

**SCHEDULE I**

(Regulation 3(1))

**FORM OF APPLICATION**

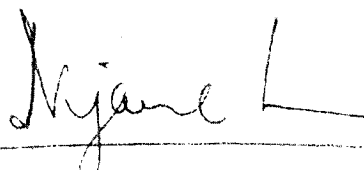
The Registrar  
National Electric Power Regulatory Authority

**Subject:      Application for a GENERATION License**

I, Commodore (Retd) Najam ul Hasnain, CEO and Khurshid Anwar Jamali, Director, being the duly authorized representatives of Sind Nooriabad Power Company Phase II (Pvt) Ltd by virtue of BOARD RESOLUTION dated 15/07/2014, hereby apply to the National Electric Power Regulatory Authority for the grant of a GENERATION LICENSE to the Sind Nooriabad Power Company Phase II (Pvt) Ltd pursuant to section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

A BANK DRAFT in the sum of Rupees 338,000.00, being the non-refundable license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, is also attached herewith.



NAJAM UL HASNAIN  
Commodore (Retd)  
CEO



SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE, KARACHI

**CERTIFICATE OF INCORPORATION**

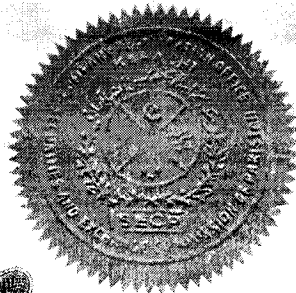
[Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984)]

Corporate Universal Identification No. 0081131

I hereby certify that that SINDH NOORIABAD POWER COMPNAV-  
PHASE II (PVT.) 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 Karachi this Seventeenth day of September, Two  
Thousand and Twelve.

Fee Rs. 5,000/-



(Sidney Custodio Pereira)  
Joint Registrar of Companies  
Karachi

**Certified to be True Copy**

*PK Heer*  
Deputy Registrar of Companies

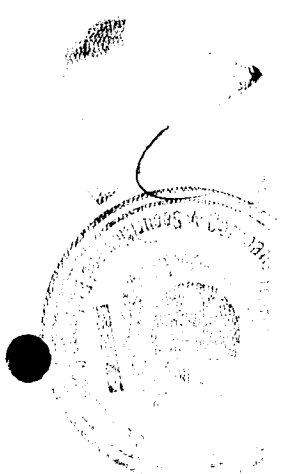

*19/9/2012*

THE COMPANIES ORDINANCE, 1984  
(COMPANY LIMITED BY SHARES)

Memorandum of Association

of

SINDH NOORIABAD POWER COMPANY-PHASE II (PVT.) LIMITED

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- I. The name of the Company is "Sindh Nooriabad Power Company-PHASE II (Pvt.) Limited".
  - II. The Registered Office of the Company will be situated in the Province of Sindh.
  - III. The objects for which the Company is established are all or any of the following:-
    1. To carry on all or any of the business of producers, manufacturers, generators, suppliers, distributors, transformers, converters, transmitters, processors, developers, storers, procurers, carriers and dealers in electricity, all form of energy and any such products and by-products derived from such business including without limitation, steam, fuels, ash, conversion of ash into bricks and any products derived from or connected with any other form of energy, including, without limitation to conventional sources such as heat, thermal, hydel and/or from non-conventional sources such as tidalwave, wind, solar, geothermal, biological, biogas and coal bed methane.
    2. To carry on all or any of the business of purchasers, creators, generators, manufacturers, producers, procurers, suppliers, distributors, converters, processors, developers, storers, carriers and dealers in, design or otherwise acquire to use, sell, transfer or otherwise dispose of electricity, steam, hydro or tidal, water, wind, solar, hydrocarbon fuels, fuel handling equipments and machinery and fuel handling facilities thereto and any products or by products derived from any such business (including without limitation distillate fuel oil and natural gas whether in liquefied or vaporized form), or other energy of every kind and description and stoves, cookers, heaters, geysers, biogas, plants, gas and steam turbines, boilers, generators, alternators, diesel generating sets and other energy devices and appliances of every kind and description
    3. For the purposes of achieving the above objects, the company is authorized:-
      - i) To borrow or raise money by means of local and foreign currencyloans from scheduled banks, industrial banks and financial institutions including HBFC and other specialized institutions or non-bank finance companies

for the purpose of purchase, manufacture, market, supply, export and import of machinery, construction activities and improvements, repair and renovations of buildings, warehouses, factories, sheds, offices, hospitals, ports, parks, clubs, entertainment and recreation areas, industrial zones, bridges, flyovers and sub-ways, roads, highways and motorways, high rise residential and commercial complexes, residential towns, building and for the purpose of working capital or for any other purpose.

- ii) To arrange money 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.
- iii) To purchase/ import raw materials, machinery, equipments and allied items required in connection thereto in any manner the company may think fit;
- iv) To purchase, take on lease or in exchange, hire, apply for or otherwise acquire and hold for any interest, any rights, privileges, lands, building, easements, trademarks, patents, patent rights, copyrights, licenses, 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, grant licenses in respect of or otherwise turn to account any property, rights and information so acquired, subject to any permission required under the law.
- v) 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, letter of credit and other negotiable instruments and securities.
- vi) To own, establish or have and maintain shops, branches and agencies all over Pakistan or elsewhere of the products of the company.
- vii) 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, letter of credit and other negotiable instruments and securities.

- viii) To own, establish or have and maintain shops, branches and agencies all over Pakistan or elsewhere of the products of the company.
- ix) To acquire by concession, grant, purchase, barter, license either absolutely or conditionally and either solely or jointly with others any lands, buildings, machinery, plants, equipments, privileges, rights, licenses, trademarks, patents, and other movable and immovable property of any description which the Company may deem necessary or which may seem to the Company capable of being turned to account, subject to any permission as required under the law.
- x) To invest surplus money of the Company in shares, stocks or securities of any company, debentures, debenture stocks or in any investments, short term and long term participation, term finance certificates or any other government securities in such manner as may from time to time be decided by the directors, without indulging non banking finance business, banking business or an investment company or any other any lawful business.
- xi) To guarantee the performance of contracts, agreements, obligations or discharge of any debt of the company or on behalf of any other company or person subject to the provisions of section 195 of the Companies Ordinance, 1984 in relation to the payment of any financial facility including but not limited to loans, advances, letters of credit or other obligations through creation of any or all types of mortgages, charges, pledges, hypothecations, on execution of the usual banking documents or instruments or otherwise encumbrance on any or all of the movable and immovable properties of the company, either present or future or both and issuance of any other securities or sureties by any mean in favour of banks, Non-Banking Finance Companies (NBFCs) or any financial institutions and to borrow money for purpose of the company on such terms and conditions as may be considered proper.
- xii) To purchase, hold and get redeemed, debentures, bonds of any company, financial institution or any Government

- institutions;
- xiii) To enter into arrangements with the government or authority (supreme, municipal, local or otherwise) or any corporation, company, or persons 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 concessions.
  - xiv) 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 and 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.
  - xv) To sell, transfer, mortgage, pledge, exchange or otherwise dispose of the whole or any part of the property or 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 or to any other legal entity or person, by other means, permissible under the law.
  - xvi) To conduct, encourage, promote, support, arrange and organize seminars, symposiums, exhibitions, fairs, conferences, lectures, demonstrations and other similar activities for promotion of sales or other business interests of any person, companies, firms, individuals, associations, local or government bodies, foreign governments, and international agencies, in Pakistan and any part of world for and on behalf of customers and for that purpose to carry out market surveys, researches, training programs and other activities.
  - xvii) To carry out joint venture agreements with other companies or countries within the scope of the objects of the company.
  - xviii) To make known and give publicity to the business and products of the company by means the company may think fit.

- xix) To pay all costs, charges and expenses, if any, incidental to the promotion, formation, registration and establishment of the company; To go in for, buy or otherwise acquire any patent design, copyright, license, concession, convenience, innovation, invention, trademarks, rights, privileges, plants, tools or machinery and the like in Pakistan or elsewhere, which may for the time being appear to be useful or valuable for adding to the efficiency or productivity of the Company's work or business, as permissible under the law.
- xx) To establish, promote or assist in establishing or promoting and subscribe to or become a member of any other company, association or club 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 the law.
- xxi) To give any servant or employee of the Company commission on the sale of the products and for that purpose to enter into any agreement or scheme of arrangement as the Company may deem fit and to get any servant or employee of the Company insured against risk of accident in the course of their employment.
- xxii) To establish and support or aid in the establishment and support of associations, institutions, funds and conveniences calculated to benefit the directors employees, ex-employees of the Company or any dependent thereof and to grant pensions, gratuities, allowances, relief and payments in any manner calculated to benefit the To apply for and obtain necessary consents, permissions and licenses from any Government, State, Local and other Authorities for enabling the Company to carry on any of its objects into effect as and when required by law.
- xxiii) To cause the Company to be registered or recognized in any foreign country and carry on its business activities in any part of the world.
- xxiv) To do and perform all other acts and things as are incidental or conducive to the attainment of the objects of the company;

- 4. It is, hereby, undertaken that the Company shall not engage in banking business or Forex, illegal brokerage, or any business of investment company or non-banking finance company or insurance or leasing or business of managing agency or in any

unlawful business and that nothing contained in the object clauses shall be so construed to entitle it to engage in such business directly or indirectly and the Company shall not launch multi-level marketing (MLM), *Pyramid* and *Ponzi* schemes.


