultants shall; (i) bear all the additional travel and other costs arising out of or incidental to any removal and/or replacement; and (ii) bear any additional remuneration, to be paid for any of the Personnel provided as a replacement to that of the Personnel being replaced.

5. OBLIGATIONS OF THE EMPLOYER

5.1 Assistance, Coordination and Approvals

5.1.1 Assistance

The Employer shall use its best efforts to ensure that the Employer shall:

- (a) provide at no cost to the Consultants, Sub-consultants and Personnel such documents prepared by the Employer or other consulting engineers appointed by the Employer as shall be necessary to enable the Consultants, Sub-consultants or Personnel to perform the Services. The documents and the time within which such documents shall be made available, are as specified in the SC;
- (b) assist to obtain the existing data pertaining or relevant to the carrying out of the Services, with various Government and other organizations. Such items unless paid for by the Consultants without reimbursement by the Employer, shall be returned by the Consultants upon completion of the Services under this Contract;
- (c) issue to officials, agents and representatives of the concerned organizations, all such instructions as may be necessary or appropriate for prompt and effective implementation of the Services;
- (d) assist to obtain permits which may be required for right-of-way, entry upon the lands and properties for the purposes of this Contract;
- 9 (e) provide to the Consultants, Sub-consultants, and Personnel any such other assistance and exemptions as may be specified in the SC.

5.1.2 Co-ordination

The Employer shall:

- (a) coordinate and get or expedite any necessary approval and clearances relating to the work from any Government or Semi-Government Agency, Department or Authority, and other concerned organization named in the SC.
- (b) coordinate with any other consultants employed by him.

5.1.3 Approvals

The Employer shall accord approval of the documents within such time as specified in the SC, whenever these are applied for by the Consultants.

5.2 Access to Land

The Employer warrants that the Consultants shall have, free of charge, unimpeded access to all land of which access is required for the performance of the Services.

5.3 Change in the Applicable Law

If, after the date of this Contract, there is any change in the Applicable Law which increases or decreases the cost of the Services rendered by the Consultants, then the remunerations and direct costs otherwise payable to the Consultants under this Contract shall be increased or decreased accordingly, and corresponding adjustment shall be made to the amounts referred to in Sub-Clause 6.2 (a) or (b), as the case may be.

5.4 Services and Facilities

The Employer shall make available to the Consultants, Sub-consultants and the Personnel, for the purpose of the Services and free of any charge, the services, facilities and property described in Appendix F at the times and in the manner specified in said Appendix F, provided that if such services, facilities and property shall not be made available to the Consultants as and when so specified, the Parties shall agree on; (i) any time extension that it may be appropriate to grant to the Consultants for the performance of the Services; (ii) the manner in which the Consultants shall procure any such services, facilities and property from other sources; and (iii) the additional payments, if any, to be made to the Consultants as a result thereof pursuant to Clause 6 hereinafter.

5.5 Payments

In consideration of the Services performed by the Consultants under this Contract, the Employer shall make to the Consultants such payments and in such manner as is provided by Clause 6 of this Contract.

6. PAYMENTS TO THE CONSULTANTS

6.1 Lump Sum Remuneration

The Consultants' total remuneration shall not exceed the Contract Price and shall be a fixed lump sum including all staff costs, incurred by the Consultants in carrying out the Services described in Appendix A. Other reimbursable direct costs expenditure, if any, are specified in the SC. Except as provided in Sub-Clause 5.3, the Contract Price may only be increased above the amounts stated in Sub-Clause 6.2 if the Parties have agreed to additional payments in accordance with Sub-Clauses 2.5, 2.6, 5.4 or 6.6.

6.2 Contract Price

- (a) Foreign currency payment shall be made in the currency or currencies specified as foreign currency or currencies in the SC, and local currency payment shall be made in Pakistani Rupees.
- (b) The SC shall specify the breakup of remuneration to be paid, respectively, in foreign and in local currencies.

6.3 Terms and Conditions of Payment

Payment will be made to the account of the Consultants and according to the payment schedule stated in the SC. Payments shall be made after the conditions listed in the SC for such payments have been met, and the Consultants have submitted an invoice to the Employer specifying the amount due.

6.4 Period of Payment

- (a) Advance payment to the Consultants shall be affected within the period specified in the SC, after signing of the Contract Agreement between the Parties.
- (b) Any other amount due to the Consultants shall be paid by the Employer to the Consultants within twenty-eight (28) days in case of local currency and thirty (30) days in case of foreign currency after the Consultants' invoice has been delivered to the Employer.

6.5 Delayed Payments

If the Employer has delayed payments beyond the period stated in paragraph (b) of Sub-Clause 6.4, financing charges shall be paid to the Consultants for each day of delay at the rate specified in the SC.

6.6 Additional Services

Additional Services means:

- (a) Services as approved by the Employer outside the Scope of Services described in Appendix A;
- (b) Services to be performed during the period extended pursuant to Sub-Clause 2.6, beyond the original schedule time for completion of the Services; and
- (c) any re-doing of any part of the Services as a result of Employer's instructions.

If, in the opinion of the Employer, it is necessary to perform Additional Services during the currency of the Contract for the purpose of the Project, such Additional Services shall be performed with the prior concurrence of both the Parties. The Consultants shall inform the Employer of the additional time (if any), and the additional remuneration and reimbursable direct costs expenditure for such Additional Services. If there is no disagreement by the Employer within two weeks of this intimation, such additional time, remuneration and reimbursable direct costs expenditure shall be deemed to become part of the Contract. Such remuneration and reimbursable direct costs expenditure shall be determined on the basis of rates provided in Appendices D and E, in case the Additional Services are performed during the scheduled period of the Services, otherwise remuneration for Additional Services shall be determined on the basis of Consultants' billing rates prevailing at the time of performing the Additional Services.

6.7 Consultants' Entitlement to Suspend Services

If the Employer fails to make the payment of any of the Consultants' invoice (excluding the advance payment), within twenty-eight (28) days after the expiry of the time stated in paragraph (b) of Sub-Clause 6.4, within which payment is to be made, the Consultants may after giving not less than fourteen (14) days' prior notice to the Employer, suspend the Services or reduce the rate of carrying out the Services, unless and until the Consultants have received the payment.

This action will not prejudice the Consultants entitlement to financing charges under Sub-Clause 6.5.

7. SETTLEMENT OF DISPUTES

7.1 Amicable Settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

7.2 Dispute Settlement

Any dispute between the Parties as to matters arising pursuant to this Contract which cannot be settled amicably within thirty (30) days after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party for settlement in accordance with the provisions of the Arbitration Act, 1940 (Act No.X of 1940) and of the Rules made thereunder and any statutory modifications thereto.

Services under the Contract shall, if reasonably possible, continue during the arbitration proceedings and no payment due to or by the Employer shall be withheld on account of such proceedings.

8. INTEGRITY PACT

8.1 If the Consultant or any of his Sub-consultants, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Consultant as Appendix-G to this Form of Contract, then the Employer shall be entitled to:

- (a) recover from the Consultant an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Consultant or any of his Sub-consultant, agents or servants;
- (b) terminate the Contract; and
- (c) recover from the Consultant any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Consultant or any of his Sub-consultant, agents or servants.

On termination of the Contract under Sub-Para (b) of this Sub-Clause, the Consultant shall proceed in accordance with Sub-Clause 2.9.3. Payment upon such termination shall be made under Sub-Clause 2.9.4 (a) after having deducted the amounts due to the Employer under sub-para (a) and (c) of this Sub-Clause.

III. SPECIAL CONDITIONS OF CONTRACT

1.1 Definitions

- (p) "Project" means "REGASIFIED LIQUEFIED NATURAL GAS (RLNG) based 1000-1500 MW Combined Cycle Power Plant at Bhikki".

1.6 Authorized Representatives

The Authorized Representatives are the following:

For the Employer:

Chief Executive Officer
Quaid-e-Azam Thermal Power (Pvt.) Ltd.
3rd Floor, 83-A/E-1, Main Boulevard, Gulberg-III, Lahore, Pakistan
Telephone : +92-42-37590363-5
Facsimile : +92-42-35790366
Email : ahadkhancheema@gmail.com

For the Consultants:

Akhtar Hussain Mayo
Project Manager
Power & Mechanical Division
RLNG based 1000-1500 MW Combined Cycle Power Plant at Bhikki
NESPAK House, 1-C, Block N, Model Town Extension, Lahore-54700

Telephone : +92-42-99090354
Facsimile : +92-42-9921936
Email : pm.nespak.bhikki@gmail.com

1.7 Taxes and Duties

The payment of taxes, fees and other impositions as may be levied under the Applicable Law, in respect of the Consultants, and their Personnel, shall not be the responsibility of the Employer.

2.2 Termination of Contract for Failure to Become Effective

The time period shall be sixty (60) days, or such other period as the Parties may agree in writing.

2.3 Commencement of Services

The Consultants commenced the Services immediately after the instruction by the Employer vide Govt. of Punjab, Energy Department letter no. SO(O&G)ED 2-6/2015 dated February 03, 2015 and subsequent confirmation

vide Punjab Power Development Company Ltd. letter no. PPDCL/4234/2015 dated February 06, 2015.

2.4 Expiration of Contract

The estimated period of completion of Services shall be 36 months from the Commencement Date of the Services or such other period as the Parties may agree in writing.

"Completion of Services" means completion of all Services and obligations as defined in Appendix-A and receiving of final payment by the Consultants from the Employer.

3.4 Liability of the Consultants

This Sub-Clause is deleted in its entirety.

