بسم الله الرحمن الرحيم

In the Name of Allah,
the Most Beneficent
the Most Merciful

IMPORTANT NOTICE

This Preliminary Information Memorandum (PIM) is provided to the recipient solely for information purposes in order to assist the recipient and its advisors in assessing whether they wish to consider expressing an interest in the setting up of any of the three proposed power plants (Projects) at Uch, Faisalabad and Lahore, the details of which are more specifically contained in the PIM herein.

This PIM is being furnished by the Private Power & Infrastructure Board (PPIB) on behalf of the Government of Pakistan (Government) solely for use by prospective investors considering whether to invest in any of the three Projects.

By accepting this PIM the recipient agrees that it will cause its directors, officers, employees and representatives to use the PIM and such information only to evaluate the proposed Projects. This PIM does not contain or purport to contain all the information that an investor may desire. In all cases, interested parties should conduct their own investigation and analysis of the proposed Projects and of the data set forth in this PIM. Neither the PPIB nor any other agency of the Government or any of its other representatives make any representation, express or implied, or warranties as to the accuracy or completeness of this PIM and shall have no liability for this PIM or for any other written or oral communication transmitted to the recipient or for any of the costs or expenses incurred by the recipient in the course of the recipient's evaluation of the proposed three Projects. Neither the Government nor PPIB will be liable to reimburse or compensate the recipient for any cost or expenses incurred by the recipient in evaluating or acting upon this PIM or otherwise in connection with the proposed setting up of the Projects as contemplated herein.

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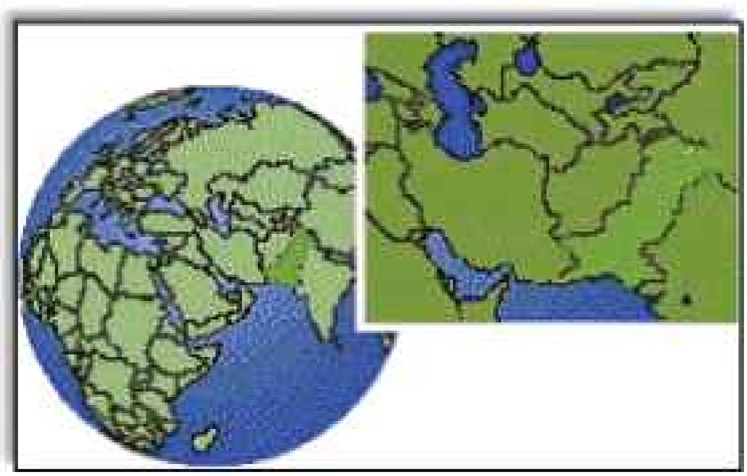
1. PAKISTAN

1.1 Introduction

Pakistan, a progressive nation with a buoyant economy, is situated in one of the most important economic zones of the world and offers an excellent combination of natural and human resources for the prospective investor.

Spread over almost 800,000 square kilometers, with a population of approximately 150 million, the country is located on the crossroads of Africa, Middle East and Central Asia. Pakistan emerged on the map of the world as an independent sovereign state on 14th August 1947, as a result of the division of former British India. It lies between 23-35 to 37- 05 north latitude and 60-50 to 77- 50 east longitude. It touches the Hindukush mountains in the north and extends from the Pamirs to the Arabian Sea. It is bounded by Iran in the west, Afghanistan in the north-west, India in the east and south east and Arabian Sea in the south. There is a common border with China alongside Gilgit and Baltistan in the north.



It is divided into four provinces viz. Sindh, Punjab, North West Frontier Province and Balochistan. It consists of such physical regions as a) the western offshoots of Himalayas which cover its northern and north western parts of which the highest peak K-2 rises to 8611 meters above sea level; b) the Balochistan plateau c) The Potohar Plateau and salt range and d) The Indus plain, the most fertile and densely populated area of the country. It gets its sustenance from the Indus river and its tributaries.

Climatically, Pakistan enjoys a considerable measure of variety. North and north western high mountainous ranges are extremely cold in winter while the summer months of April to September are very pleasant. The plains of the Indus valley are extremely hot in summer with a cold and dry weather in winter. The coastal strip in the South has a moderate climate. There is a general deficiency of rainfall. In the plains annual average ranges from 16 centimeters in the northern parts of lower Indus plain to 120 centimeters in the Himalayan region. Rains are monsoonic in origin and fall late in summers. Due to the rainfall and high diurnal range of temperature, humidity is comparatively low. Only the coastal strip has high humidity. The country has an agricultural economy with a network of canals irrigating a major part of its cultivated land. Wheat, cotton, rice, millet and sugar cane are the major crops. Among fruits: mangos, oranges, bananas and apples are grown in abundance in different parts of the country. The main natural resources are natural gas, coal, salt and iron. The country has an expanding industry. Cotton, textiles, sugar, cement, and chemicals play an important role in its economy. It is fed by vast hydroelectric power.

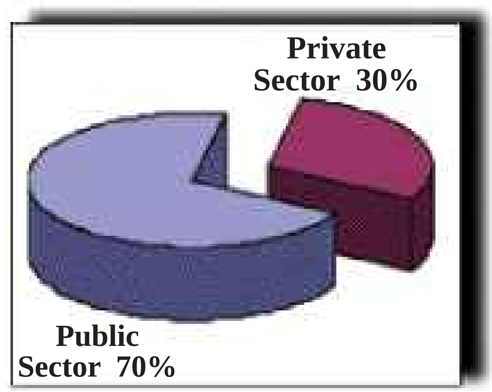
Urdu is the national language and is used as a medium of understanding throughout the country. English is commercial language used by the Government and private sector as a medium of communication and it is widely understood in the country. Pakistan is culturally divided into four bilingual provinces. Punjabi is spoken in the Punjab, Sindhi in Sindh, Pashto in NWFP, and Balochi in Balochistan. The country comprises of a vast area that was the great center of ancient civilizations of the world. Its historical sites beginning with stoneage to Twentieth Century A.D are a mirror of the life of its people who are by nature simple, virile, hospitable and hard working. Ancient sites excavated in Taxila, Harappa, and Moenjodaro speak volumes for Pakistan rich cultural background dating back to 3,000 B.C.

1.2 Economic Overview (2004)

- Real GDP grew by 6.5% during FY04 against 5.1% FY03.
- During the first four years (2000 – 04), the real GNP grew at an average rate of 5.4%.
- Industrial Sector growth 13.1%.
- Service Sector growth 5.2%.
- Agriculture Sector growth 2.3%.
- Per capita income in dollar terms increased by 12% from $582 to $652.
- Exports increase of over 8% to US$12 billion.
- Continued increases in Pakistan's foreign exchange reserves that stood at $12.505 billion.

2 POWER SECTOR IN PAKISTAN

The generation, transmission, distribution and retail supply of electricity in Pakistan is presently undertaken by two vertically integrated public sector utilities, with significant contribution to generation from various private Independent Power Producers ("IPPs"). These utilities are the Water and Power Development Authority ("WAPDA") and the Karachi Electric Supply Corporation ("KESC"). WAPDA supplies power to all of Pakistan, except the metropolitan city of Karachi and some of its surrounding areas which are supplied by KESC. The Power Wing of WAPDA is being restructured with the ultimate goal of privatizing it to make Power Sector strong and vibrant through enhancing efficiency to meet the needs of the consumers.



The transmission systems of WAPDA and KESC are interconnected through 220 kV double circuit transmission line. Presently, the total installed electricity generation capacity in the country is about 19478 MW. In the total installed capacity, the share of public sector is around 70%, and the private sector is 30%. The rising share of private sector in electricity generation and presence of some of the leading foreign and local companies in this business, are evidence of Pakistan being an ideal investment destination.

Sr. No.	Voltage Level	Length in Km
1	500 kV	4160
2	220 kV	6125
3	132 kV	25881
4	66 kV	7376
	Total	43542

Table 1: Transmission Lines in Pakistan

Currently, there are 16 IPPs in the country, which have been implemented on a Build, Own and Operate ("BOO") basis, mainly under the private power policy announced by the GOP in 1994. Transmission of electricity takes place at voltages of 500kV, 220kV, 132kV, 66kV and 33kV and distribution to at 11kV. The lengths of the transmission lines of various voltage levels are shown in Table 1

2.1 Forecasted Demand and Supply

Presently, the total electricity generation capacity available in the public and private sector is sufficient to meet the current power demand up to 2005 but after 2005 the gap between demand and supply of electricity start growing rapidly.