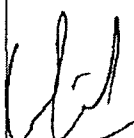

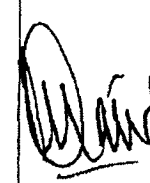
5. Notwithstanding anything stated in any object clause, the company shall obtain such other approval or license from Competent Authority, as maybe required under any law or the time being in force, to undertake a particular business.

IV. The liability of the members is limited.

- V. The authorized capital of the company is Rs. 1,500,000,000/- (Rupees One Thousand Five Hundred Million only) divided into 150,000,000 ordinary shares of Rs. 10/ each with power to enhance, or consolidate the share capital and to divide the shares of the company into different classes and kinds subject to the provisions of the Companies Ordinance, 1984.



We the several persons, whose names and addresses are subscribed below 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:-

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 with any former Nationality	Occupation	Residential Address in full	Number of shares taken by each subscriber	Signatures
Government Of Sindh Through Niaz Ali	45504-6787766-7	Muhammad Esa Sheikh	Pakistani	Govt. Servant	House No. 259, Shah Khulid Colony Sukkur.	9,997 (Nine Thousand Nine Hundred Ninety Seven)	
MUHAMMAD SOHAIL KHAN RAJPUT	42301-9474691-1	Muhammad Shoukat Ali Khan	Pakistani	Govt. Servant	House No A-2903 Mithalla Tilak Chari Hyderabad.	1 (one)	
ARIF AHMED KHAN	42301-5513973-3	Bashir Ahmed Khan	Pakistani	Govt. Servant	House No, 11 GOR, Bath Island Clifton Karachi.	1 (one)	
KHALID MEHMOOD SHAIKH	42101-7843673-3	Ramzani Shaikh	Pakistani	Govt. Servant	House No-6, Area D-C Central Complex, Buffer Zone Block-3, Karachi.	1 (one)	

Total; 10,000

(In Words): Ten Thousand Only.

Witness:

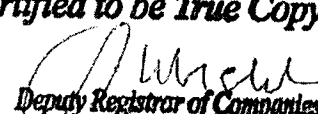
Name: Syed Rida Hassan

Designation: Assistant Director

Date: 10/09/2012

Signature: 

**Certified to be True Copy**

  
Deputy Registrar of Companies

**Certified to be True Copy**

  
Deputy Registrar of Companies

3/9/2014

THE COMPANIES ORDINANCE, 1984  
(PRIVATE COMPANY LIMITED BY SHARES)  
ARTICLES OF ASSOCIATION  
OF  
SINDH NOORIABAD POWER COMPANY - PHASE II (PVT.) LIMITED  
PRELIMINARY

1. The regulations contained in Table 'A' of the First Schedule of the Companies Ordinance, 1984 shall apply to this Company (so far as these regulations are applicable to Private Companies) except as the same are modified, altered repeated or added to by these Articles.

**DEFINITIONS AND INTERPRETATIONS**

2. In these Presents unless there be something in the subject or context inconsistent therewith, words signifying the singular number only, shall include the plural and Vice Versa and words signifying males only shall extend to and include females and words signifying persons shall apply mutates mutandis to bodies corporate.
  - a) "The Company" means "SINDH NOORIABAD POWER COMPANY - PHASE II (PVT.) LIMITED"
  - b) "The Office" means the "registered office of the Company for the time being".
  - c) "Section" means "Section of the Ordinance".
  - d) "Ordinance" means the Companies Ordinance, 1984"
  - e) "Month and year" shall mean "the English Calendar month and English calendar year respectively".
  - f) "The Register" means "the register of members to be kept pursuant to Section 147 of the Companies Ordinance, 1984".
  - g) "In writing or written" includes printed, lithographed and typewritten or other modes of representing words in visible and legible form.
  - h) "Dividend" includes bonus shares.
  - i) "Special Resolution" shall have the meaning assigned thereto by section 2(36) of the Ordinance.
  - j) "Capital" shall mean the Capital of the Company for the time being raised or authorized to be raised for the purpose of the Company.
  - k) "Shares" shall mean the shares in the capital of the Company for the time being.
  - l) "These Present" shall mean the Memorandum of Association of the Company and these Articles and supplementary, substituted or amended Articles for the time being in force.
  - m) "The Seal" in relation to a Company means the Common Seal of the Company.

## PRIVATE COMPANY

3. The Company is a Private Company within the meaning of Section 2Sub Clause (28) of the Companies Ordinance, 1984, and accordingly:-
  - a) No invitation shall be issued to the public to subscribe for any shares, debenture or debentures stock of the Company.
  - b) The number of the members of the Company (exclusive of the persons in employment of the Company) shall be limited to 50 provided that for the purpose of this provision where two or more persons hold one or more shares jointly they shall be treated as a single member, and
  - c) The right of transfer of shares is prohibited in the manner provided hereunder.
4. The authorized capital of the Company is Rs.1,500,000,000/- (Rupees One Thousand Five Hundred Million Only) divided into 150,000,000 (One Hundred Fifty Million) Ordinary Shares of Rs.10/- each with powers to increase, reduce, consolidate, sub-divide, re-organized or divide the share capital of the Company into several classes in accordance with SHARES
5. Subject to the provisions of the Ordinance, the shares shall be under the control of the Board of Directors who may allot or otherwise dispose of the same to such person, firms or Corporations, on such terms and conditions and for such considerations and at such times as may be thought fit.
6. The shares in the Capital of the Company may be allotted or issued in payment or part payment of any land, building, machinery, or goods supplied or any services rendered to the Company in promotion and establishment thereof or in conduct of its business any share so allotted may be issued as fully paid up and not otherwise.
7. If a share certificate is defaced, lost or destroyed, it may be renewed on payment of such fee, and on such terms, as to evidence and indemnity and payment of expenses incurred by the Company investigating title as the Directors think fit. Where at any time the Board decides to increase the issued capital of the Company by issuing any further shares, then subject to provisions of Section 86 of the Companies Ordinance, 1984, all new shares shall be offered to the members in proportion to the existing shares held by each member, and such offer shall be made by notice specifying the number of shares to which the members is entitled, and limiting a time within which the offer, if not accepted, will be deemed to be declined; and after the expiration of such time, or on receipt of information from the member to whom such notice is given that he/ she declines to accept the shares offered, the Board may dispose of the same in such manner as it may consider most beneficial to the Company the provisions of the Ordinance

## TRANSFER OF SHARES

8. The instrument of transfer of any share in the Company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain holder of the share until the name of the transferee is entered in the register of members in respect thereof.
9. Shares in the Company shall be transferred in the form prescribed by Table "A" in First Schedule or in any usual or common form, which the Directors shall approve.
10. The Directors shall not refuse to transfer any fully paid shares unless the transfer deed is defective or invalid. The Directors may also suspend the registration of transfer during the ten days immediately preceding a general meeting or prior the determination of entitlement or rights of the shareholders by giving seven days previous notice in the manner provided in the Ordinance. The Directors may decline to recognize any instrument of transfer unless;
  - a) A Fee as may be determined by the Directors is paid to the Company in respect thereof and;
  - b) The duly stamped instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the Directors may reasonably require to show the right of the transferor to make the transfer.
11. If the Directors refuse to register a transfer of shares, they shall within one month after the date on which the transfer deed was lodged with the Company send to the transferee and the transferor notice of the refusal indicating the defect or invalidity to the transferee, who shall after removal of such defect or invalidity relodge the transfer deed with the Company.

## TRANSMISSION OF SHARES

12. The executors, administrators, heirs or nominees, as the case may be, of a deceased sole holder of a share shall be the only person recognized by the company as having any title to the shares. In the case of a share registered in the names of two or more holders, the survivors or survivor, or the executors or administrators of the deceased, survivor shall be the only persons recognized by the Company as having any title to the share.
13. Any person becoming entitled to a share in consequence of the death or insolvency of a member shall, upon such evidence being produced as may from time to time be required by the Directors having the right either to be registered as a member in respect of the share or, instead of being registered himself; to make such transfer of the shares as the deceased or insolvent person could have made, but the Directors shall, in either case, have the same right to decline or suspend registration as they would have had in the

case of a transfer of the share by the deceased or insolvent person before the death or insolvency.

14. A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the Company.

#### ALTERATION OF CAPITAL

15. The Company may from time to time, by special resolution increase the share capital by such sum, to be divided into shares of such amount, as the resolution shall prescribe.
16. Subject to the provision of the Ordinance, all new shares shall, before issue, be offered to such persons as at the date of the offer are entitled to receive notice from the Company of general meeting in proportion, as nearly as the circumstances admit, to the amount of the existing share to which they are entitled. The offer shall be made by notice specifying the number of shares offered and limiting a time within which the offer is not accepted, will be deemed to be declined and after the expiration of that time, or on the receipt of an intimation from the person to whom the offer is made that he declines to accept the shares offered, the Directors may dispose of the same in such manner as they think most beneficial to the Company. The Directors may likewise so dispose of any new shares which (by reason of the ratio which the new share bear to shares held by persons entitled to an offer of new shares) cannot in the opinion of the Directors, be conveniently offered under this regulations.
17. The new shares shall be subject to the same provisions with reference to transfer, transmission and otherwise as the shares in the original share capital.
18. The Company may, by special resolution :
  - a) Consolidate and divide its share capital into shares of larger amount than its existing shares.
  - b) Sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the Memorandum of Association subject, nevertheless to the provision of clause (d) of sub-section (1) of section 92;
  - c) Cancel any shares which, at the date of the passing of the resolution have not been taken or agreed to be taken by any person.

The Company may by special resolution, reduce its share capital in any manner and with, and subject to, any incident authorized and consent required by law.