3.5 Other Insurance to be Taken out by the Consultants

The risks and the coverage's shall be as follows:

- (a) Third Party motor vehicle liability insurance in respect of motor vehicles operated in Pakistan by the Consultants or their Personnel or any Sub-consultants or their Personnel.
- (b) Insurance against loss of or damage to equipment purchased in whole or in part with funds provided under the Contract.

3.6 Consultants' Actions Requiring Employer's Prior Approval

- 9
- (b) Delete the phrase, "entering into a subcontract for the performance of any part of the Services, it being understood" and replace it with the following:

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"entering into a subcontract for the performance of any part of the Services for any works/services for which in-house expertise is not available, it being understood...."

- (b)(ii) Delete the complete phrase and replace with the following:

"that the sub-consultants shall remain fully liable for the performance of their respective obligations/scope of services under the Contract."

- (b)(iii) The following statement is added into the provision of Sub-Clause 3.6(b):

"any foreign Sub-Consultants hired to perform works or any part thereof shall be paid by the Employer in foreign currency as agreed between the Consultants and their Sub-Consultants."

(c) The Consultants shall also clear with the Employer, before commitments on any action they propose to take under the following:

- i) Issuing Variations Orders in respect of:
 - additional items of Works as determined by the Engineer to be necessary for the execution of Works.
 - any new item of the Works not envisaged in the Contract Documents and which is determined by the Engineer to be necessary for the execution of Works.
- ii) Claim from the Contractor for extra payment with full supporting details and Consultants recommendations, if any, for settlement.
- iii) Details of any nominated sub-contracts.
- iv) Any action under terms of Performance Guarantee or Insurance Policy.
- v) Any action by the Consultants affecting the costs under the following clauses of Conditions of Contract of the Construction Contract:
 - Unforeseeable Difficulties;
 - Suspension of Works;
 - Bonus and Liquidated Damages;
 - Taking Over Certificate
 - Performance Certificate;
- vi) Final Measurement Statement.
- vii) Release of Retention Money.
- viii) Any change in the ratios of various currencies of payment.

3.8 Documents Prepared by the Consultants to be the Property of the Employer

The Employer and the Consultants shall not use these documents for purposes unrelated to this Contract without the prior written approval of the other Party.

5.1.1 Assistance

The Employer shall make available within seven (07) days from the Commencement Date of the Services, with all existing data, information and reports related to the Project available with the Employer and other inputs to assist the Consultants in obtaining permits needed to carry out the Services.

5.1.3 Approvals

The Employer shall accord approval of the documents immediately but not later than fourteen (14) days from the date of their submission by the Consultants.

6.2 Contract Price

- (a) The amount in foreign currency is Euro 1,585,422/- and USD 76,000/-
- (b) The amount in local currency is Pakistani Rupees 782,807,888/-

The breakup of foreign and local currencies shall be as provided in Appendix-D and Appendix-E, attached hereto.

- (c) The currency provision in (a) above are for the foreign technical and insurance services from specialized firms and any foreign Sub-Consultants hired to perform works or any part thereof shall be paid by the Employer in foreign currency as agreed between the Consultants and their Sub-Consultants.

6.3 Terms and Conditions of Payment

A lump sum amount in foreign and local currencies as referred under SC Sub-Clause 6.2 shall be paid to the Consultants for the Services to be completed within the period specified in SC Sub-Clause 2.4.

The Payment shall be according to the "Payment Schedule" attached as Appendix-H to this contract.

The "Summary of Cost of Consultants and Associated Sub-Consultants" is attached as Appendix-I to this contract.

6.4 Period of Payment

- (a) The time period for advance payment shall be Twenty One (21) days after signing of Contract Agreement by both the Parties.

6.5 Delayed Payments

The indemnification on delayed payments in case of local currency and foreign currency shall be paid 8% and 1% respectively, per annum. The same shall be paid to the Consultants for each day of delay.

7.2 Dispute Settlement

Following is added at the end of this Sub-Clause: "Venue of Arbitration shall be Lahore and the courts located in Lahore shall have jurisdiction in the matter."

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IV APPENDICES

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Appendix A

DESCRIPTION OF SERVICES

The Consultants shall provide overview, coordination and design review services sufficient to realize turnkey implementation by the Contractor of "REGASIFIED LIQUEFIED NATURAL GAS (RLNG) based 1000-1500 MW Combined Cycle Power Plant at Bhikki". The intent of these services is to assist Quaid-e-Azam Thermal Power Private Limited (QATPL) in the Project execution to achieve the objectives of a functional, reliable and safe facility, which meets the Contract requirements, satisfies performance goals and is completed within budget and on schedule.

The Consultants Services will consist of various activities, some in coordination with QATPL and others as representative of QATPL, to achieve the Project objectives. The Consultancy Services for the Project will be rendered by the Consultants in two phases:

Part I Services: Pre-Feasibility Study, Bankable Feasibility Study, Pre-qualification Documents, Evaluation of Pre-qualification Applications, Bidding Documents, Bid Evaluation and Award of Contract for both EPC and O&M Contracts

Part II Services: Design Review, Construction Supervision and support to Employer during Defects Liability Period

The Consultants will provide end to end services starting from the Project conception up to end of Defects Liability Period to cover all technical, legal, financial / taxation and insurance aspects related to the Project.

The Consultants will also ensure that all EPC and non-EPC items and other activities are properly identified and procurement and management plans are prepared for each item.

The scope listed below for Part I and Part II Services is illustrative but not exhaustive.

1.0 PART I SERVICES:

This part of the Services includes preparation of pre-feasibility and bankable feasibility study, pre-qualification documents and bidding documents, evaluation of pre-qualification applications and bid evaluation, and assistance to the Employer during award of Contract.

1.1 Preparation of Bankable Feasibility Study

- 1). **Data collection and Site related studies**
 - a). Topographic survey of the Site
 - b). Geotechnical / soil investigations
 - c). Canal water availability (quality and quantity)
 - d). Ground water availability (quality and quantity)
 - e). Transportation Study
 - f). Meteorological and seismic data collection
 - g). Effluents disposal
 - h). Applicable emission standards
 - i). Site conditions and access
 - j). Availability of space
- 2). **Basic Project input data/parameters/conditions**
 - a). Discussion on power supply and demand situation in Pakistan

- b). Role of the proposed plant
 - c). Analysis of power evacuation and grid interconnection to permit export and import of electric power. The analysis will be undertaken on the basis of grid interconnection studies viz. load flow, stability and short circuit studies to be provided by the Employer.
 - d). Analysis of availability of requisite quantity and quality of gas
 - e). Identification of land requirement and other relevant requirements
- 3). **Identification of alternatives and selection of optimized technical plant concept**
- a). Design conditions and fuel characteristics
 - b). Description of alternative plant concepts
 - c). Basic power plant design criteria with regard to site conditions and operational requirements.
 - d). Assessment of number and size of GT units
 - e). Configuration options
 - f). Performance data comparison and expected plant outputs and heat rates
 - g). Selection of preferred configuration and recommendation
 - h). List of gas turbine suppliers (OEMs) that can fulfill requirements
 - i). General Plant configuration and layout
- 4). **Preparation of plant conceptual design and functional specifications of:**
- a). Civil works
 - b). Gas turbine(s)
 - c). Heat recovery steam generator(s)
 - d). Steam turbine(s)
 - e). Water / steam cycle
 - f). Fuel system(s)
 - g). Gas booster compressor station
 - h). Main and auxiliary cooling systems
 - i). Waste water / effluents treatment and disposal system
 - j). Instrument and service air systems
 - k). Fire protection system
 - l). Generators and transformers
 - m). Switchyard
 - n). MV/LV systems.
 - o). Instrumentation and control systems
 - p). Emergency diesel generator system
 - q). Communication system / IT system
 - r). Security system
 - s). Any other equipment / system
- 5). **Environmental Impact Assessment (EIA)**
- a). Preparation of EIA
The EIA will be prepared to ascertain that Plant emissions and emission controls comply with Pakistan Environmental Regulations.
 - b). The Consultants will assist the Employer in submission and approval of EIA report and will attend the EIA public hearing.
- 6). **Project Implementation Concept**
- a). Preparation of Project implementation time schedule based on EPC mode of contracting and establishing milestones up to commercial operation date (COD).

- 7). **O&M Staff Requirements**
 - a). Requirement of Staff (technical & non-technical) to be established for smooth operation and maintenance of plant.
 - b). O&M cost estimates
- 8). **Project cost and financing plan**
 - a). Basic project CAPEX without limitation to land, civil, mechanical, electrical and ancillary works
 - b). Taxes and duties
 - c). Interest during construction
 - d). Disbursement schedule
 - e). Estimation of OPEX
 - f). Financing plan
- 9). **Financial analysis, tariff calculations and risk analysis.**
 - a). Detailed financial model along with assumptions.
 - b). Risk analysis for the project, quantification of risks and mitigation measures.
 - c). Probably scenario based analysis (sensitivity analysis) as well.
- 10). **Identification of required permits and approvals from relevant agencies/departments**

Note: The Consultants will initially prepare a pre-feasibility study with a limited scope with the purpose of enabling the Consultants to prepare the Tender Documents. The pre-feasibility study will be subsequently upgraded to become a bankable feasibility study addressing the scope of services detailed above.

1.2 Preparation of Pre-qualification Documents

Preparation of pre-qualification documents for short listing of prospective EPC bidders.

1.3 Evaluation of Pre-qualification Applications

Evaluation of pre-qualifications applications of EPC bidders and preparation of evaluation report. Support Employer in grievance redressal process.