The indicative demand and supply position up to year 2010, as provided by WAPDA while preparing the Policy for Power Generation Projects 2002, is shown in Figure 2. It indicates a power shortage of above 5,500 MW by year 2010.

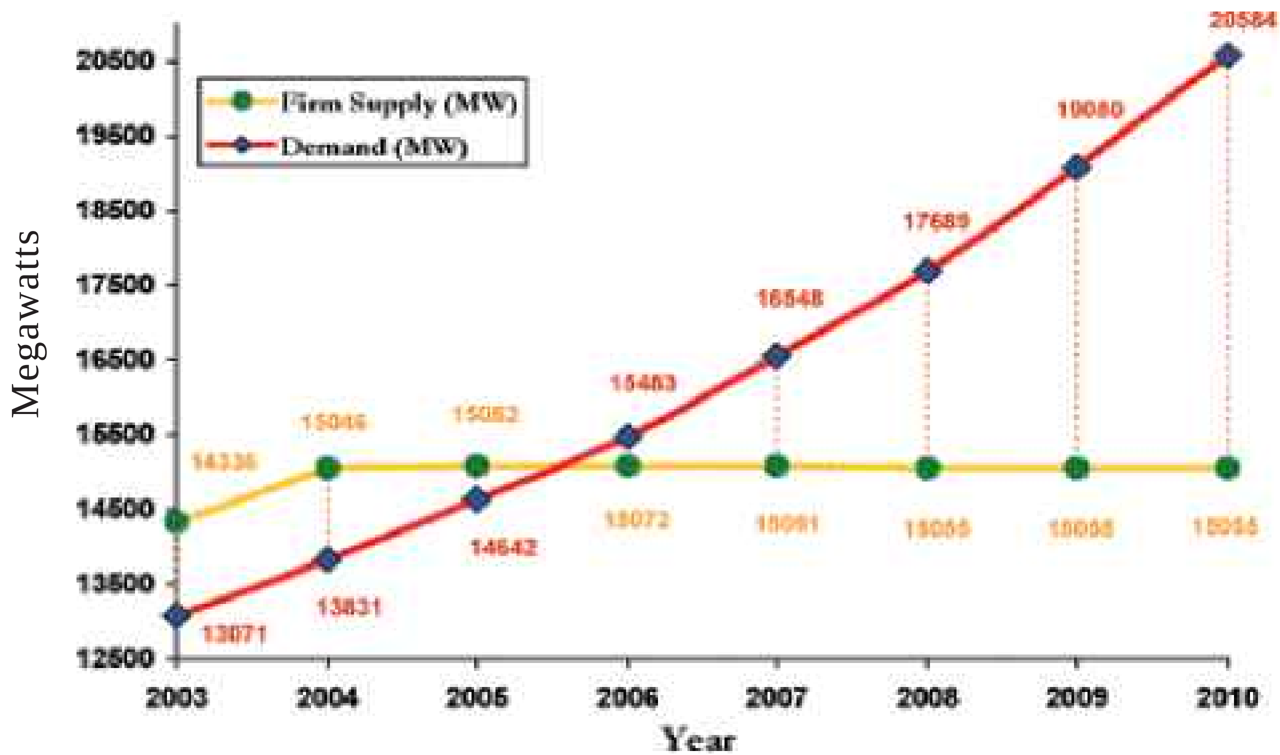


Figure 2: Electricity Demand - Supply Curve of Pakistan (Indicative)

The forecast is based on overall demand-supply projection; however, shortages have already started in the cities of Lahore, Faisalabad and Karachi.

2.2 Restructuring of Power Sector

The GOP has embarked upon a plan to restructure and deregulate the power sector by corporatizing and privatizing the state-owned electricity utilities. Accordingly, WAPDA has been unbundled into: nine (9) distribution companies ("DISCOs") which are successors of former Area Electricity Boards; three (3) generation companies ("GENCOs") with WAPDA's thermal power generation facilities; and a National Transmission and Despatch Company ("NTDC"). KESC has been divested as vertically integrated utility through the sale of 72% shares with management rights.

The transformation of the power sector into a privatized competitive electricity industry will be an evolutionary process over a period of time. Initial steps during the transition period will include active solicitation of offers to build new generation plant, selling power under contracts initially to public sector utilities, that can latter be assigned to corporatized / privatized DISCOs, NTDC or legal successors and assigns of the public sector utilities.

3 Main Players of Pakistan Power Sector

Listed below are the main players in the Pakistan Power Sector:

- Ministry of Water & Power
- Private Power & Infrastructure Board (PPIB)
- National Electric Power Regulatory Authority (NEPRA)
- Water & Power Development Authority (WAPDA)
- National Transmission & Despatch Company (NTDC)
- Distribution Companies (DISCOs)
- Karachi Electric Supply Corporation (KESC)
- Pakistan Atomic Energy Commission (PAEC)
- Independent Power Producers (IPPs)
- Pakistan Electric Power Company (PEPCO)
- Provincial Private Power Cells
- Sindh Coal Authority
- Fuel Suppliers (SNGPL, SSGC, OGDCL, PSO)

The investors will mainly be interacting with PPIB, NEPRA, Power Purchaser and Fuel Supplier.

3.1 PPIB was created in 1994 to act as One-Window organization for the investors to facilitate the implementation of IPPs under various private power policies announced by the GOP from time to time; issue bidding documents and letters of support to the successful bidders, negotiate, execute and administer the implementation agreements and guarantees there under on behalf of the GOP; and monitor the performance of IPPs, power purchaser, fuel suppliers and other government agencies under various contracts.

At its credit PPIB has substantial experience in this process through successful implementation of Private sector Power Projects in Pakistan with a cumulative capacity of 5,577 MW.

Following are the main functions of PPIB:

- To provide “ One-Window” facility to investors in the private power sector by acting as a one stop organization on behalf of all ministries, departments and agencies of the GOP in matters relating to establishing power projects in the private sector.

- To issue Letters of Interest (LOIs) and Letters of Support (LOSs) on behalf of the GOP, and execute Implementation Agreements (IAs).

- To negotiate the IA and provide support in negotiating Power Purchase Agreements (PPAs), Fuel Supply Agreements (FSAs) and other related agreements.

- To provide Sovereign Guarantee to IPPs for the performance of Power Purchaser and provincial / AJK governments.

- To liaise with the concerned local and international agencies for facilitating and expediting the progress of private sector projects.

- To process solicitation of projects and entertain unsolicited proposals for establishing private power projects.

- To assist private investors in obtaining consents and licenses from various agencies of the GOP and Provincial Governments.

- To act as a mediating organization on behalf of the GOP on issues/disputes arising among IPPs, power purchaser, fuel suppliers, Provincial Governments etc.

- To prepare, conduct and monitor litigation and international arbitration for and on behalf of GOP.

- To provide support to formulate, review and update policies and procedures relating to private sector investments in power generation and allied infrastructure.

- To act as a secretariat for consolidating feedback on various policy issues and assist the Ministry of Water and Power in developing and refining private power policies.

3.2 NEPRA is the overall regulator of power sector. The National Electric Power Regulatory Authority (NEPRA) has been established for regulation of electric power generation, transmission and distribution in Pakistan. NEPRA, as far as practicable, protects the interests of consumers and companies providing electric power services.

3.3 Power Purchaser: The power will be purchased by NTDC or DISCOs. The National Transmission and Despatch Company has been accorded license from NEPRA for the transmission and dispatch of power in Pakistan. At present there are nine Distribution Companies (DISCOs). Power may be purchased by any of the DISCOs. These DISCOs have been corporatized, NEPRA has accorded licenses to these DISCOs and they are being privatized.