#### GENERAL MEETING

20. The first general meeting to be called annual general meeting, shall be held, within 18 months from the date of its incorporation in accordance with provisions of section 158 and thereafter once at least in every year and 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.
21. All general meetings of the Company other than the Annual General Meeting mentioned in sections 157 & 158 shall be called extra ordinary general meeting.
22. The Directors may, whenever 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 requisitions, as is provided by section 159. If at any time there are not within Pakistan sufficient Directors capable of acting to form quorum, any Directors of the Company may call an extra ordinary general meeting in the same manner as nearly as possible as that in which meeting may be called by the Directors.

#### PROCEEDINGS AT GENERAL MEETINGS

23. Subject to the provisions of sub-Section (3) of section 158 of the Companies Ordinance, 1984 at least 21 days' notice (exclusive of the day on which the notice is served) specifying the place, the date and the hour of meeting and, in case of special business, the general nature of that business shall be given to such person as are under the Companies Ordinance, 1984 or the regulations of the Company, entitled to receive such notice from the Company, but the accidental omission to give such notice to or the non-receipt of such notice by any member shall not invalidate the proceedings to any General Meeting.
24. All business shall be deemed special that is transacted at an Extraordinary General Meeting and also all that is transacted at an Annual General Meeting with the exception to declaring a dividend, the consideration of accounts, balance sheet and the reports of the Directors, and Auditors, the election of Directors, the appointment and fixing of remuneration of the Auditors.

25. No business shall be transacted at any General Meeting unless aquorum of members is present at the time when the meeting proceeds to business, save as or herein otherwise provided. Two members present in person representing not less than 25% of total voting power either in their own account or as proxy shall form a quorum for a General Meeting.
26. If within half an hour from the time appointed for the meeting aquorum is not present, the meeting if called upon the requisition of members shall be dissolved, in any other case, it will stand adjourned to the same day in the next week at the same time and same place and if at the adjourned meeting, a quorum is not present within half an hour from the time appointed for the meeting, the members present The Chairman of the Company shall preside as Chairman at every General Meeting of the Company.
27. If there is no such Chairman or if at any meeting he is not present within fifteen minutes, at the time appointed for holding the meeting or is unwilling to act as Chairman, the members present shall choose one of their members to be the Chairman.
28. The Chairman may, with the consent of any meeting at which a quorum is present and (shall if so directed by the meeting,) adjourn the meeting from time to time and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished of the meeting from which the adjournment took place; when a meeting is adjourned for ten (10) days or more, notice of the adjournment shall be given as in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.
29. Being not less than two shall be a quorum.
30. 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 result of the show of hands) demanded. Unless a poll is so demanded, a declaration by the Chairman, that a resolution has on show of hands been carried or carried unanimously or by a particular majority or lost and an entry to that effect in the books of the proceedings of the Company shall be conclusive evidence of the fact, without proof of the number of proportion or the votes recorded in favour of, or against that resolution.
31. If a poll is demanded as aforesaid, it shall be taken in the manner as provided under section 167 and 168 of the Ordinance.
32. In the case of an equality of votes whether on a show of hands or on poll, the Chairman of the Meeting at which the show of hands takes place or at which the poll is demanded, shall be entitled to have and exercise a second or casting vote.
33. A poll demanded on the election of Chairman or on a question of

adjournment shall be taken at once.

#### VOTES OF MEMBERS

34. Subject to any rights or restrictions for the time being attached to any class or classes of shares. On 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 shall apply, on a poll every member shall have voting rights as laid down in section 160.
35. In case of joint-holders the vote of the senior who tenders a vote, whether in person or by proxy shall be accepted to the exclusion of the votes of the other joint-holders; and for this purpose seniority shall be determined by the order in which the names stand in the register of members. In case of minor the guardian shall be entitled to vote for him.
36. 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.
37. On a poll, votes may be given either personally or by proxy provided that nobody corporate shall vote by proxy as long as a resolution of its Directors in accordance with the provision of Section 162 of the Companies Ordinance, 1984 is in force.
38. The instrument appointing a proxy shall be in writing under the hand of the appointer or by his attorney authorized in writing if the appointer is a corporation either under the common seal, or under the hand of an officer or attorney so authorized. No person shall act as a proxy unless he is a member of the Company.
39. 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 will not be treated as valid.
40. An instrument appointing a proxy may be in the following form or in any other form near thereto as may be approved by the Company.



**SINDH NOORIABAD POWER COMPANY (PVT.)  
LIMITED**

I of \_\_\_\_\_ in the district of \_\_\_\_\_ being \_\_\_\_\_ a  
member of the "SINDH NOORIABAD POWER COMPANY (PVT.) LIMITED"  
hereby appoint \_\_\_\_\_ Mr. \_\_\_\_\_ of as my  
proxy to vote for me and on my behalf at the Annual General Meeting or Extra  
Ordinary General Meeting of the Company to be held on \_\_\_\_\_ day of \_\_\_\_\_ and at  
any adjournment thereof.

Dated: \_\_\_\_\_ Signature \_\_\_\_\_

41. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity of the principal or revocation of the proxy or of the authority under which the proxy is given, provided that not intimation in writing of such death, insanity, revocation or transfer as aforesaid shall have been received by the Company at the office before the commencement of the meeting or adjourned meeting at which the proxy is used.

**DIRECTORS**

42. The Directors of the Company shall subject to Article clause 44 hereof, fix the number of elected Directors of the Company not later than 35 days before convening of the General Meeting at which Directors are to be elected and the number so fixed shall not be changed except with the prior approval of the General Meeting of the Company.
43. Unless otherwise determined by the Company in General Meeting in the manner provided under Article clause 43, the number of Directors shall not be less than two and more than ten.  
The following are First Directors of the Company who shall hold office till first Annual General Meeting.

1. MR. MUHAMMAD SOHAIL KHAN RAJPUT
2. MR. ARIF AHMED KHAN
3. MR. KHALID MAHMOOD SHAIKH

44. The directors of the Company shall, unless the number of person who offer themselves to be elected is not more than the number of Directors fixed under Articles Clause 43 and 44 be elected by the members of the Company in General Meeting in the following manner namely:-

- a) a member shall have such number of votes as is equal to the product of the number of voting shares or securities held by him and the number of Directors to be elected;
  - b) a member may give all his votes to a single candidate or divide them between more than one of the candidates in such manner as he may choose; and
  - c) the candidate who gets the highest number of vote shall be declared elected as Directors and then the candidate who gets the next highest number of votes shall be so declared and so on until the total number of Directors to be elected have been so elected.
45. All elected Directors shall retire from office at the General Meeting held after every three years. A Director retiring at a meeting shall retain office until the election of Directors in that meeting.
46. Subject to the provision of Section 181 of the Companies Ordinance, the Company may by resolution in General meeting remove a Director appointed under Article clause 53 or elected in the manner provided for in Article clause 45 hereof.
47. In addition to the Directors elected or deemed to have been elected by shareholders, the Company may have Directors nominated by the Company's creditors or other special interest holders by virtue of contractual arrangements.
48. Save as provided in Section 187, no person shall be appointed as a Director unless he is member of the Company.
49. The Directors of the Company elected under Article clause 45 shall hold office for three years except the Directors appointed against casual vacancy who shall be subject to retirement in term of Article clause 53 hereof.
50. A retiring Director shall be eligible for re-election.
51. Subject to the provisions of the Ordinance, the Company may from time to time in General Meeting increase or decrease the number of Directors at time of election.
52. 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.

#### REMUNERATION

53. Subject to the provisions of the Companies Ordinance, the remuneration of Directors including Chief Executive shall from time to time be determined by the Company in board meeting.
54. The Directors may also sanction the payment of such additional sum, as

they may think fit to any Director for the performance of extra services he may render to the Company subject to the approval of the directors at the Board Meeting in accordance with the provisions of the Companies Ordinance, 1984.

55. The Director who resides out of station shall also be entitled to be paid such traveling expenses as may be fixed by the Directors from time to time.
56. The Directors may from time to time appoint any one of them to the office of the Director-in-charge/ General Manager for such terms and at such remuneration as they may think fit.

#### **QUORUM**

57. The quorum necessary for the meeting of Board of Directors shall be fixed by the Directors and unless so fixed shall be Two Directors present in person.
58. Subject to the provisions of the Ordinance, a resolution in writing signed by all the Directors, without a meeting of Directors shall be effective for all purposes as a resolution passed at the meeting of Directors duly held, called and constituted

#### **DISQUALIFICATION OF DIRECTORS**

59. No person shall become a Director of the Company if he suffers from any of the disabilities or disqualifications mentioned in Section 187 and if, already a Director shall cease to hold such office from the date he so becomes disqualified or disabled.
60. All acts done by any meeting of Directors or by a Committee of Directors or by any person acting as a Director shall, notwithstanding that it shall afterwards be discovered that there was some defect in the appointment of such Director, or person acting as aforesaid, as they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a Director.

#### **POWERS AND DUTIES OF DIRECTORS**

61. 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 the General Meeting subject nevertheless to the provisions of the Ordinance or to any of these regulations, and such regulations being not inconsistent with aforesaid provisions as may be prescribed by the Company in the General Meeting by no regulation 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.