1.4 Preparation of Tender Documents

- Preparation of tender level design, selection of design parameters, functional technical specifications and tender drawings.
- The Tender Documents will be prepared on EPC mode of contracting. The Tender Documents shall include:
 - Invitation for Bidders;
 - Instructions to Bidders;
 - Evaluation criteria;
 - Detailed Employer's requirements;
 - Ancillary Items;
 - EPC Agreement;
 - Forms and Schedules to Bids;
 - Technical Specifications;
 - Drawings; and
 - Technical Data Sheets.

- Preparation of Long Term Service Agreement (LTSA) specifications.

1.5 Evaluation of Bids

The Consultants will attend pre-bid conference, prepare replies to queries of EPC bidders, undertake evaluation of EPC and LTSA bids and prepare bid evaluation reports.

1.6 Award of Contract

Assistance to the Employer in EPC and LTSA pre-award clarification meetings and contract award.

1.7 Preparation of Bidding Documents for O&M, Evaluation and Award of Contract

Preparation of Bidding Documents for hiring O&M Contractor, evaluation of bids of O&M contractors and provide assistance to the Employer during pre-award meetings.

1.8 Preparation of Project Documents

Preparing the Project documents viz. Power Purchase Agreement (PPA), gas supply agreement (GSA), implementation agreement (IA), etc., and provide other required support for all the permits like generation license, Lol, tariff etc.

2.0 PART II SERVICES:

The Consultants will act as Employer's Engineer (EE) / Employer's Representative (ER) during the implementation period of the Project. The Consultants will cover the review of the EPC Contractor's design documents; witnessing of factory tests and other quality assurance activities; supervision of construction, testing and commissioning of the plant; and services during defects liability period (DLP) of two (2) years.

2.1 Design Review

The scope of work in the engineering / design review stage comprises detailed examination, review and approval by the Consultants of the EPC Contractor's design drawings, technical documentation, manuals, procedures, etc. The work will be initiated with the establishment of appropriate quality assurance and Contract Administration procedures that will be presented in a kick-off meeting of the Project.

The review and approval of the EPC Contractor's drawings and documents prepared for the execution of the Project will be performed in the Consultants' head offices. The objective of the design review will be to determine the compatibility of equipment and plant systems as well as to ensure that systems and structures are capable of performing their specified functions and that adequate technical specification and drawings are provided by the EPC Contractor for all plant equipment and components. The Consultants will review the adequacy of design and provide an administrative check on the EPC Contractor's design functions.

The design review undertaken by the Consultants will include the following:

- Review of submittals of the EPC Contractor as specified in the Contract, viz., technical specifications, flow diagrams, data sheets, and equipment lists etc. These documents will be checked, commented, duly marked and returned to the EPC Contractor. Special attention will be paid to the compliance with the EPC Contract, meeting the specified requirements of the Project site and of the Employer, latest applicable codes and standards, good engineering practice, reliability and safety.

- Thermal, vibrational, hydraulic, stress and other calculations provided by the EPC Contractor will be reviewed whenever found necessary to investigate the design philosophy/criteria and to examine the characteristic figures and applied safety margins. The principle drawings, diagrams etc. requiring the Consultants' approval are essentially the including but not limited to the following:
 - Plot plan
 - General arrangement drawings (civil) of gas turbines, HRSGs, steam turbines, gas booster compressor station, HSD tanks, major buildings and structures
 - Layout and architectural drawings
 - Typical civil execution drawings
 - Heat and mass balance (HMB) diagrams
 - Main process flow diagrams (PFDs)
 - Equipment and instrument data sheets and characteristic curves
 - Major P&I diagrams (P&IDs)
 - Circulating water and drainage systems
 - Single line and schematic diagrams, as applicable for major equipment as well as MV/LV lighting and communication systems
 - Standard wiring diagrams of switchgear and major I&C equipment
 - Control system configuration & architecture drawings
 - Functional/interlocking diagrams
 - Analogue and digital loop diagrams and typical control logic diagrams of major systems
 - Inspection and test schedules for both shop manufacture and site installation
 - Testing & commissioning procedures / protocols
 - Start-up and operational procedures
- Identify to the EPC Contractor those items in their design, drawings and document submittals which require revision to comply with the EPC Contract Specifications.
- Coordinate between the EPC Contractor and NTDC for the approval of the design, drawings and layout of all equipment to be approved by NTDC.
- Monitor design, drawings and documents status including:
 - Those to be submitted by the EPC Contractor
 - Those being reviewed
 - Those to be resubmitted by the EPC Contractor
 - For information only
 - Approved drawings
 - As built drawings
- The Consultants will review the shop inspection and testing plan (ITP) of EPC Contractor and will attend the workshop inspections and tests (factory acceptance tests) on major equipment. The Consultants in general will undertake the following activities:
 - Review EPC Contractor's production baseline schedule and delivery programs
 - Review EPC Contractor's quality assurance program for compliance with the Contract
 - Review and comment on EPC Contractor's manufacturing progress reports
 - Review factory testing methods and procedures
 - Witness necessary factory tests as agreed with Employer along with Employer's representation and review test results
 - The number of workshop inspections will be in line with provisions of the EPC Contract between the Employer and EPC Contractor.

2.2 Construction Supervision

The Consultants will review EPC contractor's Project schedules and plans and ensure their adequacy and approve the schedule as per provisions of the EPC contract. The Consultants will identify any deficiency in Project planning, sequencing / scheduling, resource loading, if any, and ensure observance of the schedule.

The Consultants will monitor the progress and raise alerts if there are any possible delays. The Consultants will also certify the milestone payments and will advise in the case of any change or new requirements or disputes.

The Consultants will supervise the correct execution of the construction works, co-ordinate the various works of the EPC Contractor at Site, take care that the quality assurance program is applied, assist the Employer in establishing/enforcing site safety regulations and hold regular site progress review meetings with the Employer and the EPC Contractor.

Following the implementation activities, the Consultants will conduct, together with the EPC Contractor, a formal inspection of the construction and erection / installation to check and record the satisfactory completion of the work. Upon satisfactory completion of the work, the testing and commissioning activities will commence. The Consultants will supervise all testing and commissioning activities to ensure that all equipment/systems are ready for testing of all site tests; the commissioning, start-up tests, are properly executed, recorded, witnessed and approved; and a proper deficiency / punch list is prepared for each system or subsystem of the project. Also all tests will be supervised by the Consultant alongside NTDC which are listed as required tests in PPA.

In principle, the Consultants will ensure quality of all construction, erection and commissioning activities, including those related to power plant and associated switchyard, ensuring that:

- the construction/erection works are carried out in a professional manner and in time according to the schedule agreed upon in the EPC Contract,
- the construction manpower and equipment required are available according to construction schedule,
- site surveying by the EPC Contractor is done correctly,
- review and approval of 'concrete mix design' proposed by the Contractor,
- concrete tests are carried out properly and are certified,
- the construction/equipment/material are in accordance with the specifications, the approved drawings and comply with the latest applicable codes and standards,
- the construction materials' suitability is checked before being used,
- the corrosive nature of the soil and environment is considered and that appropriate materials and types of paint are applied by the EPC Contractor ,
- appropriate site instructions and work permits are issued,
- site inspection and deficiency reports are prepared,
- all site tests are properly carried out, witnessed and approved,
- progress reports, as specified, are prepared and distributed,
- monthly progress review and co-ordination meetings are held and minutes of such meetings are prepared and followed-up for proper implementation as needed,
- correct accounts and records of cost/financial activities of the works are maintained,
- the EPC Contractor's milestone payment applications are scrutinized,
- a proper deficiency list is prepared for each system or subsystem of the project,
- a proper claim management is organized,
- milestone completion certificates, certificate of completion of interconnection facilities, certificate of commissioning of plant, construction completion and provisional acceptance

test certificate are issued and all preconditions according to the Contract are completely fulfilled,

- all punch lists and pending items are followed up till finally rectified by the EPC Contractor,
- to ensure from EPC Contractor that all NTDC approved equipment is being constructed and built as per the requirements of NTDC,
- Factory witness tests are carried out for all NTDC related equipment along with NTDC representative, and
- Site tests of all NTDC related equipment as mentioned in PPA are carried out in the presence of NTDC representative.

2.3 Services during Defects Liability Period (DLP)

This phase would entail Defects Liability Period of (DLP) of two (2) years during which, under the supervision of the Consultants, outstanding minor works are attended & completed, performance of the equipment and systems and defects made good by the turnkey/EPC contractor are monitored, as-built drawings submitted by the Contractor are verified.