4. FUEL SUPPLY ARRANGEMENTS

4.1 Pakistan Gas Sector

Pakistan is endowed with substantial reserves of low-cost natural gas, which is distributed throughout the country by two vertical integrated gas transmission and distribution companies which are Sui Southern Gas Company Limited (SSGCL) and Sui Northern Gas Pipelines Limited (SNGPL). A brief description of both these companies is presented as follows:-

4.1.1 Sui Southern Gas Company Limited (SSGCL)

SSGCL is engaged in the business of transmission and distribution of natural gas in the south of the county. SSGCL transmission system extends from Sui in Balochistan to Karachi in Sindh comprising over 2,780 km of high pressure pipeline ranging from 12 - 24" in diameter. The distribution activities cover over 650 towns in the Sindh and Balochistan. An average of about 317,915 million cubic feet (MMCFD) gas was sold in the year ending June 2004 to over 1.6 million industrial, commercial and domestic consumers in these regions through a distribution network of over 22,890 Km.

4.1.2 Sui Northern Gas Pipeline Limited (SNGPL)

SNGPL is the largest integrated gas Company in the country, engaged in the business of transmission and distribution of natural gas besides construction of high-pressure transmission and low-pressure distribution systems.

SNGPL was incorporated as a private company in June 1963 and was converted into a public limited company in January 1964 under the Companies Act 1913 (now Companies Ordinance 1984), with the object of transmission and distribution of natural gas in Punjab and North West Frontier Province. SNGPL transmission system extends from Sui in Balochistan to Peshawar in North West Frontier Province (NWFP) comprising over 5,759.19 Km of Transmission System (Main lines & Loop lines).

The distribution activities covering 142 main towns along with adjoining villages in Punjab & NWFP are organized through 8 regional offices. Distribution system consists of 28,630 km of pipeline and 38,284 Km of service lines (as at June 2004).

SNGPL has 2,340,872 consumers comprising Commercial, Domestic, General Industry, Fertilizer, Power & Cement Sectors. Sales to these consumers were 11,269,843 HM^3 worth 5,871.37 million rupees during June 2004.

4.1.3 Oil & Gas Development Company Limited (OGDCL)

Oil and Gas Development Limited (OGDCL) is the largest exploration and production (E&P) company in the Pakistan oil and gas sector with the majority ownership of the Government of Pakistan (GOP).

OGDCL's annual sales for the year 2004 are 30,085 barrels of oil per day, 717 million cubic feet per day of gas, 281 metric tons per day of LPG and 53 metric tons per day of sulphur. OGDCL's share in the total oil and gas production has been 34% and 21% respectively during the year 2003-04.

OGDCL holds the largest share of oil and gas reserves in the country, being 48 % of total oil and 35% of total gas reserves, amounting to 139.7 million barrels of oil and 9.8 trillion cubic feet of gas as of July 1, 2004.

As of August 2004, OGDCL has drilled 187 exploratory wells and 239 development wells. Since its inception, until June 2004, OGDCL has made 60 discoveries with a success ratio of 1:3. In the last 3 years, OGDCL has been successful in making 10 discoveries -two oil discoveries and eight gas/condensate discoveries.

SNGPL and SSGC are main customers of OGDCL. However, OGDCL has also right to supply its low quality gas to power generation units. Presently four (4) power projects implemented under the 1994 Power Policy, including Uch Power Project, are being supplied from the OGDCL gas fields.

4.1.4 International Gas Pipeline Projects

To meet the growing demand, in addition to exploration of indigenous gas, the feasibility studies of different pipelines from gas rich neighboring are under progress. The main gas pipe line projects under consideration of the Government of Pakistan are as follow:-

a) Turkmeenistan – Afghanistan – Pakistan Gas Pipeline
b) Iran – Pakistan – India Gas Pipeline
c) Qatar – Pakistan Gas Pipeline

It is expected that at least one of the aforementioned projects would be realized and therefore gas would hopefully be available in sufficient quantities to adequately meet the country's growing demand.

4.2 Pakistan Oil Sector

The consumption of petroleum products in the country during 2002-2003 was 16.45 million tones. The demand is expected to increase to 19 million tones by the year 2005- 06 and 20 million tones by the year 2008-09. The existing refinery capacities are about 11 million tons of POL products.

Government of Pakistan (GOP) has taken a leap forward in building up investor's confidence through continuity of the Government Policies and honoring all agreements already in place in its letter and spirit. Accordingly, in year 1999 GOP announced the deregulation of the petroleum sector. This decision was taken with a view to attract foreign investment and to achieve the target of cost efficiency on the one hand and quality services/competitive prices on the other hand through open market competition between the Oil Marketing Companies (OMC).

In the oil marketing sector, five (5) OMCs namely, Pakistan State Oil Company Limited (PSO), Shell Pakistan Limited (SPL), Caltex Oil (Pakistan) Limited (COPL), Attock Petroleum Ltd (APL) and Total Pakistan limited are operating in Pakistan with PSO having largest market share of about 70 % followed by Shell with 20 % market share.

5. INVESTMENT CONSIDERATIONS

5.1 Improved Economic and Investment Climate In Pakistan

Last year, Standard and Poor's upgraded Pakistan's sovereign long-term, foreign currency credit rating from B to single B+, and the local currency, long-term rating to BB from BB-, because of the consistent improvement in the economic reforms of the country. A boost in growth, continued fiscal adjustment and a structural improvement in the external account have meant that while debt declines, business conditions continue to improve in the country.

In the fiscal year 2004, the rate of growth was almost 6.5%, the highest level recorded since 1996 – and economic expansion is set to accelerate further. The average inflation in FY04 was 4.6% while investment growth rate has jumped to a record 22.3%, the highest ever in the recent history of Pakistan, pushing the investment-GDP ratio to 18.1 percent.

The success of the privatization programme has raised over $1billion. The trends are promising and surging economic activity is good news for Pakistan but the greater demands for energy this growth has fuelled, raises fears that a shortfall is on the way. Riding on the strong economic fundamentals in last couple of years, Pakistan's economy has shown improvements in the foreign exchange rate against US dollar that averaged Rs. 62.93 in FY02, Rs. 60.23 in FY03 and Rs. 59.52 in FY04 respectively.

5.2 Strong Demand for Electricity

Demand is now outstripping supply of electricity and by 2010 demand is expected to exceed supply by approximately 5,500 MW.

5.3 Strategic Importance

Adequate power supply is a key to achieving growth targets and each of the three projects is strategically important to the country. Uch II uses gas reserves which are best suited for power generation and it follows the success of Uch I. Faisalabad is an important industrial city and a major contributor to textile exports for the country. Lahore is a large and growing population base and also an important commercial centre.

5.4 Transparent Regulatory Environment

The National Electric Power Regulatory Authority (NEPRA), entrusted with regulation of power sector in Pakistan, has made considerable progress towards the development of the regulatory regime and future market design for the power sector.

5.5 Available Infrastructure

For all three projects, sites have adequate infrastructure. Faisalabad and Uch–II projects will be set up close to the existing operating power plants and the Lahore power project will be installed close to the well developed city of Lahore. Therefore all three project sites are close to water resources and grid stations.

5.6 Predictable Long Term Tariff

A long term tariff of 25 years will be contracted with the power purchaser. The IPPs are not subjected to the market risk for their output. The projects are expected to provide good and stable return on equity.

5.7 Pass through of the fuel cost and additional taxation

Any variation in price of fuel would be passed through to the power purchaser. Similarly any additional taxation over and above the Tariff assumptions is liable to be passed on to the power purchaser.

5.8 Risk of Exchange Rate Variation

To cover the exchange rate variations risk, various tariff components will be indexed for variation in the Pak Rupee and US$ exchange rates.

5.9 Available GOP's Guarantees

GOP guarantees the performance obligation of its entities such as the power purchaser, fuel supplier, etc. and provinces. GOP also provides protection to sponsors and lenders in case of termination of the project.

5.10 Protection against Change in Duties & Taxes and Political Risks

GOP provides protection against changes in taxes & duties and specified "political risks".

6. REGULATORY ENVIRONMENT

National Electric Power Regulatory Authority (NEPRA) has been created to introduce transparent and judicious economic regulation, based on sound commercial principles, in the power sector of Pakistan. NEPRA reflects the country's resolve to enter the new era as a nation committed to free enterprise and to meet its social objectives with the aim of improving the quality of life for its people and to offer them opportunities for growth and development.