62. Without prejudice to the general powers conferred by the last preceding article and the other power conferred by these presents. It is expressly declared that the Directors shall have the following powers provided that they shall follow section 196(2) of the Ordinance in exercising the powers enumerated therein.
- a) To take on lease, purchase, erect or otherwise acquire for the Company any land, building, property, rights or privileges which the Company is authorized to acquire at such price and generally on such terms and conditions, as they think fit.
  - b) To sell, let, exchange or otherwise dispose of absolutely or conditionally all or any part of the property, privileges and undertaking of the Company upon such terms and conditions and for such consideration as they may think fit.
  - c) To buy, sell, import, export or procure the supply of all plants and machinery, material, stocks in trade and other movable and immovable property and things required for the purpose of the Company.
  - d) To engage, fix and pay the remuneration of and dismiss or discharge any manager, engineer, agent, secretary, clerk, accountant, workman, expert, technical adviser, or other persons employed or to be employed in or in connection with business of the Company.;
  - e) To appoint any person to be attorney of the Company for such purposes and with such powers, authority and discretions and for such period and subject to such conditions as they may from time to time think fit and to revoke such powers at pleasure.
  - f) To enter into, carry, rescind or vary all financial arrangements or agreement with any banks, persons or corporations for, or in connection with the Company's business and affairs and in connection with such arrangement to deposits, hypothecate any property of the Company or documents representing or relating to the same.
  - g) To take give receipts and other discharges for money payable to the Company and to the claims and demands of the Company and to draw, accept, endorse, negotiable promissory notes, bills of exchange or other negotiable and transferable instruments concerning/ relating to business of the company.
  - h) To deal with surplus money of the Company not immediately required for the purpose thereof upon such terms and conditions as may be thought expedients.
  - i) To determine who shall be entitled to sign on Company's behalf, bills, cheques, notes, receipts, acceptances, endorsements, releases, contracts and documents.
  - j) To enter into such negotiations and contracts and rescind or vary all such contracts and execute and do all such acts, deeds and things in the name of the Company as they may consider expedient.

- k) To open accounts with any bank or bankers and to pay into and withdraw money from such accounts from time to time.
  - l. To get insured the movable and immovable property of the Company.
  - l) To pay to any person employed by the Company a commission on the profits of the Company.
  - m) To institute, combat, prosecute, defend, compound, settle compromise, adjust, refer to arbitration, withdraw, abandon any legal proceedings by or against the Company or its officers or otherwise concerning the affairs of the Company.
  - n) To make advances for the business of the Company to such persons upon such security or without security as they may think fit, and generally to direct, manage, control the receipts, custody, employment, investment and expenditure of the moneys and funds of the Company and the keeping of accounts thereof.
  - o) To appear for and on behalf of the Company in any Court of Justice, Criminal, Civil or Revenue, Police, Postal, Excise, Transport, Income Tax, or other office in any action or proceedings or matters in which the Company may be interested and to promote, safeguard or defend its interest.
  - p) To sign and verify any plan, written statement, petition, compromise, mukhtarnama, vakalatnama, authorizing the legal practitioner to act on behalf of the Company in all Court, Civil, Criminal, and Revenue.
63. The Directors shall duly comply with the provisions of the Ordinance or any statutory modification thereof for the time being in force and in particular with the provisions in regard to the registration of the particulars of mortgage charges effecting the property of the Company or created by it, to the keeping of a register a summary of particulars relating thereto and notice of any consolidation or increase or decrease of share capital or sub-division of shares and copies of special resolution and a copy of the register of Directors and notifications of any changes therein.
64. The Directors shall cause minutes to be made in books provided for the purpose;
- a) of all appointment of officers made by the Directors;
  - b) of the names of the Directors present at each meeting of 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 committee or Directors.
  - d) and every Director present at any meeting of Directors or committee of Directors shall sign his name in books kept for the purposes.

#### CHIEF EXECUTIVE

65. The Directors shall appoint any person including an elected Director to be a Chief Executive of the Company in the manner provided in Section

198 and 199 of the Ordinance.

66. The first Chief Executive appointed as aforesaid shall unless he earlier resigns or otherwise ceases to hold office, hold office up to the first annual general meeting of the company or, if a shorter period is fixed by the Directors at the time of his appointment, for such period.
67. The Company shall appoint a person who is not ineligible to become a Director of the Company under Section 187, the Chief Executive of the Company who shall hold office till the first Annual General Meeting.
68. The Directors of a Company by resolution passed by not less than three-fourth of the total number of Directors for the time being or the Company by a special resolution may remove a Chief Executive before the expiration of his term of office notwithstanding anything contained in the Articles or in any agreement between the Company and such Chief Executive.

#### **BORROWINGS POWERS**

69. Subject to the provisions of the Ordinance, the Chief Executive / Board of Directors shall have the powers to borrow any sums of money for and on behalf of the Company from commercial banks, or financing institutions including leasing, modarabas and other commercial institutions or the Directors may themselves advance money to the Company upon such terms and conditions as they may approve from time to time.
70. The Directors may from time to time secure the payment of such money in such manner and upon such terms and conditions in all respects as they may think fit and in particular by the issue of debentures or bonds of the Company or by mortgage or charge of all or any part of the property or assets of the Company.

#### **PROCEEDINGS OF DIRECTORS**

71. 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.
72. The Directors may elect a 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 member to be

Chairman of the meeting.

73. The Directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit; any committee so formed shall, in the exercise of the powers so delegated, conform to any restrictions that may be imposed on them by the Directors.
74. (1)A committee may elect a Chairman of its meetings; 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 members present may choose one of their number to be Chairman of the meeting; (2)A committee may meet and adjourn as it thinks proper.

Questions arising at any meeting shall be determined by a majority of votes of the members present. In case of an equality of votes, the Chairman shall have and exercise a second or casting vote.

75. All acts done by any meeting of the Directors or of a committee of Directors or by any person acting as a Director, shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any such Directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a Director.
76. 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.

#### DIVIDENDS AND RESERVE

77. The Company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the Directors.
78. The Directors may from time to time pay to the members such interim dividends as appear to the Directors to be justified by the profits of the Company.
79. No dividend shall be paid otherwise than out of profits of the year or any other undistributed profits.
80. Subject to the rights of persons (if any) entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid on the shares, but if and so long as nothing is paid upon any of the shares in the Company, dividends may be declared and paid according to the amounts of the shares. No amount paid on a share in advance of calls shall be treated for the purposes of this regulation as paid on the share.

81. (1)The Directors may, before recommending any dividends, set aside out of the profits of the Company such sums as they think proper as a reserve or reserves which shall, at the discretion of the Directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profits of the Company may be properly applied, and pending such application may, at the like discretion, either be employed in the business of Company or be invested in such investments (other than shares of the Company) as the Directors way subject to the provisions of the Ordinance, from time to time think fit; (2) The Directors may carry forward any profits which they may think prudent not to distribute, without setting them aside as a reserve.
82. If several persons are registered as joint-holders of any share, any one of them may give effectual receipt for any dividend payable on the share.
83. The dividend shall be paid within the period laid down in the Ordinance.

#### ACCOUNTS

84. The Directors shall cause to be kept proper books of accounts as required by section 230 of the Companies Ordinance with respect to:-
- a) all sums of money received and expended by the Company and the matter in respect of which the receipts and expenditure take place;
  - b) all sales and purchases of goods by the Company;
  - c) all assets of the Company;
  - d) all liabilities of the Company;
  - e) all other matters required by the Authority from time to time;
85. The books of account shall be kept at the registered office or at such other place as the Directors shall think fit and shall be open for inspection during business hours.
86. The Directors shall from time to time determine whether and to what extent and at what time and places and under what conditions or regulations the accounts and books or papers of the Company or any of them shall be open to the inspection of members not being Directors and no members (not being a Director) shall have any right of inspecting any account and book or papers of the Company except as conferred by law or authorized by the Directors or by the Company in general meeting.
87. The Directors shall as required by Sections 233 and 236 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.



88. A balance sheet, profit and loss account, income and expenditure account and other reports referred to in regulation 74 shall be made out in every year and laid before the Company in the annual general meeting made up to a date not more than four months before such meeting, the balance sheet and profit and loss account or income and expenditure account shall be accompanied by a report of the auditors of the company and the report of Directors.
89. A copy of the balance sheet and profit and loss account or income and expenditure account and reports of Directors and auditors shall, at least twenty one days preceding the meeting, be sent to the persons entitled to receive notices of general meetings in the manner in which notices are to be given hereunder.
90. The Directors shall in all respect comply with the provisions of Sections 230 to 236.
91. Auditors shall be appointed and their duties regulated in accordance with Sections 252 to 255.

#### AUDIT

92. Once at least in every year the accounts of the Company shall be audited and correctness of the Balance Sheet shall be ascertained by one or more Auditors. The Auditors shall be appointed and their duties regulated in accordance with the provisions of section 252 to 255 of the Companies Ordinance, 1984.

#### THE SEAL

93. The Company shall have a Common Seal and Directors shall provide for the safe custody thereof. The Seal shall not be affixed to any instrument except by the authority of a resolution of the Board of Directors and in the presence of at least two Directors and such Director shall sign every instrument to which the Seal is so affixed in his presence. Such signature shall be conclusive proof of the fact that the Seal has been properly affixed.

#### INDEMNITY

94. Every Officer or agent for the time being of the Company may be indemnified out of the assets of the Company against any proceedings, whether civil or criminal, arising out of his dealings, in relation to the affairs of the Company, except those brought by the Company against him, in which judgment is given in his favour or in which he is acquitted, or in connection with any application under section 488 of the Ordinance, in which relief is granted to him by the Court.

#### SECRECY

95. No member shall be entitled to visit and inspect the works of the Company without the permission of the Chief Executive/Board of Directors or to require discovery of any information regarding any detail of the Company's business

or any matter which is or may be in the nature of trade secret, or secret process which may relate to the conduct of the Company's business and which in the opinion of Chief Executive/ Board of Directors, will not be in the interest of the members of the Company to communicate to the public.