3.0 Distribution/ Preparation of Services

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Distribution of services between NESPAK and any firm/entity hired for technical, financial and legal services have been addressed below. Services to be provided in terms of Insurance and Tax shall be hired during the process on as and when needed basis.
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Distribution of Services

Sl. No.	Scope of Work	NESP-PAK	Foreign Technical Services	Local Consultant Services
A. PART I SERVICES				
1.0 Preparation of Bankable Feasibility Study				
1.1	Data collection and site related studies			
1.1.1	Topographic survey of the Site	X		
1.1.2	Geotechnical / soil investigations	X		
1.1.3	Canal water availability (quality and quantity)	L	S	
1.1.4	Ground water availability (quality and quantity)	L	S	
1.1.5	Transportation Study	L	S	
1.1.6	Meteorological and seismic data collection	X		
1.1.7	Effluents disposal	X		
1.1.8	Applicable emission standards	X		
1.1.9	Site conditions and access	X		
1.1.10	Availability of space	L	S	
1.2	Basic project input data/parameters / conditions			
1.2.1	Discussion on power supply and demand situation in Pakistan	X		
1.2.2	Role of the proposed plant	X		
1.2.3	Analysis of power evacuation and grid interconnection to permit export and import of electric power.	X		
1.2.4	Analysis of availability of requisite quantity and quality of gas	L	S	
1.2.5	Identification of land and other relevant requirements	S	L	
1.3	Identification of alternatives and selection of optimized technical plant concept			
1.3.1	Design conditions and fuel characteristics	S	L	

1.3.2	Description of alternative plant concepts		X	
1.3.3	Basic power plant design criteria with regard to site conditions and operational requirements.		X	
1.3.4	Assessment of number and size of GT units		X	
1.3.5	Configuration options		X	
1.3.6	Performance data comparison and expected plant outputs and heat rates		X	
1.3.7	Selection of preferred configuration and recommendation		X	
1.3.8	List of gas turbine suppliers (OEMs) that can fulfill requirements		X	
1.3.9	General Plant configuration and layout	S	L	
1.4	Preparation of plant conceptual design and functional specifications of:			
1.4.1	Civil works	L	S	
1.4.2	Gas turbine(s)		X	
1.4.3	Heat recovery steam generator(s)		X	
1.4.4	Steam turbine(s)		X	
1.4.5	Water / steam cycle		X	
1.4.6	Fuel system(s)		X	
1.4.7	Gas booster compressor station		X	
1.4.8	Main and auxiliary cooling systems	S	L	
1.4.9	Waste water / effluents treatment and disposal system	S	L	
1.4.10	Instrument and service air systems		X	
1.4.11	Fire protection system		X	
1.4.12	Generators and transformers		X	
1.4.13	Switchyard	X		
1.4.14	MV/LV systems.		X	

1.4.15	Instrumentation and control systems		X	
1.4.16	Emergency diesel generator system		X	
1.4.17	Any other equipment / system	S	L	
1.5	Environmental Impact Assessment (EIA)	L	S	
1.6	Project Implementation Concept	S	L	
1.7	O&M Staff Requirements	S	L	
1.8	Project cost (CAPEX&OPEX) and financing plan	S	S	L
1.9	Financial analysis, tariff calculations and risk analysis.	S	S	L
1.10	Identification of required permits and approvals from relevant agencies/departments	S		L
2.0 Preparation of Pre-qualification Documents				
2.1	Preparation of pre-qualification documents for short listing of prospective EPC bidders.	L	S	S
3.0 Evaluation of Pre-qualification Applications				
3.1	Evaluation of pre-qualification applications of EPC bidders and preparation of evaluation report.	L	S	S
4.0 Preparation of Tender Documents				
4.1	Preparation of tender level design, selection of design parameters, functional technical specifications and tender drawings.	S	L	
4.1.1	Define scope of works and services for the EPC contract	S	L	
4.1.2	Define scope of works and services for LTSA contract		X	
4.1.3	Design parameters and standards	S	L	
4.1.4	Civil part	L	S	
4.1.5	Mechanical part		X	
4.1.6	Electrical part excluding switchyard		X	
4.1.7	Switchyard part	X		

4.1.8	I&C part		X	
4.1.9	Testing (including commissioning) part		X	
4.1.10	Performance and reliability test part		X	
4.2	Preparation of contractual / legal and commercial parts of bidding documents			
4.2.1	Invitation for Bidders	X		
4.2.2	Instructions to Bidders	L	S	S
4.2.3	Evaluation Criteria	S	L	
4.2.4	Detailed Client's Requirements	L	S	
4.2.5	Conditions of the Contract	S	S	L
4.2.6	Forms and Schedules to Bids	L	S	S
4.3	Preparation of Long Term Service Agreement (LTSA) specifications.		X	
5.0 Evaluation of Bids				
5.1	Evaluation of EPC and LTSA bids and preparation of bid evaluation reports			
5.1.1	Pre-bid meeting with the bidders	L	S	S
5.1.2	Responding to the clarifications of the bidders	L	S	S
5.1.3	Preparation of EPC evaluation report	S	L	S
5.1.4	Preparation of LTSA evaluation report	S	L	S
6.0 Award of Contract				
6.1	Assistance to the Client in pre-award meetings for EPC contract	L	S	S
6.2	Assistance to the Client in pre-award meetings for LTSA contract	S	L	S
6.3	Preparation of EPC and LTSA contracts	L	S	S
7.0 Preparation of Bidding Documents for O&M				

7.1	Preparation of bidding documents for O&M hiring contractor	S	L	S
8.0 Evaluation of Bids for O&M				
8.1	Pre-bid meeting with the bidders	L	S	S
8.2	Responding to the clarifications of the bidders	L	S	S
8.3	Preparation of evaluation report	S	L	S
9.0 Assistance to the Client during Award of O&M Contract				
9.1	Provide assistance to the Client during award of O&M contract	S	L	S
10.0 Preparation of Project Documents				
10.1	Preparing the project documents viz. power purchase agreement (PPA), gas supply agreement (GSA), implementation agreement (IA) etc. and provide other required support for all the permits like generation license, LoI, tariff etc.	S	S	L
B. PART II SERVICES				
1.0 Design Review				
1.1	Review of EPC contractor's detailed design / drawings:			
1.1.1	Mechanical	L	S	
1.1.2	Electrical excluding Switchyard	L	S	
1.1.3	I&C	L	S	
1.1.4	Switchyard	X		
1.1.5	Civil	X		
1.1.6	Chemical	L	S	
1.1.7	Architecture	X		
1.1.8	HVAC	X		
1.2	Review of Shop Inspection & Testing Plan and attend the workshop tests	L	S	
2.0 Construction Supervision				

2.1	Supervision of construction, erection, testing & commissioning	L	S	
3.0	Services during DLP			
3.1	Services during DLP of two (2) years	L	S	

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Appendix B

Reporting Requirements

Pursuant to Sub-Clause GC-3.7, the Consultants shall submit the following reports:

Reports	Copies	Date
Monthly Progress Report	Three (03) copies	To be submitted within fifteen (15) days of the due month

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Appendix C
Key Personnel and Sub-Consultants

Sr. No.	Name	Position
C1	NESPAK (The Consultants)	
1	Akhtar Hussain Mayo	Project Manager
2	Mujahid Munir	Project Coordinator
3	M. Younas / Kaukab H. Bhatti / Dilshad H. Siddiqui	Contracts Specialist
4	M. Haseeb Saqib	Pr. Engineer (Thermal)
5	Amon Khan	Electrical Plants Expert
6	Abdus Salam	I&C Expert
7	Raees Akbar	Substation Expert
8	Raja Tariq Nazir	Structures Expert
9	Muhammad Arif	Structures Expert
10	Tauqeer Sadaqat	Mechanical Expert
11	Sohail Kibria	Geotechnical Specialist
12	Munir-ud-Din	Chief Engineer (HVAC)
13	Jamshaid Iqbal	Chief Architect
14	Ali Bakhtiar Qureshi	Sr. Engineer (Thermal)
C2	Sub-Consultants (associated to the Consultants)	
1	To be notified (TBN)	Foreign Technical Services
2	TBN	Local Technical Services
3	TBN	Financial Services
4	TBN	Legal Services
5	TBN	Tax Services
6	TBN	Insurance Services

Appendix D

Breakdown of Contract Price in Foreign Currency

1. Payments to be made to Foreign Technical Consultants are to be in Euros for which cost breakup is as under:

A.	PART-I SERVICES (Sum 1.0 + + 10.0)	Duration	Cost (Euro)
1	Preparation of Bankable Feasibility Study	5 Months	266,889
2	Preparation of Pre-Qualification Documents	3 Weeks	25,722
3	Evaluation of Pre-Qualification Applications	2 Weeks	2,478
4	Preparation of Tender Documents	2 Months	100,433
5	Evaluation of Bids	1 Month	124,844
6	Award of Contract	1 Month	67,967
7	Preparation of Bidding Documents for O&M	1.5 Months	42,856
8	Evaluation of Bids for O&M	1 Month	66,878
9	Assistance to the Employer during Award of O&M Contract	1 Month	19,378
10	Preparation of Project Documents	3-4 Months	51,000
Sub-Total (A)			768,444
B.	PART-II SERVICES (Sum 1.0 + + 3.0)		
1	Design Review	12-14 Months	195,911
2	Construction Supervision	27 Months from the Commencement of EPC Contract	571,078
3	Services during DLP	2 Years	49,989
Sub-Total (B)			816,978
Total (A+B)			1,585,422

Note: Any Engineering Services required by the Employer which are not included in the scope of work as described in Appendix-A of this proposal will be charged in accordance with the following man-day rates:

Experts: EUR 1,180.00 per day (exclusive of WHT)

9 The expenses for the inspection and witnessing the factory acceptance tests for the plant and equipment to be procured for the Project at manufacturer's premises outside Pakistan are not considered and shall be borne by the Employer or Turnkey Contractors pursuant to provisions of the Turnkey Contract.

11 *The above prices are valid till July 01, 2015. For each subsequent year, an escalation of 4% per annum will be applicable.

2. Payments to be made to Insurance Consultant are to be in US Dollars for which cost is USD 76,000.

Appendix E

Breakdown of Contract Price in Local Currency

NESPAK's Consultancy Contract with Quaid-e-Azam Thermal Power (Pvt) Limited (QATPL) is structured in a tax efficient manner. NESPAK would have to charge or adjust for Punjab sales tax. Further, double deduction of withholding tax, needs to be avoided.

The cost of Sub-Consultant / Expert are considered as out-of-pocket expenses and hence reimbursable costs. This is normal practice in privatization related contracts where the lead advisor includes the cost of technical, legal and accounting firms as part of out of pocket costs.