NEPRA will regulate the electric power sector to promote a competitive structure for the industry and to ensure the coordinated, reliable and adequate supply of electric power in future. By law, NEPRA is mandated to ensure that the interests of the investor and the customer are protected through judicious decisions based on transparent commercial principles. NEPRA as an independent regulatory authority for the power sector has a number of roles including:

- Granting licenses for the generation, transmission and distribution of electric power.
- Determination of tariff, rates, charges and other terms and conditions for the supply of electric power services by generation, transmission and distribution companies.
- Encouraging uniform industry standards and code of conduct for generation, transmission and distribution companies.
- Prescription of' procedures and standards for investment programs by generation, transmission and distribution Companies.
- Prescription and enforcement of performance standards for generation, transmission and distribution companies.
- Review of the organizational affairs of generation, transmission and distribution companies to avoid any adverse effect on the operation of electric power services and for the continuous and efficient supply of these services.

The Government is committed to and wishes to establish an independent, strong and judicious regulatory regime by virtue of the new enactment. The enactment of NEPRA clearly signifies the Government's desire and effort to change from public to private ownership; from political to commercial priority in economic decision making; and from subjective to objective decision making in utility operations.

7. THE POLICY FOR POWER GENERATION PROJECTS 2002

To cater for the future power shortages, the GOP formulated a power policy in year 2002 with collective wisdom of the key power sector players. The main focus of the policy is exploitation of our indigenous resources.

7.1 Objectives

The main objectives of the Power Policy, 2002 are:

- To provide sufficient capacity for power generation at the least cost, and to avoid capacity shortfalls;
- To encourage and ensure exploitation of indigenous resources, which include renewable energy

resources, human resources, participation of local engineering and manufacturing capabilities;
- To ensure that stakeholders are looked after in the process, i.e. a win-win situation for all; and
- To be attuned to safeguard the environment.

7.2 Scope

The scope of the Power Policy, 2002 covers:

- Private sector projects;
- Public sector projects;
- Public-private partnership projects; and
- Projects developed by the public sector and then divested.

7.3 Salient Features

- Encourage exploitation of indigenous resources including hydel, coal, gas and renewable resources.
- Customs duty at the rate of 5% on the import of plant and equipment not manufactured locally.
- No levy of sales tax on such plant, machinery and equipment as the same will be used in production of taxable electricity.
- Exemption is already available from income tax including turnover rates tax and withholding tax on imports. However, no exemption of income tax is provided for oil-fired power plants.
- GOP Guarantees contractual obligations of power purchaser, provincial / AJK governments and fuel supplier.
- Private Power & Infrastructure Board to provide one window support at Federal level for projects above 50 MW.
- For projects above 50 MW, the provinces would be the main drivers and catalyst for marketing and coordinating projects with the Private Power and Infrastructure Board.
- The provinces will manage investments for upto 50 MW power stations.
- Provide protection against specified political risk.
- Provide protection against charges in taxes and duties regimes.
- Ensures convertibility of Pakistan Rupees into US Dollar and its remittance including debt servicing and dividends.
- Two-part tariff structure consisting of fixed capacity and variable energy component.
- To eliminate protracted negotiation, Implementation Agreement (IA), Power Purchase Agreement (PPA), Fuel Supply Agreement have been standardized.

8. SECURITY PACKAGE FOR THE PROJECT

The Project Company shall enter into the Implementation, Power Purchase and Fuel Supply Agreements with the GOP, NTDC, and Gas suppliers (OGDCL/SNGPL/PSO), respectively.

8.1 Implementation Agreement (IA)

a. Term of the Implementation Agreement will be 25 years.
b. IA will include GOP Guarantees regarding contractual obligations of its entities, i.e. power purchaser, fuel supplier, provincial/AJK governments.
c. IA would provide the following GOP support:
   i) GOP's protection against specified "political" risks.
   ii) Protection against changes in the taxes and duties regime.
   iii) Availability of foreign currency, if not available from normal commercial channels, to cover necessary payments related to the projects, including debt servicing and payment of dividends.
   iv) Support of Government of Pakistan (GOP) for obtaining necessary consents required for the power project.
   v) The Company will be permitted to import equipment and material for design, construction, completion, operation, and maintenance of the Complex.

d. IA would provide protection against specified Force Majeure events.

e. The company will be adequately compensated in the event of termination due to default of GOP or its specified entities.

f. IA would specify international arbitration forum for settlement of disputes.

g. The governing law of the IA would be that of a neutral country.

8.2 Power Purchase Agreement

a. Term of the PPA will be 25 years.

b. Two part Tariff consisting of capacity and energy price would be allowed

   i) Capacity Purchase Price (CPP)

   The payment against this tariff component is independent of actual dispatch and covers fixed O&M cost, the insurance costs, the administrative cost, the debt service cost, and a reasonable rate of return on equity investment over the term of the PPA. This component will be paid on Rs./kW/month basis.

   ii) Energy Purchase Price (EPP)

   Energy Purchase Price would allow IPP to recover cost of fuel and variable O&M. This component is paid based on the actual dispatch of the power plant.

c. Indexation of specified tariff components based on variations in the exchange rate between the Pakistan Rupee and US Dollar.

d. The local cost components of EPP and CPP would be indexed for inflation in Rupee.

e. The risk of fuel price variation would be assumed by the power purchaser.

f. Any additional duty and tax over and above the one agreed in the assumptions of tariff would be treated as pass-through to the power purchaser.

g. PPA would provide protection against specified Force Majeure events.

h. Dispatch flexibility would be given to the Power Purchaser subject to technical limits.

8.3 Fuel Supply Agreement

a) GOP will guarantee the performance obligation of the fuel supplier.

b) Fuel suppliers to provide fuel according to agreed specifications.

c) Variations in fuel price will be pass through to power purchaser.

d) FSA would provide protection against specified Force Majeure events.

9. THE PROJECT COMPANY

The Successful Bidder shall establish the Project Company in Pakistan in accordance with the Laws of Pakistan.

10. FINANCING FOR THE PROJECTS

Financing for the Project shall be in the form of equity and debt. At least 20 % of the total financing for the Project, inclusive of all contingencies, will be in the form of equity and the remainder in debt or subordinated debt.

The Main Sponsor shall be required to hold at least 20% of the equity ownership in the Project, or of the Project Company, at all times until the sixth anniversary of the Commercial Operations Date (COD). The Successful Bidder collectively shall be required to hold at least 51% of the equity ownership in the Project, or of the Project Company, until the sixth anniversary of the COD.

The Bidder would be required to provide information about the proposed Main Sponsor and its other members.

11. ENGINEERING, PROCUREMENT AND CONSTRUCTION

The Bidder would be free to propose the design of the Plant as the Bidder deems appropriate as long as the design conditions of the RFP are complied with. The Bidder shall utilize good engineering practices in preparing the design of the Plant. Proposed plant and equipment shall be newly manufactured by reputable manufacturers with sufficient operating experience with regard to the particular units proposed.