#### NOTICES

96. (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 letter would be delivered in the ordinary course of post.
97. If a member has no registered address in Pakistan, and has not supplied to the Company an address within Pakistan for the giving of notices to him, a notice addressed to him or to the shareholders generally and advertised in a newspaper circulating in the neighborhood of the registered office of the Company shall be deemed to be duly given to him on the day on which the advertisement appears.


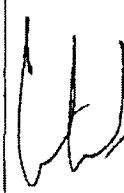


#### ARBITRATION

98. Whenever any difference arises between the Company on the one hand and the members, their executors, administrator or assignee on the other hand touching the true intent or construction or the incident or consequence of these presents or of the statutes or touching anything thereafter done, executed, omitted or suffered in pursuance of these presents or otherwise relating to these presents or to any statute affecting the Company, every such difference shall be referred for the decision of the arbitrator or umpire under the Arbitration Act, 1940 as amended from time to time.
99. The cost incidental to any such reference and award shall be at the discretion of the arbitrators or umpire respectively who may determine the amount thereof and direct the same to be shared between the attorney and client or otherwise and may award by whom and in what manner the same shall be borne and paid.

#### WINDING UP

100. If the Company is wound up, the liquidator may with the sanction of special resolution of the Company and any other sanction required by the Ordinance divide amongst the members in specie or kind, the whole or any part of the assets of the Company, whether they consist of property of the same kind or not.
- a) For the purpose aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different class of members.
- b) The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trust for the benefit of the contributories as the liquidator, with the like sanction think fit but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

Several persons whose names and addresses are subscribed are desirous of fanned into a company is pursuance of the Article of Association and we respectively agree to take the number of shares in the capital of the Company Set opposite to our respective names:

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 with any former Nationality	Occupation	Residential Address in full	Number of shares taken by each subscriber	Signatures
Government Of Sindh Through Niaz Ali	45504-6787766-7	Muhammad Esa Sheikh	Pakistani	Govt. Servant	House No. 259, Shah Khalid Colony Sukkur.	9,997 (Nine Thousand Nine Hundred Ninety Seven)	
MUHAMMAD SOHAIL KHAN RAJPUT	42301-9474691-1	Muhammad Shoukat Ali Khan	Pakistani	Govt. Servant	House No A-2903 Muhalla Tilak Chari Hyderabad.	1 (one)	
ARIF AHMED KHAN	42301-5513973-3	Bashir Ahmed Khan	Pakistani	Govt. Servant	House No, 11 GOR, Bath Island Clifton Karachi.	1 (one)	
KHALID MEHMOOD SHAIKH	42101-7843673-3	Ramzani Shaikh	Pakistani	Govt. Servant	House No-6, Area D-C Central Complex, Buffer Zone Block-3, Karachi.	1 (one)	


Total: 10,000  
(In Words): Ten Thousand Only

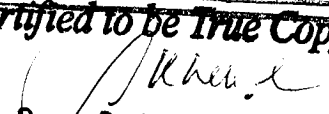
Witness:

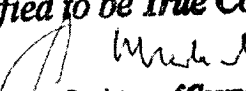
Name: Syed Iftikhar Hassan.

Designation: Assistant Director.

Date: 10/09/2012.

Signature: 

**Certified to be True Copy**  
  
Deputy Registrar of Companies  
3/9/12

**Certified to be True Copy**  
  
Deputy Registrar of Companies  
20/9/12

THIRD SCHEDULE  
(See section 156)

## FORM A - ANNUAL RETURN OF COMPANY HAVING SHARE CAPITAL

1. Registration No. 0081131

2. Name of the Company SINDH NOORIABAD POWER COMPNAY-PHASE II (PVT.) LTD

3. Form A made upto (Day/Month/Year) 01/07/2013

4. Date of AGM (Day/Month/Year) 01/07/2013

## PART - A

5. Registered Office Address 46 ARMY HOUSING SOCIETY NATIONAL STADIUM COLONY KARACHI karachi east Sindh

6. Email Address hameed.associates@gmail.com

7. Office Tel. No. 34838755

8. Office Fax No.

9. Nature of Business --POWER GENERATION - ALLIED (OTHER)

## 10. Authorized Share Capital

Type of Shares	No. of Shares	Amount	Face Value
Ordinary Shares		100,000.00	

## 11. Paid up Share Capital

Type of Shares	No. of Shares	Amount	Issue Price
Ordinary Shares		100,000.00	

12. Amount of indebtedness on the date upto which form A is made in respect of all Mortgages/Charges

0.00

## 13. Particulars of the holding company

Name

Registration No. % Shares Held

## 14. Chief Executive

Name NAJMUL UL HASNAIN NIC 6110117712179

Address HOUSE NO 113-A STREET 37 SECTOR F-10/ 1 ISLAMABAD

Next Page

Certified to be True Copy

(Signature)

Deputy Registrar of Companies

9/9/2014

### 15. Chief Accountant

FL0000		NIC	
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## 16. Secretary

Name	TAHA NOMAN KHAN	NIC	42201-55475715
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A-63 BLOCK B KAZIMABAD MODEL COLONY KARACHI

## 17. Legal Advisor

Flauter MUHAMMAD IMRAN

SUIT NO G-10 MEHRAN ESTATE BUILDING DR DAWOOD POTA ROAD CANTT STATION

## 18. Auditors

Name: ANJUM ASIM SHAHZAD REHMAN

Address 2-3- FLOOR PLOT NO E-23 2ND ZAMZAMA COMMERCIAL LANE PHASE V DHA CLIFTON

**19. List of Directors on the date of Form-A**

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**Next Page**

**19. List of Directors on the date of Form-A**

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**Next Page**

**PART-B**

**20. List of members & debenture holders on the date upto which this Form A is made**

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**Next Page**

**21. Transfer of shares (debentures) since last Form A was made**

[illegible]

12. I certify that this return and the accompanying statements state the facts correctly and completely as on the date upto which this Form-A is made

Date (DD/MM/YYYY)

04/07/2013

Signature \_\_\_\_\_

NIAZ ALI SHEIKH

[Designation]

☒ Chief Executive☐ Secretary[Previous Page](#)

Next Page



## **SCHEDULE-I**

The location, size (capacity in MW) technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the Generation Facilities of the Licensee.