QATPL shall:

1. Reimburse this cost by making cheques directly in the name of the sub-consultants / experts after deduction of appropriate withholding taxes and pass these on to NESPAK for passing onward to Sub-Consultant / Experts ; or
2. Reimburse this cost by making payment in the name of NESPAK, without withholding tax deduction (it being reimbursement of costs), and NESPAK pays it onwards to Sub-Consultants / Experts after appropriate withholding tax deductions.

Appendix E
Breakdown of Contract Price in Local Currency

Sr. No.	Description	Estimated Time Duration	Man-Months	Lump Sum Prices					GST @16% levied by Government of Punjab on Services by Technical Scientific & Engineering Consultants	Total
				NEBPAK (PKR)	LOCAL TECHNICAL SERVICES (PKR)	FINANCIAL SERVICES (PKR)	LEGAL SERVICES (PKR)	TAX SERVICES (PKR)		
A.	PART-1 SERVICES (Sum 1.0 + ... + 10.0)									
1.0	Preparation of Bankable Feasibility Study	5 Months		PKR 26,763,072	PKR 0	PKR 10,800,000	PKR 7,500,000	PKR 0	PKR 11,957,426	PKR 56,101,398
2.0	Preparation of Pre-Qualification Documents	3 Weeks		PKR 2,153,536	PKR 0	PKR 918,000	PKR 634,000	PKR 0	PKR 1,040,533	PKR 4,740,091
3.0	Evaluation of Pre-Qualification Applications	7 Weeks		PKR 219,714	PKR 300,000	PKR 85,199	PKR 62,100	PKR 0	PKR 140,123	PKR 811,037
4.0	Preparation of Tender Documents	2 Months		PKR 18,510,585	PKR 0	PKR 8,256,009	PKR 5,750,000	PKR 0	PKR 7,133,245	PKR 40,823,830
5.0	Evaluation of Bids	1 Month		PKR 17,949,739	PKR 0	PKR 7,589,000	PKR 5,200,000	PKR 0	PKR 7,110,037	PKR 37,539,776
6.0	Award of Contract	1 Month		PKR 3,078,764	PKR 0	PKR 1,630,109	PKR 1,143,100	PKR 0	PKR 2,251,249	PKR 8,313,153
7.0	Preparation of Bidding Documents for O&M	1.5 Months		PKR 705,423	PKR 0	PKR 330,000	PKR 230,000	PKR 0	PKR 1,224,887	PKR 2,685,321
8.0	Evaluation of Bids for O&M	1 Month		PKR 780,423	PKR 0	PKR 330,000	PKR 230,000	PKR 0	PKR 1,360,820	PKR 2,721,243
9.0	Assistance to the Client during Award or O&M Contract	1 Month		PKR 780,423	PKR 0	PKR 330,000	PKR 230,000	PKR 0	PKR 652,420	PKR 1,802,843
10.0	Preparation of Project Documents	3-4 Months		PKR 6,243,387	PKR 0	PKR 2,640,008	PKR 1,840,000	PKR 0	PKR 2,896,203	PKR 13,581,590
B.	PART-2 SERVICES (Sum 1.0 + 2.0 + 3.0 + 4.0)									
1.0	Project Management*	27 Months from Commencement of EPC Contract	142.40	PKR 387,880,884	PKR 30,438,300	PKR 13,580,880	PKR 17,550,000	PKR 2,000,000	PKR 86,586,438	PKR 536,482,822
2.0	Design Review*	12-14 Months	375.00	PKR 72,441,800	PKR 12,344,300	PKR 3,375,000	PKR 2,683,500	PKR 500,000	PKR 13,306,317	PKR 80,279,801
3.0	Construction Supervision*	27 Months from Commencement of EPC Contract	1,241.00	PKR 238,477,800	PKR 18,064,000	PKR 7,960,000	PKR 6,928,000	PKR 500,000	PKR 34,171,194	PKR 325,064,904
4.0	Services during O&M*	2 Years from COD or Combined Cycle	63.00	PKR 5,946,300	PKR 0	PKR 270,000	PKR 851,000	PKR 500,000	PKR 2,032,056	PKR 9,073,355
C.	Direct/Reimbursable Cost (For B)									
0.	Grand Total (A + B + C)			PKR 540,394,234	PKR 30,778,300	PKR 46,600,000	PKR 40,860,000	PKR 2,000,000	PKR 122,833,344	PKR 782,807,886

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Appendix F

Services and Facilities to be provided by the Employer

The Employer shall make available the following Services and Facilities:

1. Services and Facilities of the Employer

The Employer shall make available to the Consultants for the purpose of the Services and free of any charge, the services and facilities and property described in this Appendix at the times and in the manner as specified hereunder:

(a) Site Office

- i) The Employer shall establish and maintain suitably furnished office premises at site including safety, electricity, air-conditioning, heating, water supply, telephone connection, furniture and other utilities at no cost to the Consultants. Cleaning, janitorial and gardening services shall also be provided by the Employer.
- ii) The Consultants shall be entitled to use the Employer's telephone, and internet facility available at Site at no cost. This includes local and long distance calls provided these are in connection with the Services under this Project. Private calls shall be charged at actual by the Employer.
- iii) The Employer shall provide adequate number of telephone connections in the office of the Consultants at site.
- iv) The Consultants' personnel deployed at the Site may avail lunch facility on same terms and conditions as it would be available for the Employer's own personnel.

(b) First Aid

First aid facility shall be provided free of charge to the personnel of the Consultants deployed at Site. This facility shall be the same as it would be available to the Employer's own personnel.

2. Lodge Accommodation

If requested by the Consultants, the Employer shall provide lodge accommodation, to all Personnel of the Consultants or the Sub-consultants when on visit to various parts of the Project area or any other station where such facilities or the lodge accommodation of the Employer exists (and provided that the Personnel of the Consultants or the Sub-consultants visit that place in connection with the Project) under the same terms and conditions as the Employer's staff is entitled.

3. Security for Personnel

The Employer shall make necessary arrangements to provide security for personnel of the Consultants at the work site.

4. Counterpart Personnel to be made available to the Consultants

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Not Applicable.

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Appendix G

(INTEGRITY PACT)

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS. 10.00 MILLION OR MORE

Contract No. _____ Dated _____
Contract Value: _____
Contract Title: _____

..... [name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Employer:

Quaid-e-Azam Thermal Power
(Pvt.) Limited (QATPL)

Signature: _____

[Seal]

Name of Consultants:

National Engineering Services

Pakistan (Pvt.) Limited (NESPAC)

Signature: _____

[Seal]

AAMIR ASHRAF
General Manager / Head
(Power & Mechanical Division)
NESPAC, Nespak House,
Lahore.

Appendix H
Payment Schedule

1000-1000 MW PLANT BASED COMBINED CYCLE POWER PLANT AT RING
PA PAYMENT SCHEDULE

ITEM	DESCRIPTION	REVENUE (\$/HR)		LOCAL TECHNICAL SERVICES (\$/HR)		FOREIGN TECHNICAL SERVICES (\$/HR)		OPERATING EXPENSES (\$/HR)		FINANCIAL INCENTIVES (\$/HR)		TAX INCENTIVES (\$/HR)		TOTAL (\$/HR)
		20%	40%	0%	0%	20%	40%	20%	40%	20%	40%	20%	40%	
A	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
B	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
C	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
D	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
E	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
F	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
G	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
H	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
I	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
J	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
K	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
L	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
M	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
N	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
O	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
P	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
Q	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
R	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
S	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
T	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
U	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
V	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
W	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
X	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
Y	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000
Z	PLANT 1000-1000 MW	80,000,000	160,000,000	0	0	0	0	0	0	0	0	0	0	160,000,000

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¹⁷ Foreign Companies, Capital Contribution and Financial Condition disclosures have been revised from 106 GST to 107 RESNAE and listed. Additional disclosures have been removed from the reflective payment to view of planholder of vehicles in 20C Contract.

¹⁸ The Policy at 13.2 "Total Loss" has been revised from the reflective payment to view of planholder of vehicles in 20C Contract.

¹⁹ A future projects are underway, including disclosure of 10% will be applied on such rates more than on the services of items listed below.

²⁰ On October 1st, 2015, for each subsequent year or expiration of 12 months per annum will be applicable as of Local Currency (LCC) and 1% on Average Currency (Average LCC).

²¹ As of April 2015, the contract was revised from the sub-contractors to be included in the present regulatory agreement.