12. OPERATION & MAINTENANCE

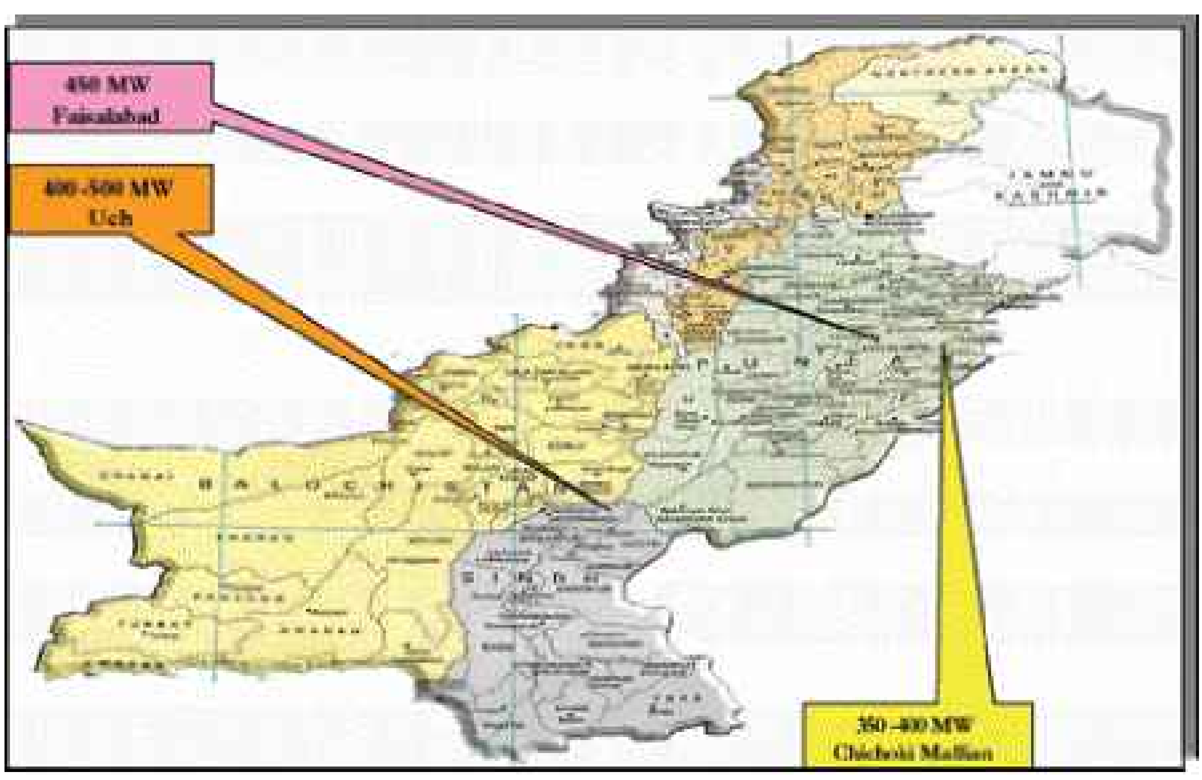
The Bidder will be responsible for arranging an Operator of the plant to provide O & M services using best industry practices.

13. DISPATCH OF THE PLANTS

The National Dispatch Center, operated by NTDC, shall dispatch all plants or generating units connected to the Grid System in accordance with the criteria for the most economic dispatch (without any bias). This economic dispatch criteria or merit order will be based on the marginal cost of generation, transmission losses, system stability and reliability, and other economic considerations. The dispatch of the plant would be as per requirements of the NTDC.

Transmission and Interconnection Facilities shall include all facilities and equipment which must be constructed or installed, on the Site, on power purchaser side of the Delivery Point, to enable the power purchaser to receive Net Electrical Output and Dependable Capacity and to deliver electricity energy, as required, in accordance with the PPA.

LOCATION OF THREE PROPOSED PROJECTS



14. 400-500 MW UCH-II POWER PROJECT

Fig – 3

Fig – 4

14.1 Location

The Project will be located between longitude 69° E and 70° E and latitude 28° N and 29° N at a distance of 6 km from the existing Guddu thermal power station on right side of Guddu-Kashmore Road. The proposed location is shown in Fig – 3 and Fig – 4.

The proposed site is connected with Indus Highway and National Highway by a link road from Dera More to Chowk Mari respectively and has the advantages of ample availability of water and nearness to the existing Grid. Besides, only a few kilometers of transmission line will be required to connect Uch-II Project to National Grid. Though gas transmission arrangements will have to be made from Uch Gas reserves, however, it is important to note that the construction of gas pipeline is much cheaper than construction of 500 kV transmission line.

14.2 Gas Field, Gas Gathering Facility and existing power plant at Uch

14.2.1 Uch Gas Field

The Uch gas field which is located at Dera Murad Jamali in Baluchistan Province is operated by Oil and Gas Development Corporation Limited (OGDCL). It consists of three gas producing lobes. Gas from each lobe has a different higher heating value, ranging from 320- to 740-Btu/scf. The low Btu quality of the gas is caused by high contents of carbon dioxide and nitrogen. The gas also contains significant amounts of hydrogen sulfide. Gas flow from each lobe will be controlled to meet a combined HHV of 455-Btu/scf ±25. However OGDCL as a gas supplier treats the gas for the existing project and will treat the gas for the Uch – II Project also to bring it to the level as required by the plant to generate energy. This will help in increasing the life of the equipment as well as availability of the plant.

According to the reservoir study conducted by OGDCL, adequate additional gas reserves are available at Uch Gas Field over and above the ones already committed by OGDCL to Uch Power Limited (UPL) for their 586 MW project. Out of 4.5 TCF recoverable Uch gas reserves, 2.56 TCF stands dedicated to UPL whereas 1.94 TCF are still available. In addition GOP has assumed the reservoir risk for the existing projects and the same would be extended to the Uch –II Project.

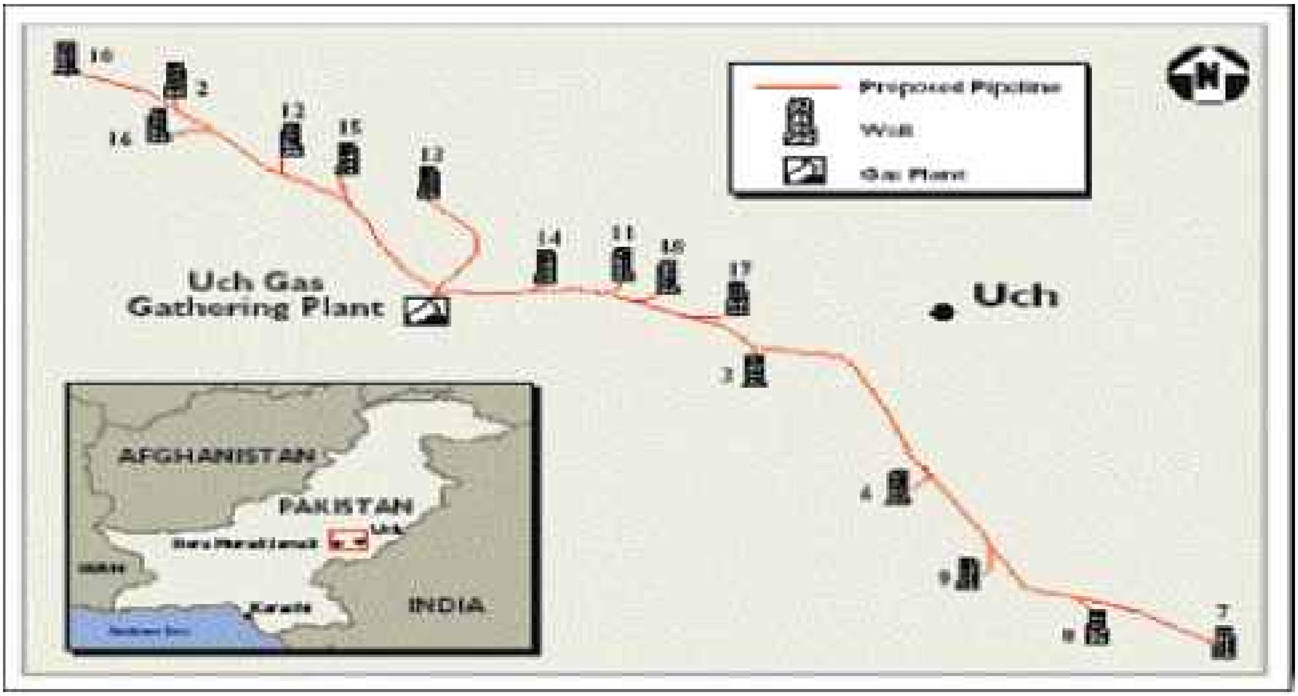


Fig – 5: Gas Gathering Facility

14.2.2 Gas Gathering Facility

The Uch Gas Gathering System as shown in Fig – 5 consists of 134 km (83 miles) of individual 8- to 12-inch sour gas gathering flow lines from 15 wells to a central gas facility and liquid condensate handling site. This centralized site consists of 15 sphere receivers; one slug catcher; three headers; two 3-phase separators; two 3-Mbbl condensate storage tanks; a pump and truck loading area; and associated piping, valves, and instrumentation and controls. The wellhead sites include 15 sphere launching and measuring facilities linked with a telemetry/SCADA system.

However, the existing well train is not sufficient to cater for the new project requirements; therefore OGDCL will develop new wells for the proposed project.