Enclosed

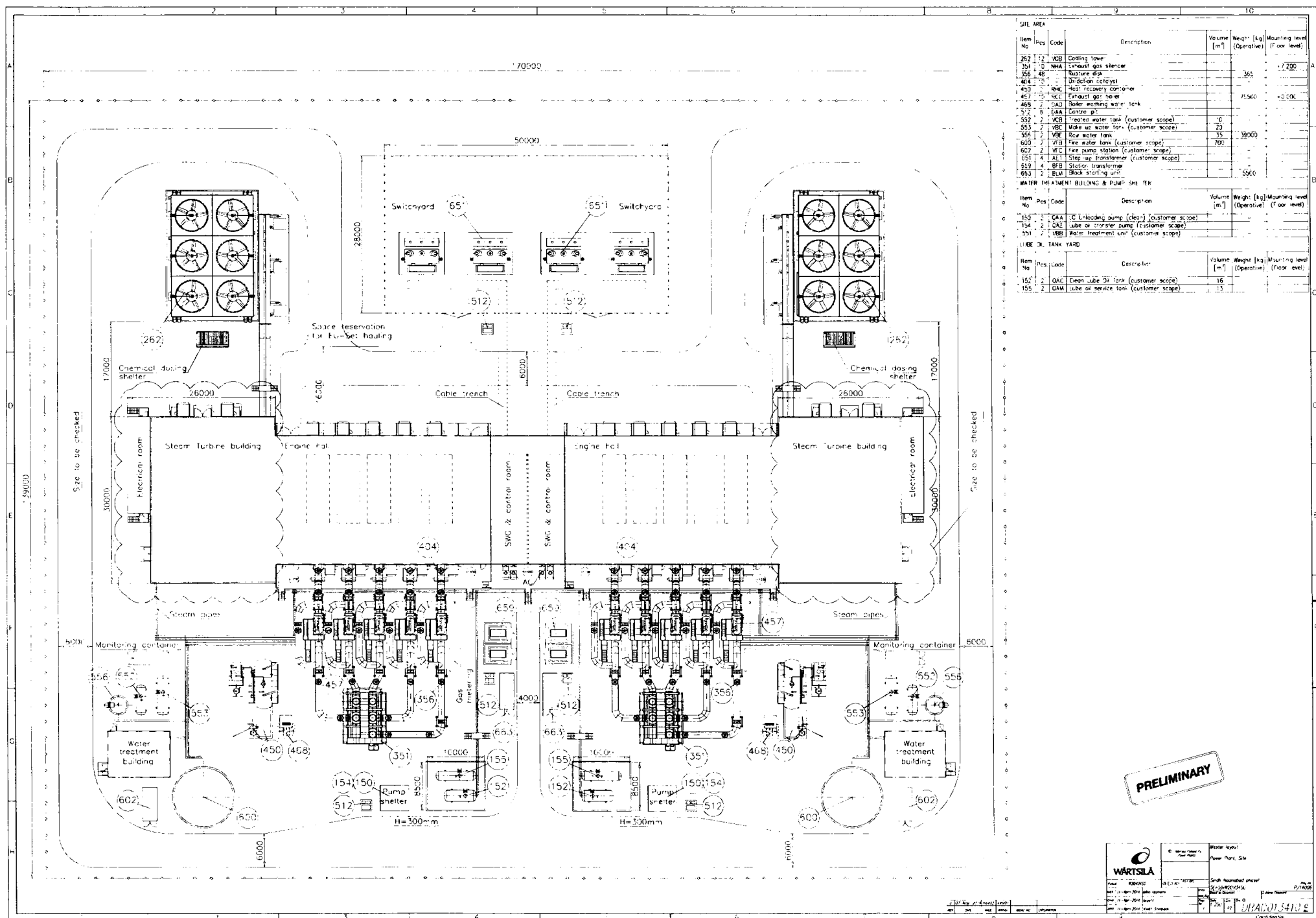
Location Map

Enclosed



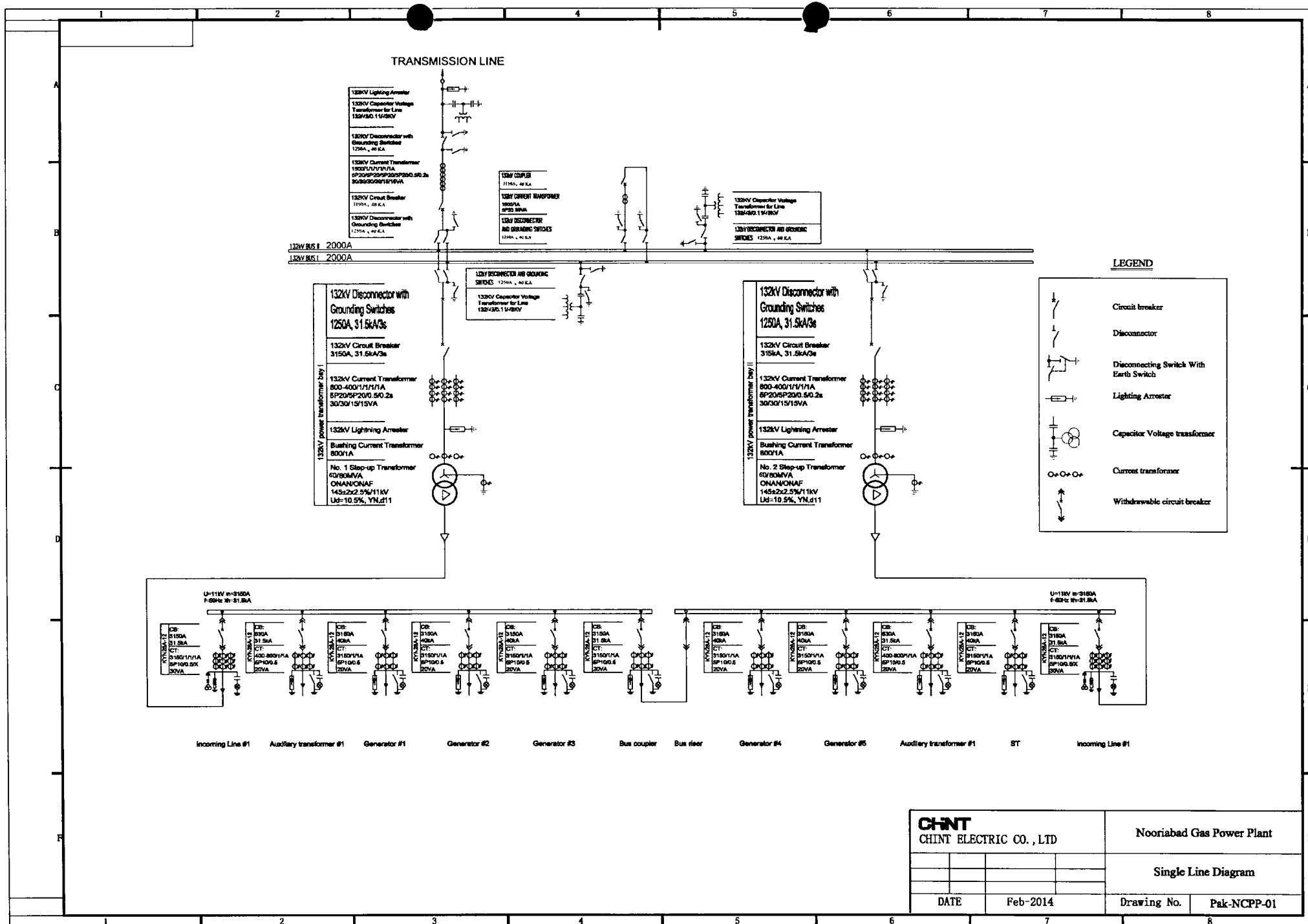
Plant Layout  
(General Arrangement)

Enclosed



Single Line Diagram  
(Electrical) System

Enclosed



## **INTERCONNECTION/TRANSMISSION ARRANGEMENT FOR THE DISPERSAL OF POWER FROM THE POWER PLANT**

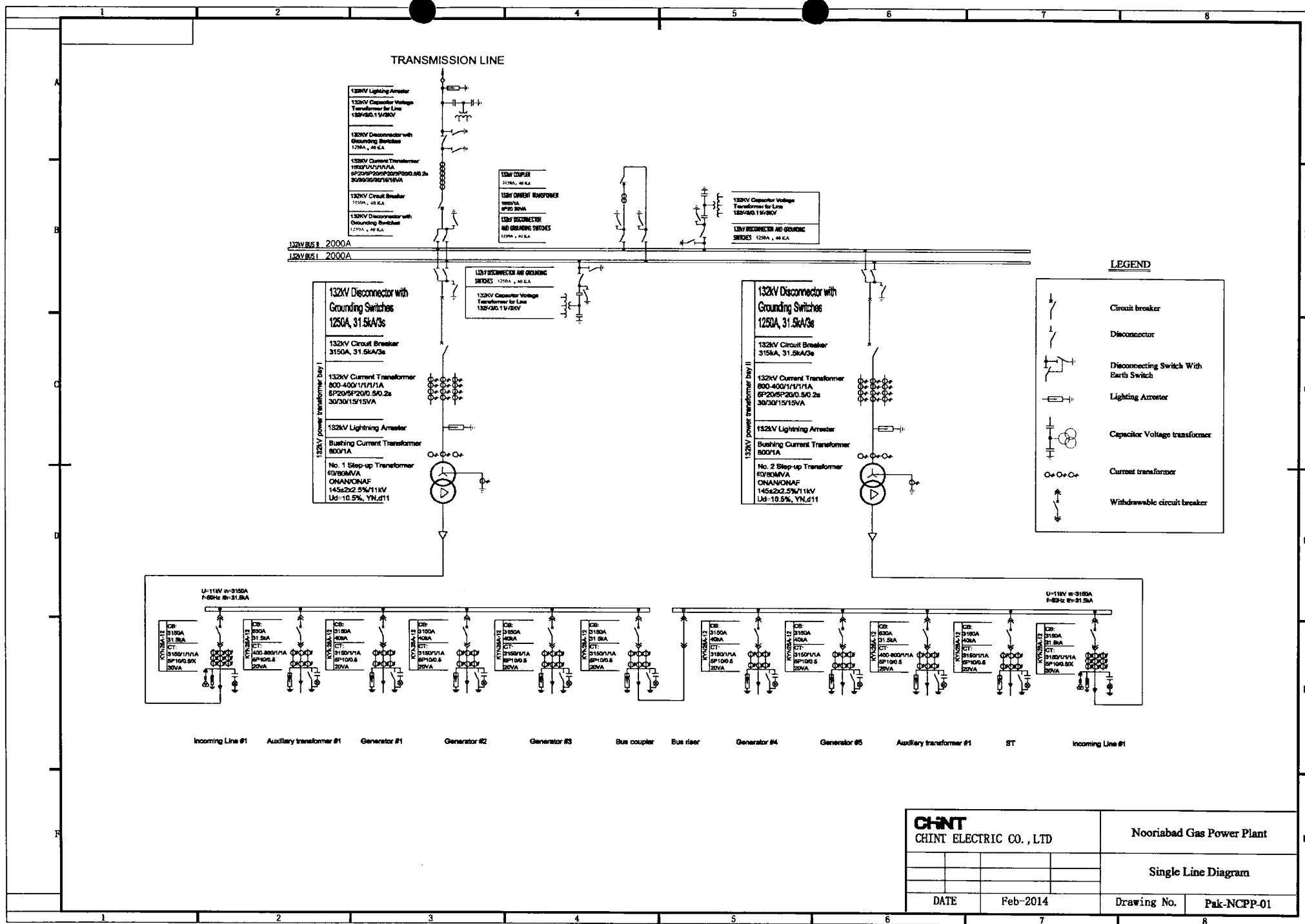
The power of the power plant shall be dispersed to system directly within HESCO load center at 132 KV voltage level as follows

1. A new/existing 132 KV Grid station (Nooriabad) within 10 km from the proposed site of Nooriabad power company (Private) Limited.
2. Two (2) new 132KV D/C Transmission Lines each with length of approximately within 10 Km on Lynx panther Conductor from Nooriabad Power Company (Private) Limited to HESCO Nooriabad Grid Station.
3. 132KV D/C Transmission Lines on Lynx Conductor for making Double In-Out of 132 KV D/C Transmission Line at 132 KV new Grid Station.
4. 132 KV D/C Transmission Line on Lynx (Panther/ACSR) Conductor for making In-Out of 132 KV Transmission Line at 132 KV new/existing Nooriabad Grid Station.