Appendix I
Summary of Cost of Consultants and Associated Sub-
Consultants

1000-1600 MW RING BASED COMBINED CYCLE POWER PLANT AT BHIKKI
SUMMARY OF COST OF CONSULTANTS

Sr. No.	Description	Estimated Time Duration	Man-Months	Lump Sum Price							Total
				NESPAK (PKR)	LOCAL TECHNICAL SERVICES (PKR)	FOREIGN TECHNICAL SERVICES (EUR)	INSURANCE SERVICES (USD)	FINANCIAL SERVICES (PKR)	LEGAL SERVICES (PKR)	TAX SERVICES (PKR)	GST @15% levied by Government of Punjab on Services by Technical, Scientific & Engineering Consultants
A.	PART-1 SERVICES (Sum 1.0 + ... + 10.0)			PKR 72,042,340	PKR 300,000	EUR 168,444	USD 65,000	PKR 33,000,000	PKR 33,000,000	PKR 400,000	PKR 35,711,925
1.0	Preparation of Feasibility Study	5 Months		PKR 25,763,372	PKR 0	EUR 200,688	USD 13,800	PKR 13,800,000	PKR 7,980,000	PKR 0	PKR 11,907,428
2.0	Preparation of Pre-qualification Documents	3 Weeks		PKR 2,153,989	PKR 0	EUR 23,722	USD 0	PKR 810,800	PKR 834,800	PKR 0	PKR 1,046,523
3.0	Evaluation of Pre-qualification Applications	2 Weeks		PKR 270,714	PKR 300,000	EUR 2,876	USD 0	PKR 86,100	PKR 82,100	PKR 0	PKR 181,123
4.0	Preparation of Tender Documents	2 Months		PKR 12,510,505	PKR 0	EUR 106,433	USD 0	PKR 8,250,000	PKR 8,750,000	PKR 0	PKR 1,111,245
5.0	Evaluation of Bids	1 Month		PKR 17,948,730	PKR 0	EUR 124,444	USD 0	PKR 7,500,000	PKR 5,200,000	PKR 400,000	PKR 7,174,037
6.0	Award of Contract	1 Month		PKR 3,876,704	PKR 0	EUR 07,987	USD 0	PKR 1,800,100	PKR 1,143,100	PKR 0	PKR 1,251,289
7.0	Preparation of Building Documents for O&M	1.5 Months		PKR 780,420	PKR 0	EUR 42,856	USD 15,800	PKR 330,000	PKR 230,000	PKR 0	PKR 1,224,887
8.0	Evaluation of Bids for O&M	1 Month		PKR 780,420	PKR 0	EUR 80,876	USD 0	PKR 330,000	PKR 230,000	PKR 0	PKR 1,300,820
9.0	Attendance to the Client during Award of O&M Contract	1 Month		PKR 780,420	PKR 0	EUR 18,318	USD 0	PKR 330,000	PKR 230,000	PKR 0	PKR 552,420
10.0	Preparation of Project Documents	3.4 Months		PKR 8,243,387	PKR 0	EUR 51,900	USD 16,800	PKR 2,840,000	PKR 1,840,000	PKR 0	PKR 2,809,203
B.	PART-2 SERVICES (Sum 1.0 + 2.0 + 3.0 + 4.0)		1,820.40	PKR 307,958,644	PKR 30,000,000	EUR 856,978	USD 30,400	PKR 13,800,000	PKR 17,500,000	PKR 1,800,000	PKR 60,871,038
1.0	Project Management	27 Months from Commencement of EPC Contract	142.40	PKR 71,133,844	PKR 0	EUR 0	USD 0	PKR 2,286,000	PKR 2,083,500	PKR 0	PKR 18,842,807
2.0	Design Review	12-14 Months	334.00	PKR 72,441,800	PKR 12,344,100	EUR 183,811	USD 13,200	PKR 3,378,000	PKR 4,307,500	PKR 600,000	PKR 15,871,459
3.0	Construction Supervision	27 Months from Commencement of EPC Contract	1,841.00	PKR 208,271,000	PKR 18,084,000	EUR 571,079	USD 15,200	PKR 7,560,000	PKR 8,038,000	PKR 400,000	PKR 392,262,006
4.0	Services during O&M	2 Years from COO of Combined Cycle	63.00	PKR 5,648,300	PKR 0	EUR 65,999	USD 0	PKR 270,000	PKR 351,000	PKR 400,000	PKR 1,537,066
C.	Unrecoverable Costs (Per B)			PKR 14,565,000	PKR 0	EUR 0	USD 0	PKR 0	PKR 0	PKR 0	PKR 0
D.	Grand Total (A + B + C)			PKR 340,396,224	PKR 30,324,100	EUR 1,948,423	USD 78,000	PKR 46,600,000	PKR 46,600,000	PKR 2,600,000	PKR 122,433,364
											PKR 153,446,866

NOTES: 1. Foreign Consultants, Legal Consultant and Financial Consultant milestones have been framed without GST, with the assumption of direct disbursement to concerned subconsultants. However, the provision is available in the contract. If so required such milestone shall be adjusted @ 16% on account of GST.
2. NESPAK and Local Technical Consultant milestones have been framed with 16% GST.
3. The Price of Rs. 63.2 Million have been removed from the milestone payment in view of provision of vehicles in EPC Contract.
4. If other projects are awarded, accordingly discount of 10% will be applied on each mile alone other than on the services of firms hired by NESPAK, adjustment will be made on the final payment.
5. Quoted Cost is valid till July 01, 2015. For each subsequent year an escalation of 12% per annum will be applicable in case of Local Currency (PKR) and 4% on Foreign Currency (Euro/USD).
6. All costs other than retainer cost for the sub-consultants shall be reimbursed by the Employer as per actual which is beyond the present consultancy agreement cost.

Sr#	Equipment/Unit	Manufacturer	Vendor Address	Activity	Total Number of Inspection Tests for Region
1	France				
	GCB	ALSTOM		FAT	
	GT Unit 1	General Electric	Belfort, France	Rotor Final Balance Full Speed No Load	28
	GT Unit 2	General Electric	Belfort, France	Rotor Final Balance Full Speed No Load	
	Steam Turbine Rotor	ALSTOM		Witness, Balance and	
	Condenser W boxes Rubber Lining	GE	Belfort, France	Overspeed Tests Rubber Lining	
2	China				
	*STG Synchro Protection Panel	XD-GE		FAT	
	ST Generator Rotor	XD-GE		Balance, Overspeed	
	ST Generator Complete	XD-GE		Final Tests	
	Disconnect and Earthing Switches 500 kV Substation	ABB Siemens Alstom		FAT	
	MV Switchgear	Schneider		FAT	
	Hydrogen Generation Plant			FAT	
	Nitrogen Generation Plant			FAT	
	GSU Transformer -GT Unit 1	Siemens ABB	Chongqing	FAT	120
	GSU Transformer ST	Siemens ABB		FAT	
	Unit Transformer Unit 1	Siemens ABB		FAT	
	CT/PT/CVT	Siemens ABB ABB Bailey		FAT	
	DCS			FAT	
	HP Feedwater Pumps, 1 off	Emerson KSB Shanghai Sulzer Pumps		Performance Test Hydrostatic Test	
	Feedwater tank deaerator	Flowserve			
	HRSG IP drums, blowdown tank	Hangzhou		Hydrostatic Test	
	HRSG LP drums, blowdown tank	Hangzhou		Final Inspection Units	
	HRSG HP drums	Hangzhou		Final Inspection Units	
	HRSG Superheaters	Hangzhou		Final Inspection Units	
	Main Cooling Water pump, 1 off	Hangzhou KSB Shanghai Sulzer Pumps		Hydrostatic test Performance test	
3	United Kingdom				
	Emergency Diesel Generator	Broadcrown Cummins		FAT	10
4	United States of America				
	Protection Devices 500 kV Substation	Alstom		FAT	
	Steam Turbine Rotor	GE		Witness, Balance and	
	Safety Valves	Dresser Crosby		Function test, seat leakage test, check	24
	Gas Compressors	Atlas Copco Camron(Ingers)		FAT	
5	Germany				
	Gas Compressors	MAN		FAT	4
6	Korea				
	MCW pump, 1 off	Hyosung		Performance Test	4
7	Japan				132
	GCB	Mitsubishi		FAT	4
8	Switzerland				
	GCB	ABB		FAT	4
Total					198

BREAKDOWN OF ADMINISTRATIVE EXPENSES

Schedule K

	USD
Administrative expenses during construction for (36 months)-rounded off	18,000,000
Administrative expenses during construction for (36 months)	17,827,936
Administrative expenses during construction for (36 months)	16,685,441
(36 months represents 27 months construction period and 6 months prior to Notice To Proceed and 3 months as provision for project timeline over run)	
Purchase of vehicles, computers, ERP etc. (one time)	1,142,495
Administrative expenses per annum (12 months)	5,561,814
Purchase of vehicles, computers, ERP etc. (one time)	1,142,495

	Rs
Administrative expenses per annum (12 months)	583,990,424
Purchase of vehicles, computers, ERP etc. (one time)	119,962,000

Admin expenses per annum	Rs
Employee Costs	360,052,260
Rental Agreements	23,227,880
Entertainment	6,000,000
Printing and Stationery Costs	9,600,000
Communications Costs	6,000,000
Electricity & Generator Fuel	18,000,000
Vehicles Running & Maint.	14,952,300
Travelling, Boarding and Lodging	18,577,920
Auditors remuneration	4,600,000
Training and Fees	60,080,064
Computer Software / Hardware	6,000,000
Repair & Maintenance / Services	3,000,000
Group life & health insurance	8,000,000
Security & surveillance	3,900,000
PR campaign, foundation stone ceremony	30,000,000
Miscellaneous Expenses	12,000,000
Total	583,990,424

Purchase of vehicles, computers, ERP etc.	NOTE	Rs
Automobiles & Motorcycles	1	53,652,000
Computerization - Software / Hardware / Networking	2	10,010,000
	3	30,000,000
Communication equipment	4	5,500,000
Printers & faxes etc.	5	4,600,000
Office Furniture	6	9,000,000
Office & Safety Equipment	7	6,200,000
Kitchen Appliances	8	1,000,000
Total		119,962,000

NOTES:

- 1 Represents purchase of 6 Vigo, 6 Altis, 1 GLI, 2 Civic, 2 Swift, 3 Cultus, 10 bikes and registration cost of all vehicles
- 2 Represents purchase of 58laptops, desktops, network drives, LED, LCDs etc.
- 3 Represents cost of SAP, Oracle etc.
- 4 Represents cost of telephone exchange, network hub etc.
- 5 Represents cost of printers, fax, photocopier etc.
- 6 Represents cost of chairs, tables, sofas, partitions, cabinets etc.
- 7 Represents cost of fire extinguishers, safety alarm system, heaters etc.
- 8 Represents crockery items etc.