14.2.3 Existing 586 MW Private Power Project at Uch (Uch-I)

Based on Uch gas reserves, a mega private power project of 586 MW, owned by Uch Power Limited is situated near Dera Murad Jamali in Balochistan province of Pakistan.

The plant was commissioned in Year 2000 and comprises three General Electric Frame 9E gas turbines each with an ISO rating of 130MW and three heat-recovery steam generators, manufactured by Deltak, producing steam to drive a single General Electric steam turbine rated at 190MW. The plant operates on low Btu gas from a dedicated Uch Gas Field and has a long term gas availability agreement of 23 years with OGDCL. The plant is designed to operate at base load as well as peak load, and supplies electricity to the National Grid at 220kV.The plant is providing reliable power to the National Grid and is high on the dispatch order with above 70 % plant factor.

One of the major factors that have improved the reliable operation of the plant is that assured treated gas is being supplied to the plant, thereby reducing the maintenance requirement and improving availability of the plant.

14.3 Plant Size & Technical Features of Uch–II:

The proposed combined cycle plant with the capability of producing about 400-500 MW would be developed in one phase. The feasibility study carried out for the project has suggested selection of commonly used combined cycle configuration of two GTs combined with one Steam Turbine. Following are the main features of the Project:

Location	: Near Existing Thermal Power Station, Guddu
Capacity	: 400-500 MW
Technology	: Combined Cycle
Plant Configuration	: 2 Gas Turbines , 1 Steam Turbine
Proposed Fuel	: Low Btu gas from Uch Gas Field and HSD as emergency fuel
Gas Requirement	: 160-180 MMCFD
Gas pipe line	: 100 km pipeline will be required to meet the requirements of gas from Uch gas fields
Gas Supplier	: OGDCL
Land Requirement	: 100-125 acres
Options available for cooling water	: Pat Feeder Canal / B.S. Feeder Canal / River Indus Under ground water is also of acceptable quality
Site Access	: The proposed site is accessible by road and rail
Power Purchaser	: NTDC/DISCOs
Interconnection	:The power will be dispersed by making in and out of 2nd 500 kV circuit from Guddu to Multan at the switchyard of the proposed plant.

14.4 Feasibility Study

PPIB has arranged a Feasibility Study, which evaluates the technical and financial feasibility of the Project and identifies the basic parameters of the Project, such as fuel requirement and & supply, system study, technical features of the plant, gas pipe line and transmission line requirements, etc. necessary to allow firm Bids for the development of the Project. The feasibility study will be provided as part of RFP to all pre-qualified bidders. While the Feasibility Study has been carried out in accordance with internationally acceptable standards, the GOP does not guarantee its contents or conclusions. Bidders should examine, evaluate and form their own conclusions on any or all aspects of the Feasibility Study, and make any additional investigations at their own cost.

14.5 Scope

The scope of the Project comprises, among other things, the development, design, engineering, manufacture, financing, insurance, construction, permitting, completion, testing, commissioning, ownership, operation and maintenance of the Plant. The Plant will include:

- Gas fired thermal power generation Unit(s), constructed with new and unused materials and equipment, having a total net power generation capacity of 400 – 500 MW at the Reference Site Conditions, to operate as a fully despatchable Plant with a total annual availability of 85% or more. The switchyard for the Plant will be designed, procured and constructed by the Project Company. The Project Company shall be responsible for providing and installing the equipment to interface with Power Purchaser for the National Control Center (“NCC”) despatch communications system and any other requirements of Power Purchaser.
- All required Site support facilities, including, but not limited to, the administration buildings, warehouses, workshops, fuel delivery and storage facilities, and cooling and process water systems.
- All necessary Site infrastructure such as roads, potable water system, sanitary sewer system, parking areas, lighting, security fencing, etc
- All necessary improvements to ensure unimpeded access to the Site(s) to include, but not limited to, road improvements, bridges, culverts, relocation of utilities, etc., and any other logistics support required to implement the Project.

14.6 Inter-Connection to National Grid

The power generated fro Uch-II project can conveniently be injected into the National Grid system through existing 500 kV grid station and transmission line at Guddu. Only a few kilometers of 500 kV transmission line will be required to be constructed by the power purchaser. The system studies have been carried out with following findings:

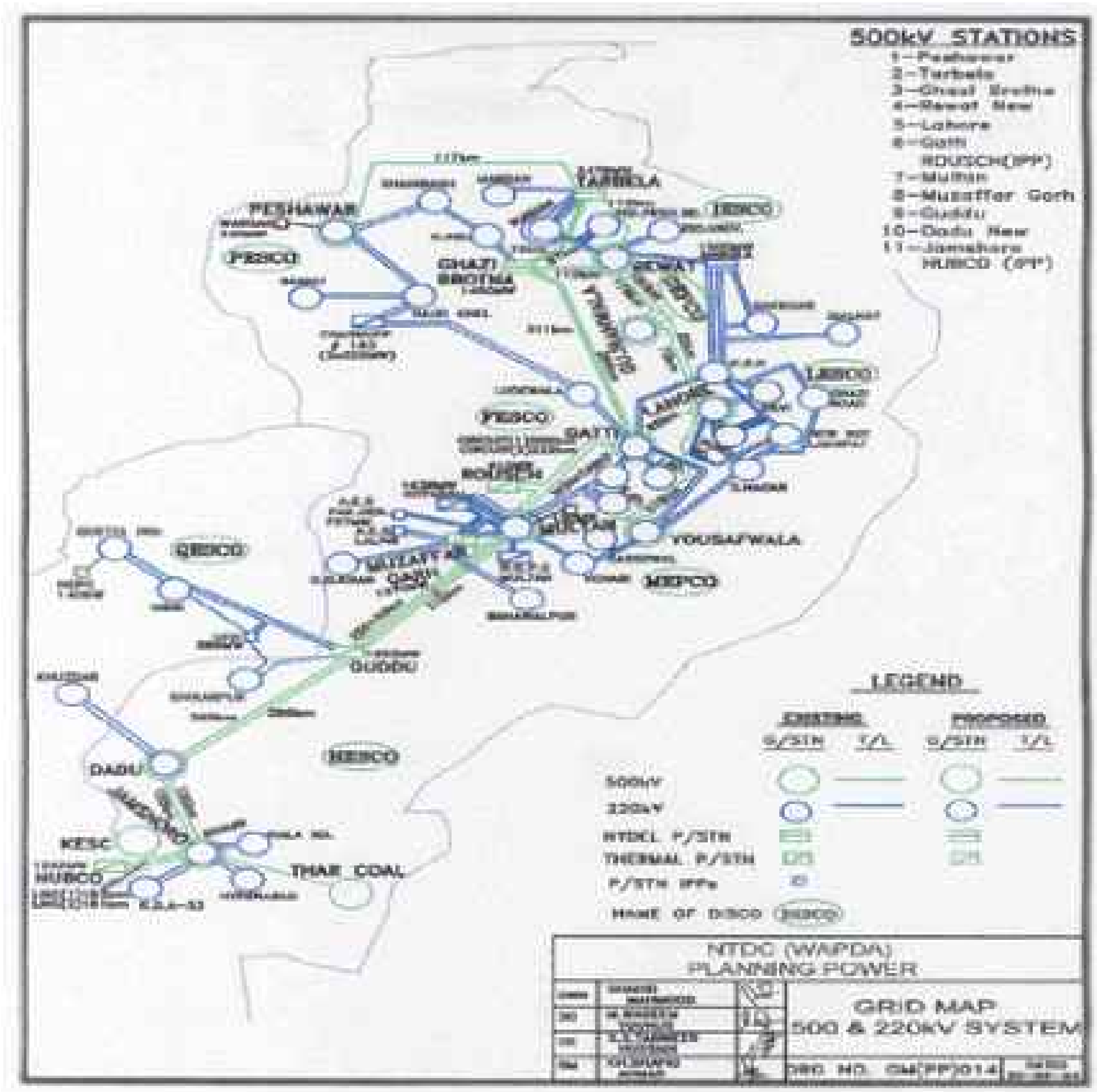
- The power will be dispersed by making in and out of 2nd 500 kV circuit from Guddu to Multan at the switchyard of the proposed plant. The approx. length is 16 km of 4 bundled Drake conductor.
- 500 kV shunt reactor of existing 500 kV Guddu Switchyard will be shifted to 500 kV switchyard of the proposed plant.