**SINGLE LINE DIAGRAM**  
**OF INTERCONNECTION/TRANSMISSION**  
**ARRANGEMENT FOR THE DISPERSAL OF**  
**POWER FROM THE POWER PLANT**

**Enclosed**



## **Plant Details\***

### **(A). General Information**

(i).	Name of Applicant	Sind Nooriabad Power Company Phase II (Pvt) Ltd.
(ii).	Registered/Business Office	
(iii).	Plant Location	District Jhampir
(iv).	Type of Generation Facility	Thermal Generation (Combined Cycle)

### **(B). Plant Configuration**

(i).	Plant Size Installed Capacity (Gross ISO)	Gross 52.094 MW	
(ii).	Type of Technology	Combined Cycle Power Plant (with Gas Engines, Heat Recovery Steam Generators and Gas Turbine)	
(iii).	Number of Units/Size (MW)	Gas Engine	5 x 9.72 MW Gas Engines
		Gas Turbine	1 x 3.5 MW
(iv).	Unit Make & Model	Gas Engines	Wartsila 20VSG34
		Gas Turbine	Shin Nippon
(v).	Commissioning /Commercial Operation Date (CoD)	15/01/2016	
(vi).	Minimum Expected Life of the Facility from Commissioning/ CoD	25 Years	

\* As provided by the Applicant

**(C). Fuel Details**

(i).	Main Fuel	Natural Gas (Pipeline Quality)
(ii).	Alternative/Back Up-Fuel	Not Applicable (N/A)
(iii).	Start-Up Fuel	Same as Main fuel
(iv).	Fuel Source (Imported/Indigenous)	Indigenous
(iii).	Fuel Supplier	Sui Southern Gas Company Limited
(iv).	Supply Arrangement	Through Pipeline

**(D). Emission Values (Main Fuel)**

(i).	SO <sub>x</sub>	0 mg/Nm <sup>3</sup>
(ii).	NO <sub>x</sub>	200 mg/Nm <sup>3</sup>
(iii).	CO	500 mg/Nm <sup>3</sup>
(iv).	PM <sub>10</sub>	10 mg/Nm <sup>3</sup>

**(E). Cooling System**

(i).	Cooling Water Source/Cycle	Ground/ Well water
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**(F). Plant Characteristics**

(i).	Generation Voltage	11000 V, 3 Phase
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(ii).	Frequency	50 Hz
(iii).	Power Factor	0.8 -0.9
(iv).	Automatic Generation Control (AGC)	NA
(v).	Ramping Rate	9.8 KW/Sec
(vi).	Time required to Synchronize to Grid and loading the complex to full load.	131 sec

**Licensee-Performa for Information regarding Distribution issues.**

**Network Facts**

**Part-A**

A.	No. of Feeders	2 number
B.	Length of Each Feeder (Meter)	300 Meter
C.	Length of Each Feeder to each Consumer	-Do-
D.	In respect of all the Feeders, describe the property (streets, farms, Agri land, etc.) through, under or over which they pass right up to the customer's premises, whether they cross-over or pass near the DISCO lines.	The 132 KV Underground Cable supplying power to the HESCO Transmission Line.
E.	Whether owned by SNPC or HESCO -(deal with each Feeder Separately)	
	- If owned by HESCO, please furnish particulars of contractual arrangement	N/A
	- Operation and maintenance responsibility for each feeder	The Operation and Maintenance is the responsibility of SNPC.
F.	Whether connection with network of HESCO exists (whether active or not)- If yes, provide details of connection arrangements (both technical and contractual)	N/A
G.	Any other network information deemed relevant for disclosure to or consideration by NEPRA.	N/A

**Licensee-Performa for Information regarding Distribution issues.**  
**Consumer Facts**

**Part-B**

A.	No. of Consumers	Nil	
B.	Location of consumers (distance and/or identity of premises)	N/A.	
C.	Contracted Capacity and Load Factor for consumer	N/A.	N/A.
D.	Specify Whether		
	(i)	The consumer is an Associate undertaking of the SNPC- If yes, specify percentage ownership of equity;	N/A.
	(ii)	There are common directorships:	N/A.
	(iii)	Either can exercise influence or control over the other.	N/A.
E.	Specify nature of contractual Relationship		
	(i)	Between each consumer and SNPC.	N/A.
	(ii)	Consumer and HESCO.	N/A.
F.	Capacity originally sanctioned by Provincial Government- If subsequently enhanced, evidence of permission for enhancement.		N/A
G.	Tariff Arrangement and particulars with WAPDA/Provincial Government		N/A
H.	Any other network information deemed relevant for disclosure to or consideration by NEPRA.		N/A

## **SCHEDULE-II**

The Installed, De-Rated, Auxiliary and Net Capacity of the Licensee's  
Generation Facilities



## **SCHEDULE-II**\*

1.	Installed Capacity Gross ISO	52.094 MW
2.	De-rated Capacity at Mean Site Conditions	52.094 MW
3.	Auxiliary Consumption	2.08 MW
4.	Net Capacity at Mean Site Conditions	50.01 MW

### **Note**

All the above figures are indicative as provided by the Licensee. The Net Capacity available to HESCO for dispatch will be determined through procedure(s) contained in the Bi-lateral Agreement(s), Grid Code or any other applicable document(s).

---

\* As provided by the applicant

**Sind Nooriabad Power Company Phase II Private Limited**  
**Application for Generation License**  
**Annexure A**

1. **Regulation # 3(1)** **Authorization from Board Resolution / Power of Attorney**

Enclosed

2. **Regulation # 3(3)** **Application Fee including indexation**

Enclosed

3. **Regulation # 3(4)** **Three copies of Application**

Duly complied

4. **Regulation # 3(5)-A(i)** **Certificate of incorporation**

Enclosed

5. **Regulation # 3(5)-A(ii)** **Memorandum and Articles of Association**

Enclosed

6. **Regulation # 3(5)-A(iii)** **Latest Financial Statements**

Sind Nooriabad Power Company Phase II (SNPC) is a Special Purpose Company (SPC) instituted to undertake the development of the Small Independent power Producer (SIPP) under the Policy for the Small Independent power Producer (SIPP) recently announced by Pakistan Electric Power Company Limited (PEPCO), Government of Pakistan. The equity of SNPC is being funded by Sind Government (49%) and Technomen Kinetics (Pvt) Ltd (51%).

The financial statements of Technomen Kinetics (Pvt) Ltd is Enclosed.

7. **Regulation # 3(5)-A(iv)** **Location Maps, Site Maps, Land**

Enclosed

8. **Regulation # 3(5)-A(v)** **Type of Technology**

The proposed power plant is employing Reciprocating Engine running on Natural Gas

9. **Regulation # 3(5)-A(vi)** **No. of Units, Size/MW**

	<b>Total</b>
No. of Gas Engines	5
No. of Gas Turbine	1
Size of Gas Engines	9.72 MW
Size of Gas Turbine	3.5 MW
Total Gross Installed Capacity	52.094 MW
Total Net Installed Capacity	50.01 MW
In-house Consumption	MW
Available for Sale to HESCO	50.01 MW

### **Total Installed Capacity**

The proposed power plant will have a Combined Cycle Gross Installed Capacity of 52.094 MW

#### **10. Regulation # 3(5)-A(vii) Year Make / Model, Operation date and expected remaining life**

The Gas Engines, HRSG, Gas Turbine and Balance of Plant will be new and unused. All the equipment will be 2015 make.

The make of the Gas Engines is Wartsila 20VSG34

Operation Date	Not Applicable
Expected Remaining Life	25 Years

#### **11. Regulation # 3(5)-A(viii) Installed capacity, de-rated capacity, Aux. Consumption, Net Capacity**

Installed Capacity	52.094 MW
De-rated Capacity	52.094 MW at 32 deg C
Auxiliary Consumption	2.08 MW
Net Capacity at M.S.C	50.01 MW

**12. Regulation # 3(5)-A(ix) Fuel (oil/gas): type, imported/indigenous, supplier, logistics, pipelines etc. In case of Gas fuel, a Gas Sale Agreement (GSA) signed between applicant and Gas Supplier**

Fuel	Gas
Type	Indigenous
Supplier	Sui Southern Gas Company Limited
Supplier Logistics	Pipeline
Gas Supply Agreement	Initial GSA enclosed.
Gas Allocation Letter	Enclosed

**13. Regulation # 3(5)-A(x) Supply Voltage (11 kV/132kV). In case of 132 KV voltage distance and name of nearest grid (single line diagram)**

Supply Voltage	132 kV
Interconnection with HESCO Grid	At Power Plant Site
Single Line Diagram	Enclosed

**14. Regulation # 3(5)-A(xi) Plant characteristics: generation voltage, power factor, frequency, automatic generation control, ramping rate, alternative fuel, time(s) required to synchronize to grid**

**Plant Characteristics**

Generation Voltage	11 kV
Frequency	50 Hz
Power Factor	0.8
Automatic Generation Control	Not Applicable
Ramping Rate	9.8 kW/sec
Alternative Fuel	None. Gas only
Time required to Synchronize to Grid	131 sec

The Ramping Rate and operating routines are detailed below:

**Typical Start up Times for Normal Start in Automatic Mode**

**Time steps Engine Generator Set 20VSG34**

Operating Routine	in sec
Demand & release auxiliaries	3
Pre-lubrication *)	60
Start delay	6
Gas discharge cranking	2

Booting ignition	5
Start up to start speed	10
Speeding up to nominal speed **)	15
Subtotal @ indication ENGINE IDELING	101
Typical synchronizing time	30
Subtotal @ engine ON LINE	131
Ramping up engine to full load of 3300 kW @ rate of 16 kW/sec	206.25
Total @ engine FULL LOAD 337.25 sec	337.25
	5.62 min

Based on:

Preheated Engine  
Start by 1st start-attempt  
\*) min. 30 sec oil pressure continuously above  
limit in order to proceed w/ start up sequence  
\*\*) While oil-pressure monitoring activated

#### 15. Regulation # 3(5)-A(xii) Provision of metering, instrumentation protection and control arrangement

Metering  
Instrumentation, Protection & Control

Included, details enclosed  
See Single Line Diagram

**Signed Gas Supply Agreement**

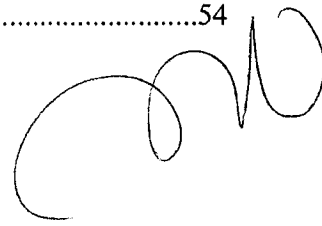
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xhibit B	Project Companies' Facilities
xhibit C	Gas Allocation
xhibit D	Gas Specifications
xhibit E	Sites' Descriptions
xhibit F	Initial Estimated Line Size and Distance
xhibit G	Not Used
xhibit H	Consent and Acknowledgment
xhibit I	Calculation of Liquidated Damage



Lic No. 163 Ligustabad, Karachi.