Month wise break up of admin. expenditure

Sr #	Description	NOTE	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Total
1	Employee Costs	1	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	30,004,355	360,052,227
2	Rental Agreements	2	1,556,490	6,106,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	1,556,490	23,227
3	Entertainment	3	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	6,000
4	Printing and Stationery Costs	4	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	9,600
5	Communications Costs	5	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	6,000
6	Electricity & Generator Fuel	6	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	18,000
7	Vehicles Running & Maint.	7	1,243,050	1,276,750	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	1,243,050	14,953
8	Travelling, Boarding and Lodging	8	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	1,548,160	16,577
9	Auditors remuneration	9	2,250,000				500,000		1,350,000						4,600
10	Training and Fees	10	2,410,008	2,410,008	2,410,008	2,410,008	10,200,000	2,410,008	10,200,000	2,410,008	10,200,000	2,410,008	10,200,000	2,410,008	60,096
11	Computer Software / Hardware	11	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	6,000
12	Repair & Maintenance/ Services	12	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	3,000
13	Group life & health insurance	13			4,000,000				4,000,000						6,000
14	Security & surveillance	14	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	3,900
15	PR campaign, foundation stone ceremony	15								30,000,000					30,000
16	Miscellaneous Expenses	16	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	12,000
Total			44,367,063	46,722,763	46,137,063	42,137,063	50,427,055	42,137,063	53,927,055	73,467,063	49,927,055	42,637,063	49,927,055	42,137,063	593,996

NOTES:

- 1 refer employee cost break up
- 2 30% increase in rent of office building of Rs. 1,197,300 and 30% increase in Rs. 3,500,000 land rent estimated at Rs. 500,000 per month for meetings with consultants, foreign consultants etc
- 3 includes paper rims, toners, cartridges, box files, stationary items etc
- 4 includes internet connectivity costs, email hosting etc.
- 5 it represents electricity and generator cost for office
- 6 includes fuel of official cars, 5 pool cars and maintenance of vehicles
- 7 includes air fare, boarding & lodging costs, fuel for outstation travelling etc.
- 8 includes fee for annual audit, review assignments
- 9 includes local trainings in LUMS for top management and managers and 4 foreign trainings for technical staff and top management
- 10 includes purchase of ancillary items for computers such as UPS, network ports, adapters, networking cables, routers etc.
- 11 represents minor repair work for office including upkeep of furniture etc.
- 12 represents group insurance premium for life insurance
- 13 represents security charges of security staff deployed at entrance and other security related items such as barred wire, concrete blocks, minor equipment etc.
- 14 represents event cost for foundation stone and other events to be held at achievement of different milestones such as simple cycle operations
- 15 it represents miscellaneous expenses

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Monthly salaries of QATPL staff

Schedule K2

Monthly salaries of QATFC staff		2%		10%		2	
Sr#	Designation	Salaries	Health Care Insurance Premium	Medical OPD (Annual Budget)	gratuity	Provident fund	Bonus
		Rs	Rs	Rs	Rs	Rs	Rs
	NOTES		1	2	3	4	5
1	Chief Executive Officer	2,307,000	46,140	25,000	192,250	230,700	4,614,000
2	Chief Operating Officer	1,950,000	39,000	25,000	162,500	195,000	3,900,000
3	Chief Legal Officer	825,000	16,500	25,000	68,750	82,500	1,650,000
4	Chief Technical Officer	1,950,000	39,000	25,000	162,500	195,000	3,900,000
5	GM Technical	1,350,000	27,000	25,000	112,500	135,000	2,700,000
6	Chief Financial Officer	1,950,000	39,000	25,000	162,500	195,000	3,900,000
7	Chief Strategy Officer	1,350,000	27,000	25,000	112,500	135,000	2,700,000
8	Dy. CFO / GM Finance	1,425,000	28,500	20,000	118,750	142,500	2,850,000
9	Dy. CFO / GM Accounts	1,200,000	24,000	20,000	100,000	120,000	2,400,000
10	General Manager Admin / HR	640,500	12,810	20,000	53,375	64,050	1,281,000
11	Company Secretary	337,500	6,750	20,000	28,125	33,750	675,000
12	Manager Contracts	300,000	6,000	20,000	25,000	30,000	600,000
13	Manager Legal	262,500	5,250	20,000	21,875	26,250	525,000
14	Manager Technical	300,000	6,000	20,000	25,000	30,000	600,000
15	Manager Operations	300,000	6,000	20,000	25,000	30,000	600,000
16	Manager Administration	330,000	6,600	20,000	27,500	33,000	660,000
17	Manager Human Resource	262,500	5,250	20,000	21,875	26,250	525,000
18	Manager Security	262,500	5,250	20,000	21,875	26,250	525,000
19	Assistant Manger Operations	150,000	3,000	18,000	12,500	15,000	300,000
20	Assistant Manager O&I	300,000	6,000	18,000	25,000	30,000	600,000
21	Assistant Manger Technical	300,000	6,000	18,000	25,000	30,000	600,000
22	Assistant Manger Contracts	225,000	4,500	18,000	18,750	22,500	450,000
23	Assistant Manger Accounts	150,000	3,000	18,000	12,500	15,000	300,000
24	Assistant Manger Finance	150,000	3,000	18,000	12,500	15,000	300,000
25	Assistant Manger Legal	150,000	3,000	18,000	12,500	15,000	300,000
26	Assistant Manger Corporate Affairs	150,000	3,000	18,000	12,500	15,000	300,000
27	Assistant Manger Administration	150,000	3,000	18,000	12,500	15,000	300,000
28	Assistant Manger Human Resource	150,000	3,000	18,000	12,500	15,000	300,000
29	Assistant Manger I.T	150,000	3,000	18,000	12,500	15,000	300,000
30	Personal Secretary to CEO	135,000	2,700	18,000	11,250	13,500	270,000
31	Store Officer	52,500	1,050	18,000	4,375	5,250	105,000
32	Support Staff (30 Employees)	1,080,000	21,600	225,000	90,000	108,000	2,160,000
33	Driver-1	30,000	600	15,000	2,500	3,000	60,000
34	Driver-2	30,000	600	15,000	2,500	3,000	60,000
35	Driver-3	30,000	600	15,000	2,500	3,000	60,000
36	Driver-4	30,000	600	15,000	2,500	3,000	60,000
37	Driver-5	30,000	600	15,000	2,500	3,000	60,000
38	Driver-6	30,000	600	15,000	2,500	3,000	60,000
39	Driver-7	30,000	600	15,000	2,500	3,000	60,000
40	Naib Qasid-1	27,000	540	15,000	2,250	2,700	54,000
41	Naib Qasid-2	27,000	540	15,000	2,250	2,700	54,000
42	Naib Qasid-3	27,000	540	15,000	2,250	2,700	54,000
43	Naib Qasid-4	30,000	600	15,000	2,500	3,000	60,000
44	Naib Qasid-5	30,000	600	15,000	2,500	3,000	60,000
45	Naib Qasid-6	30,000	600	15,000	2,500	3,000	60,000
46	Naib Qasid-7	30,000	600	15,000	2,500	3,000	60,000
47	Janitor-1	28,500	570	15,000	2,375	2,850	57,000
48	Janitor-2	28,500	570	15,000	2,375	2,850	57,000
49	Janitor-3	28,500	570	15,000	2,375	2,850	57,000
Monthly Total		21,091,500	421,830	1,109,000	1,757,625	2,109,150	42,183,000

- S:
- 1 Healthcare insurance premium is assumed to be 2% of monthly salary
 - 2 Medical OPD is assumed to be reimbursed with maximum monthly limit
 - 3 Gratuity is assumed to be 1 salary for each completed year of service
 - 4 Provident fund contribution by the Company is 10% of salary per month
 - 5 2 bonuses are assumed to be paid per annum during construction period

SECURITY AND SURVEILLANCE COST**Schedule L**

Security and surveillance cost during construction for (33 months)-rounded off **USD**
12,500,000

Security and surveillance cost during construction for (33 months) **12,711,653**
(33 months represents 27 months construction period and 3 months prior to Notice To Proceed and 3 months as provision for project timeline over run)

Security and surveillance cost per annum (12 months) **4,622,419**

Security and surveillance cost per annum **Rs**
485,354,026

Security and surveillance cost per annum

Sr#	Description	NOTE	Rs
1	Security personnel costs	1	323,539,776
2	Vehicles Running & Maintenance	2	22,758,750
3	Security Staff Food	3	39,310,500
4	Arms & ammunition	4	19,745,000
5	Costs of security barracks, bunkers, cameras etc.	5	50,000,000
6	Security equipment purchase & service	6	30,000,000
Total			485,354,026

NOTES:

- 1 Security personnel includes cost of 359 security personnel working in 3 shifts comprising mainly of Police personnel, Rangers and SSG commandos with 20% overheads and 16% provincial GST on services.
- 2 Represents annual fuel cost of 6 Hilux Vigo, 10 motorcycles for 12500 liters per month and repair cost at 75% of fuel cost.
- 3 Represents food cost of 359 security personnel @300 per head for 365 days
- 4 It represents one time arms & ammunition cost of 359 personnel @ 55,000 per person.
- 5 It represents costs of security barracks, bunkers, cameras, search lights, watch towers, alarm systems, fencing etc.
- 6 It represents cost of walk through doors, detectors, control room, surveillance equipment, walk through gates etc.