14.7 Fuel Availability

Uch gas reserves upto the extent of 1.94 TCF are available and these can support a project of 400-500 MW Combined Cycle Power Plant for about 30 years. The daily gas requirement of plant would be in the range of 160-180 Million Cubic Feet based on the heating value of the gas. For the proposed site, the gas will be transmitted through a 20” dia and approximately 100 km pipeline. High Speed Diesel (HSD) will be used as a backup fuel in case of emergency.

14.8 Cooling Water

The major sources of water in the area are Pat feeder in the north and Beghari-Sindh feeder in the south of the proposed location. The maximum discharge of these canals is approximately 13,000 cusecs and 14,000 cusecs respectively.



Pat feeder is perennial canal and water is available throughout the year except canal closure period of two weeks in December and 4 weeks in April / May. Sindh-Beghari canal is a non-perennial canal but the irrigation authorities provide water throughout the year to meet the requirements of the existing thermal power station at Guddu.

Another source of water is river Indus flowing approximately 5 kilometers east of the proposed location. The ground water in the area is of acceptable quality and is presently used at Thermal Power Station at Guddu. The plant service water and portable water will be treated before use.

14.9 Environmental Impact Assessment

The Environmental Impact Assessment Study for the project includes determination of conditions in respect of air quality, water resources and socio economical conditions present in the project area. The proposed project's impact on the environment in the project area was determined, based on plant design and its operational features. The study focuses on the plant construction with appropriate mitigation measures like NO_X emission control, noise level and proper liquid effluent treatment to reduce or eliminate the negative environmental effects of the project.

The natural gas with HSD as back up fuel, results in exhaust gas emissions, which should be within World Bank and Pakistan Environmental Protection Agency (PEPA) Guidelines. Liquid and solid wastes produced by the plant should be relatively small and be disposed off safely in an environmentally secure landfill.

14.10 Accessibility

The proposed site is located between Indus Highway on western side of Indus River and National Highway on eastern side, both highways are suitable for all types of heavy vehicles. Only about one kilometer access road will have to be constructed. The site is also assessable from Shikarpur-Rajanpur railway line running parallel to Indus Highway at a distance of about 8 kilometers from the proposed location. As such equipment from Karachi port to site can be transported either by road or by rail

14.11 Project Specifications

Final project specifications will be provided in the RFP.

15. 450 MW FAISALABAD POWER PROJECT

15.1 Feasibility Study

PPIB has arranged a Feasibility Study, which evaluates the technical and financial feasibility of the Project and identifies the basic parameters of the Project, such as fuel requirement and supply, system study, technical features of the plant, Gas pipe line and transmission line requirements, etc. necessary to allow firm Bids for the development of the Project. The feasibility study will be provided as part of RFP to all pre-qualified bidders. While the Feasibility Study has been carried out in accordance with internationally acceptable standards, the GOP does not guarantee its contents or conclusions. Bidders should examine, evaluate and from their own conclusions on any or all aspects of the Feasibility Study, and make any additional investigations at their own cost.

15.2 Scope

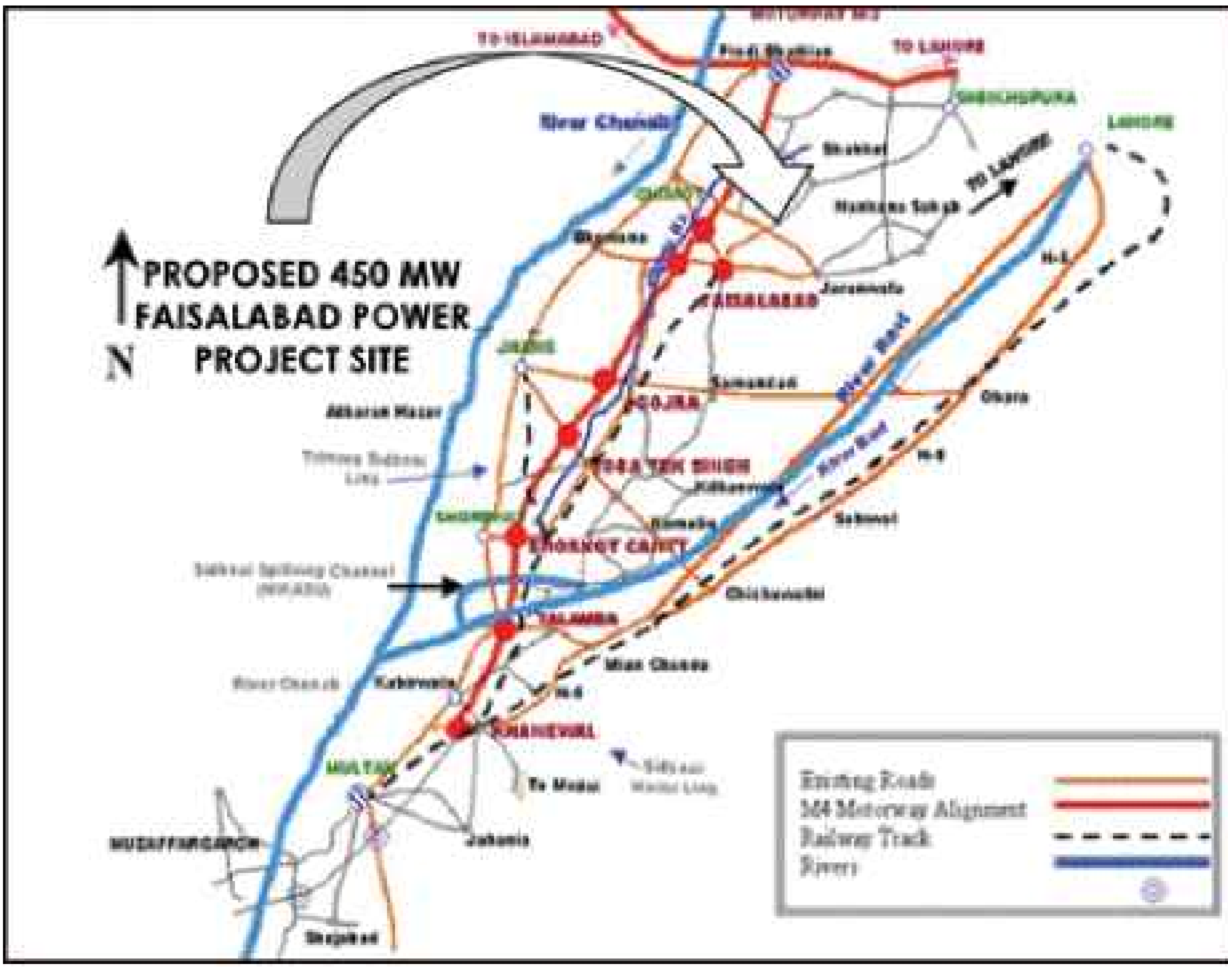
The scope of the Project, mainly, comprises the development, design, engineering, manufacture, financing, insurance, construction, completion, testing, commissioning, ownership, operation and maintenance of the Plant. The Plant will include:

- Dual-fuel combined cycle power project capable of operating on pipeline quality gas and liquid fuel preferably Residual Fuel Oil (RFO), constructed with new and unused materials and equipment, having a total Gross power generation capacity of about 450 MW and capable of operating at a total annual availability of 85% or more.
- The switchyard for the Plant will be designed, procured and constructed by the Project Company. The Project Company shall be responsible for providing and installing the equipment to interface with Power Purchaser for the National Control Center (“NCC”) dispatch communications system and any other requirements of Power Purchaser.
- All required Site support facilities, including, but not limited to, the administration buildings, warehouses, workshops, fuel delivery and storage facilities, and cooling and process water systems.
- All necessary Site infrastructures such as roads, potable water system, sanitary sewer system, parking areas, lighting, security fencing, etc.

15.3 Project Location

The proposed 450 MW Project would be located approximately 10 km from Faisalabad City on Faisalabad-Sheikhpura Road in the Punjab province. The project would be installed within the premises of the existing Gas Turbine Power Station (GTPS) at Faisalabad. The existing Faisalabad Power station consists for the following generating facilities:

Sr. No.	Description	Installed Capacity	Commissioning Year	Fuel
1	Steam Turbines	2 X 66 MW	1967	RFO
2	Combined Cycle Plant	4 X 24.6 MW Gas Turbines with 1 X 45 MW steam Turbine	1975 1992	Pipe Line Quality Gas
3	Gas Turbines	4 X 24.6 MW Gas Turbines	1975	Pipe Line Quality Gas



The gas turbines are dual fired i.e. on natural gas or High Speed Diesel oil. Sufficient land is available for the construction of the additional units in the premises of the existing power station.

Cooling towers are used for the condenser cooling and makeup water requirement is met from the Rakh Branch Canal through clarifier and from tube wells during the canal closure. Tube wells are installed on the bank of canal.

15.4	Site Altitude	650 feet above sea level
15.5	Plant Configuration	2 Gas Turbines and 1 Steam Turbine

15.6 Fuel Availability

100 MMCFD Gas (Gross Heating Value of approx. 930 Btu/Scf) would be available for the project; however, presently the assured availability is on nine months in a year basis and till year 2011. The GOP is already working on different options to procure for meeting the future requirements of the country, however, in case the gas would not be available after 2011, the RFO having heating value of approximately 9,700 Kcal/kg would be used as main fuel

15.7 Fuel Supplier

Gas would be supplied by the Sui Northern Gas Pipeline Ltd. (SNGPL). The Sponsors/Project Company would make a Fuel Supply Agreement for supply of RFO with the PSO or any other oil marketing company operating in Pakistan. Bidders are free to make their own arrangements for import or supply of oil.

15.8 Land Availability

25 acres plain land is available with WAPDA which could be provided for setting up this project on mutually acceptable terms and conditions.

15.9 Options available for Cooling Water

The open re-circulating Cooling Water System is proposed to be used for the project with a required quantity of water of 9 cusecs (make–up water). Sufficient water would be available from Rakh Branch Canal that is close to the site and have discharge capacity of 371 Cusecs flow. The second option of using water through installation of tube wells could also be used. Water level is 15 m below ground surface at the proposed site.

15.10 Site Access

Site is accessible by paved road linking as well as railway line link is also available through existing railway line.

15.11 Inter-Connection to National Grid

- The power generated from Faisalabad power project would be injected into the National Grid system through 132 kV double circuit transmission line.
- The project would be interconnected at the existing Grid station within the premises of the existing Faisalabad Thermal Power Station of WAPDA.

15.12 Climate:

a. Rain Fall

Average yearly maximum:	253.7 mm
Wettest month:	July
Maximum recorded rate in 24 hours:	121.7 mm

b. Ambient Temperature

Mean maximum	43.1 ^{o}C
Mean minimum	4.7 ^{o}C
Maximum recorded temperature	50.0 ^{o}C
Minimum recorded temperature	3.0 ^{o}C

c. Relative Humidity

Range:	27 % to 92 %
Average Annual Max:	76%

d. Wind Speed

Maximum recorded:	160 km/hr

15.13 Project Specifications

Final project specifications will be provided in the RFP.

16. 350 – 400 MW POWER PROJECT NEAR LAHORE

Presently the feasibility study for the project is being carried out, which is expected to be completed by April 2005. However, the preliminary investigations indicate that the project will be located near Lahore City preferably in the existing Chichoki Malian small Hydel power plant where sufficient land/infrastructure is available. As the site is in the load centre, therefore power transmission will be cheaper. However gas transmission arrangements will have to be made from SNGPL System to the proposed plant.

16.1 Plant Size & Technical Features

The proposed Combined Cycle Plant would have capability of producing 350-400 MW and would be developed in one phase. The preliminary studies indicate selection of commonly used combined cycle configuration of two GTs combined with one Steam Turbine.

16.2 Inter-Connection to National Grid

The power generated from the project can reliably be dispersed by making in and out of 132 kV circuit at nearest 132 kV grid.

16.3 Fuel Availability

The fuel availability for the project is being evaluated as a part of the feasibility study. It is likely that the project would be duel fuel capable of operating both on gas and RFO.

16.4 Water Sources

The proposed power plant site is located near the Upper Chenab canal. The discharge of this canal is approximately 11000 cusecs. It is perennial canal and water is available through out the year except during canal closure period of about two weeks in December and four weeks in April/May. The underground water in the area is of acceptable/portable quality. So ground water can be used during scheduled canal repars and unforeseen drought period by installing tube wells of suitable capacity.

16.5 Accessibility

The proposed site is located near Lahore preferably Chichoki Mallian which is accessible from rail, road and air.

Following are the main features of the project near Lahore

Location	:	Near Lahore, preferably Chichoki Mallian
Capacity	:	350-400 MW
Technology	:	Combined Cycle
Plant Configuration	:	2 Gas Turbines 1 Steam Turbine
Proposed Fuel	:	Pipeline Quality Gas
Gas Requirement	:	70 MMCFD
Gas pipe line	:	Pipeline will be required to connect with existing SNGPL Network
Gas Supplier	:	SNGPL
Land Requirement	:	100-125 acres
Options available for cooling water	:	Upper Chenab canal. Under ground water is also of acceptable quality
Site Access	:	The proposed site is accessible by road and rail
Power Purchaser	:	NTDC/DISCOs
Interconnection	:	The power will be dispersed by making in and out of 132 kV circuit at nearest 132 kV grid.

17. TENTATIVE SCHEDULE FOR PROCESSING OF COMPETITIVE BIDS

The bidding process for each project will be carried out in sequence with a 3-6 months gap between each project. The first project to be offered for bidding will be Uch II with a timeframe for Invitation of Expression of Interest through press in the month of March 2005 and expected bidding in the last quarter of 2005.

Processing of Bids will be carried out as per following sequence of activities:

- Advertisement by PPIB
- Purchase of Pre-Qualification Document by interested Sponsors
- Submission of Pre qualification Details by the Sponsors
- Evaluation and Notification of Pre qualified Sponsors by PPIB
- Invitation to Pre qualified bidders to purchase Request for Proposals (RFP)
- Purchase of RFP by the Pre-qualified Sponsors
- Pre-Bid Meeting (if necessary)
- Issue of Addenda (if necessary)
- Submission of Bids by the Bidders
- Opening of Technical proposal (Envelope I)
- Evaluation of Envelope I
- Notification of Responsive Bidders
- Opening of Tariff Proposal (Envelope II)
- Evaluation of Tariff Proposals (Envelope II) and approval by NEPRA
- Notification of successful Bidders
- Submission of Performance Guarantee by Successful Bidder.
- Issue of Letter of Support to Successful Bidder (LOS)

18. BIDS EVALUATION AND TARIFF APPROVAL

The competitive bidding and evaluation of the bids would be carried out by PPIB (Ministry of Water and Power) under the aegis of NEPRA and the lowest evaluated levelized tariff would be the main criteria for selection of successful bidder.

19. ENVIRONMENTAL REQUIREMENTS

The Project must meet all the requirements of the Pakistan Environmental Protection Agency (“PEPA”) Act, 1997, inter alia, relating to the environmental protection, environmental impact and social soundness assessment.

LIST OF ABBREVIATIONS

COD	Commercial Operation Date
FC	Financial Close
FSA	Fuel Supply Agreement
GSA	Gas Supply Agreement
GOP	Government of Pakistan
IA	Implementation Agreement
IPP	Independent Power Producer
KESC	Karachi Electric Supply Corporation
Km	Kilometer
kV	Kilo Volt
LOI	Letter of Interest
LOS	Letter of Support
MMCFD	Million Cubic Feet per Day
MW	Megawatt
NEPRA	National Electric Power Regulatory Authority
NTDC	National Transmission and Dispatch Company
OGDCL	Oil and Gas Development Corporation limited
PPA	Power Purchase agreement
PPIB	Private Power and Infrastructure Board
PSO	Pakistan State Oil
SNGPL	Sui Northern Gas Pipeline Limited
SSGC	Sui Southern Gas Company Limited
WAPDA	Water and Power Development Authority

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