Security Surveillance Cost

Sr. #	Designation	No. of Positions	General Duty	Shift 1	Shift 2	Shift 3	Monthly Rate	Monthly personnel cost
1	SP	1	1				125,000	125,000
2	Inspector	2	1				100,000	200,000
3	Sub inspector	8	1				80,000	640,000
4	Assistant sub inspector	12	3	3	3	3	60,000	720,000
5	Head constable	16	4	4	4	4	45,000	720,000
6	Constable	290	50	80	80	80	40,000	11,600,000
7	Office Boy	6	3	1	1	1	20,000	120,000
8	Drivers	12	6	2	2	2	20,000	240,000
9	Cook	7	1	2	2	2	22,000	154,000
10	Janitor	5	2	1	1	1	20,000	100,000
11	Rangers	60					45,000	2,700,000
12	SSG commandos	30					60,000	1,800,000
13	Head office security	10					25,000	250,000
	Total	359	72	93	93	93	637,000	19,369,000

Security Agency overheads @ 20% of Personnel cost

3,873,800

23,242,800

Provincial sales tax @16%

3,718,848

Per month security personnel cost

26,961,648

Per annum security personnel cost

323,539,776

BREAKDOWN OF TESTING AND COMMISSIONING COST

Full Load Gas	MW	1,156.69
Gas Rate (LHV)	US\$/MMBTU	7.75
	USD/RTU	0.00

Full Load of 1 GT - Gas (Net)	MW	358.51
Full Load of 1 GT - Gas (Net)	KW	358,506
Max Efficiency (Single Cycle)	%age	39.05%
Max Efficiency (Combined Cycle)	%age	60.11%
		Efficiency for Siemens

TESTS USING GAS FUEL

Fuel Gas	Days	Load	Load (kW)	Eff. Factor	Eff.	Heat Rate(Btu)	Per Unit Cost (USD)/kWh	Load Factor	Total Cost (USD)	Comments
TESTS FOR SINGLE CYCLE										
First Fire Tests (Pre- & Post-Synchronization)	Days	25%	89626.500000	50%	19.53%	17475.03	0.14	0.70	2,448,082	Includes startups, full speed no load operation and intermittent operation on lower loads. Also, the tests under schedule 6.2 (1 test prior to Synchronization) of PPA have been considered herein attached as Annex.
Performance Test	Days	50%	179253.000000	90%	31.24%	10521.90	0.06		1,092,894	Assumed that the complete fuel cost is recoverable against units generated
Full Run, Reliability & Base Load Test	Days	100%	358506.000000	100%	39.05%	6737.52	0.07		4,663,013	Assumed that the complete fuel cost is recoverable against units generated
									9,203,989	

TESTS FOR COMBINED CYCLE

Full Load (Net)	MW	1,156.675000									
Full Load (Net)	KW	1,156.675									
Combined Cycle Performance / Trial Run & Reliability Test Run	Days	100.000000	100%	1156675.000000	100%	60.11%	5676.26	0.04		12,277,037	Assumed that the complete fuel cost is recoverable against units generated
Steam Blowing (including boiler chemical cleaning, safety valve adjustment, steam blowing, main steam pipe blowing, fuel chargerover tests, interlock preaction tests)	Days	25%		289468.750000	50%	30.05%	11352.52	0.09	0.50	4,561,389	It is assumed that during steam blowing, the machine will be on FSNL most of the time and intermittently be on part load (of about 25% that has been assumed for the sake of calculation). Tests may take about 20-25 (4+15+5) days but a fuel cost of only 15 days is being claimed)
										16,798,425	

TESTS USING HSD FUEL OIL

Full Load of 1 GT - HSD (Net)	MW	357.114									
Full Load of 1 GT - HSD (Net)	KW	357.114									
Max Efficiency - HSD	%age	36.97%									
HSD Rate	Rs/Ltr	75.79									
Fuel Oil - HSD	Load	Load (KW)	Eff. Factor	Eff.	Heat Rate(Btu)	Per Unit Cost (USD)/KWh	Load Factor	Total Cost (USD)			
First Fire Tests (Pre & Post Synchronization)	Days	8.000000	25%	89.278.50	50%	19.44%	15528.07	0.38	0.70	4,553,745	Includes startups, full speed no load operation and intermittent operation on lower loads. Also, the tests under schedule 6.2 (1 test Prior to Synchronization) of PPA have been considered herein attached as Annex.
Performance Test	Days	3.000000	100%	357.114.0	100%	36.87%	9620.00	0.07		1,917,765	Assumed that the complete fuel cost is recoverable against units generated

Full Load - Combined Cycle on HSD	MW	1039.944000								
Full Load Combined Cycle on HSD	KW	1,039,944								
Combined Cycle Performance Reliability Test	Days	100%	1039944.000000	100%	60.02%	5686.67	0.12		11,815,768	Assumed that the complete fuel cost is recoverable against units generated

57,965,211.19

COST OF ELECTRICITY BACKSHEED

Backfeed Electricity (Estimated) GWh	5,000,000
Rate of Electricity (Rs/MWh)	18.000000
Estimated Cost (Rs.)	90,000,000
Estimated Cost (USD)	900,000

LTSA Annual Fix Cost (USD)	8,352,003
LTSA Monthly Fix Cost (USD)	696,003
LTSA Cost for 1 month, if tariff is available (1 month mobilization before COD)	696,003
LTSA Cost for 2 months waiting period (from SC to CC Conversion)	1,392,006
Assuming DGM Annual Fix Cost (USD)	5,960,460.00
O&M Cost for 2 months mobilization has been assumed 4 months prior to COD	2,320,000.00
O&M Cost for 2 months waiting period (from SC to CC Conversion)	1,60,000.00
Total O&M and LTSA Cost (USD)	5,568,500.00
Electricity Cost for Back feed from National Grid (USD)	900,000
Total Fuel Cost for Both GT's	23,166,432
Overall Total Cost (Fuel Fuel Cost for Both GT's + Total O&M & LTSA Cost)	28,634,432

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O&M COST COMPARISON FOR SELECTED PROJECTS

SCHEDULE

COMPARISON OF O&M COST WITH VARIOUS SIMILAR PLANTS BEING OPERATED ON GAS IN PAKISTAN

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Reference Document (Approved Tariffs from NEPRA's website)	Uch-II (NEPRA/TRF-122UCH-II-2008)	K-Electric (BQPS-2) (NEPRA/TRF-119/PPBQL-2008)	Foundation (Fauji Foundation) (NEPRA/TRF-48/FPDCL-2008)	ENGRO (NEPRA/TRF-72IEEL-2007)	KAPCO-II	Average assumed BHIKI
Compared Example	CC (Original)	CC (Original)	CC (Original)	CC (Original)	CC (Present)	
Turbine Type	GE Frame 9E	GE Frame 9E	GE Frame 9E	GE Frame 9E	GE Frame 9E	
Gross Power Output	404.00	404.00	560.00	185.00	217.30	1,180
Load Factor	80%	80%	90%	N/A	N/A	9
Efficiency	48.67%	48.67%	50.00%	N/A	N/A	60.1
Fixed O&M Fee						
Variable O&M Fee						
Currency Conversion Rate						
Fixed O&M Fee (Rs./kWh)	0.1906	0.4115	0.1789	0.2136	0.1462	0.1820
Variable O&M Fee (Rs./kWh)	0.1496	0.3230	0.3322	0.1901	0.2298	0.3026
Total (Fixed+Variable)	0.3402	0.7345	0.5111	0.4037	0.3760	0.4844
Fuel	Gas	Gas	Gas	Gas	Gas	Gas
Reference Year	2,009.00	Interpretation 2014	2,008.00	Interpretation 2014	2,008.00	Interpretation 2014
Remarks	Only latest variable cost is available. Based on same escalation factor, fixed cost has been estimated.	Only latest variable cost is available. Based on same escalation factor, fixed cost has been estimated.	Only latest variable cost is available. Based on same escalation factor, fixed cost has been estimated.	Only latest variable cost is available. Based on same escalation factor, fixed cost has been estimated.	Only latest variable cost is available. Based on same escalation factor, fixed cost has been estimated.	Fixed Cost amount of Rs. 0.182/kWh is an interpreted assumption.

Notes:

Variation has been observed in O&M costs for plant operating on gas which are in the range of 0.5 - 0.7.

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NATIONAL TRANSMISSION & DESPATCH CO. LTD

General Manager Planning Power, NTDCL

No. GMPP/CEMP/TRP-376/2895-46


Dated: 14-07-2015

Shamsul Aziz
Chief Financial Officer
Quad-e-Azam Thermal Power (Pvt.) Ltd.
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Lahore.
Fax #: 042-35790366

Subject: Confirmation of Power Evacuation from 1000-1500 MW Quaid-e-Azam Thermal Power (Pvt.) Ltd power plant to be established at Bhikki, Punjab.

Ref: Your office letter dated 13-07-2015.

With reference to above, it is intimated that the proposed interconnection scheme for RLNG based Combine Cycle Power Plant at Bhikki can evacuate 1400 MW Net power capacity. It is further intimated that power flow on the transmission network does not depend upon Gross capacity of the power plant but on the Net capacity.


14/07/2015
(R.S. Rehan)

General Manager Planning Power

CC:

- Managing Director, NTDC, 414-WAPDA House Lahore.
- Master File (MP)

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SCHEDULE P

CHECKLIST CONFIRMING THE COMPLIANCE OF INFORMATION/DOCUMENTS REQUIRED UNDER NEPRA TARIFF (STANDARDS & PROCEDURES) RULES, 1998

Rule No.	Information/Document Required	Compliance
3(2)(a)	Name and address	Section 1
	Grounds giving rise to petitioner's interest	Section 2
3(2)(b)	Grounds and Facts of the Petition	Section 3
3(2)(c)	Relief Sought	Section 4.2
3(2)(d)	Proposed Tariff	Section 7
3(2)(f)	Summary of Evidence	Section 4.3
3(8)	Affidavit	Pg. 3
	Board Resolution	Pg. 2