10 JUN 2014

S.No...085265... Date:.....

ISSUE TO WITH ADDRESS.....

THROUGH WITH ADDRESS.....

PURPOSE.....

VALUE RS: (ATTESTED).....

STAMP VENDOR'S SIGNATURE.....

THIS GAS SUPPLY AG

Karachi, Pakistan by and b

**THIS GAS SUPPLY AGREEMENT** (this "Agreement") is made this 16<sup>th</sup> day of June, 2014 at Karachi, Pakistan by and between:

**Sui Southern Gas Company Limited**, a public limited company incorporated under the laws of Pakistan and registered under the Companies Ordinance, 1984, and having its registered office at SSGC House, Sir Shah Suleman Road, Gulshan-e-Iqbal, Karachi, 75300, Pakistan (hereinafter referred to as the “**Seller**”), which expression shall, where the context so admits, means and include its successors in interest and assigns) of the first part;

**AND**

The Government of the Province of Sindh, and its two specific purpose companies namely (i) Sindh Nooriabad Power Company (Private) Limited (hereinafter referred to as Project Company 1) And (ii) Sindh Nooriabad Power Company Phase-II (Private) Limited (hereinafter referred to as Project Company 2) both established under Public Private Partnership, both being private limited companies incorporated under the laws of Pakistan and registered under the Companies Ordinance 1984, and having their principal place of business Registered Office at 7<sup>th</sup> Floor, Lakson Square, Building No.3, Opposite Karachi Press Club, Karachi, Pakistan (hereinafter collectively referred to as "Buyer") which expression shall, where the context so admits, means and include their administrators, successors in interest and permitted assigns) of the second part.

- A. **WHEREAS**, The Ministry of Petroleum and Natural Resources vide its letter No. NG (II)-2(43)/13 dated 5 March 2013 has communicated that Economic Coordination Committee (ECC) of the Cabinet in its meeting held on 26 February 2013 placed the first 20 MMCFD gas for 100 MW power plant at Nooriabad industrial Estate for a period of twenty five (25) years at the request

1

*[Handwritten signature]*

*[Signature]*

- B. **WHEREAS**, the Buyer plans to construct, own, operate and maintain **two** power generation facilities at two Complexes (the "Complexes" as hereinafter defined) of approximately 50 Megawatts (MW) each, independently at Nooriabad, Sindh, Pakistan, namely (i) **Sindh Nooriabad Power Company (Private) Limited** ("Project Company 1") And (ii) **Sindh Nooriabad Power Company Phase-II (Private) Limited** ("Project Company 2").
- C. **WHEREAS**, the Seller is the authorized and licensed distributor of Natural Gas in the provinces of Sindh and Baluchistan, Pakistan; and
- D. **WHEREAS**, the Buyer desires to purchase and the Seller is willing to supply Natural Gas for use as fuel at two Complexes (as hereinafter defined) on the terms and conditions contained hereunder;
- E. **WHEREAS**, for the purposes of this agreement both the Project Companies 1 and 2 shall jointly represent the Government of the Province of Sindh. However, their contractual obligations towards the Seller under this agreement will be in their individual capacities.
- F. **AND WHEREAS**, Government of Sindh initially incorporated two (2) Project Companies for the purposes of development of the Complexes and has already transferred 51% of the total paid up capital of Project Company 1 and Project Company 2 to the Private Investors for the implementation of the projects.
- G. For the purpose of this Gas Sale Agreement and pursuant to the transfer of 51% of the total paid up capital of Project Company 1 and Project Company 2 to the Private Investor for the implementation of the projects, the two (2) Project Companies 1 and 2 shall hereinafter be referred to collectively as "The Buyer".
- H. Pursuant to item G above the Buyer shall be obligated to the Seller separately and apart from each other as Project Company 1 and Project Company 2 in performance of their contractual obligations under this Gas Sale Agreement.

**NOW, THEREFORE**, in consideration of the mutual benefits to be derived and the representations and warranties, conditions and undertakings herein contained, and intending to be legally bound hereby, the Parties hereby agree as follows:

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**ARTICLE I**  
**DEFINITIONS; INTERPRETATION**

**Section 1.1    Definitions**

Whenever the following capitalised terms appear in this Agreement or the exhibits hereto, whether in the singular or in the plural, present, future or past tense, they shall have the meanings stated below unless the context otherwise requires.

"Agent" – The meaning ascribed thereto in Section 17.6.

"Agreement" – means this instrument (including the recitals, articles and schedules, if any, hereto) as originally executed or as from time to time supplemented, amended, novated or replaced;

"Allocated Gas Fields" shall mean the gas fields/reservoirs as covered under Gas Allocation

"Alternative Fuel" means furnace oil (HSFO).

"Approved Labs" shall mean the following labs which have been approved to test the GCV of the Gas:

- a) Core Laboratories International BV; or
- b) Hydrocarbon Development Institute of Pakistan

"Approved Oil Company" shall mean:

- a) Pakistan State Oil Company;
- b) Shell Pakistan Limited; and
- c) Caltex Pakistan Limited

"As-Available Period"

(I) In case of Project Company 1:

(a) Before the Commercial Operations Date 1: the Commissioning Period; and

(b) After the From the Commercial Operations Date 1:, a period of thirty (30) days in a Contract Year during the Winter Months as may be notified by the Seller to the Project Company 1 in writing, from time to time, at least seven (7) days before the commencement of each such period or part thereof. The Commissioning Period shall also be treated as As Available Period .

(II) In case of Project Company 2:

(a) Before the Commercial Operations Date 2: the Commissioning Period; and

(b) After the From the Commercial Operations Date 2, a period of thirty (30) days in a Contract Year during the Winter Months as may be notified by the Seller to the Project Company 2 in writing, from time to time, at least seven (7) days before the commencement of each such period or part thereof. The Commissioning Period shall also be treated as As Available Period 2.

"Atmospheric Pressure" – An absolute pressure of fourteen decimal point sixty five pounds force per square inch (14.65 psia).

"BTU" – British thermal unit, defined as the quantity of heat required to raise the temperature of one (1) pound of pure water from fifty nine degrees Fahrenheit (59° F) to sixty degrees Fahrenheit (60 ° F) at a constant pressure of fourteen and sixty five hundredths (14.65) psia.

"Business Day" – means a day (other than Saturday, Sunday or a gazetted public holiday) on which banks in Karachi are open for business.

"Project Company 1's Facilities" means all of the gas pipelines, valves and fittings, approved by the Seller prior to installation and compatible with the Seller's Facilities, to be installed by or on behalf of the Project Company 1 and to be owned by the Project Company 1, which pipeline, valves and equipment are necessary to interconnect the Complex 1 with the Seller's Facilities at Point of Delivery 1 and which are identified in Exhibit B;

"Project Company 2's Facilities" means all of the gas pipelines, valves and fittings, approved by the Seller prior to installation and compatible with the Seller's Facilities, to be installed by or on behalf of the Project Company 2 and to be owned by the Project Company 2, which pipeline, valves and equipment are necessary to interconnect the Complex 2 with the Seller's Facilities at Point of Delivery 2 and which are identified in Exhibit B;

"Project Company Event of Default" – An event described in Section 17.1 for which the Seller may issue a Notice of Intent to Terminate its obligations to a Project Company in default. For the avoidance of doubt, any Event of Default caused by the Project Company 1 will not give the Seller right to issue a Notice of Intent to Terminate any of its obligations to Project Company 2 and vice versa.

"Project Company Notice of Intent to Terminate" – A notice of intent to terminate issued by the a Project Company 1 or Project Company 2 to the Seller pursuant to Section 17.2.

"Commercial Operations Date 1" – The date that the Project Company 1 notifies the Seller that the Complex 1 has been commissioned provided it shall not be later than 31 December 2015.

"Commercial Operations Date 2" – The date that the Project Company 2 notifies the Seller that the Complex 2 has been commissioned provided it shall not be later than 31 December 2015.

"Commercial Operations Date" – shall mean the Commercial Operations Date 1 or Commercial Operations Date 2 as may be relevant.

"Commissioning Period " –

- (a) In respect of Project Company 1: the period of time that begins on the Commissioning Period Start Date 1 and ends at the close of the Day that precedes the Commercial Operations Date 1.
- (b) In respect of Project Company 2: the period of time that begins on the Commissioning Period Start Date 2 and ends at the close of the Day that precedes the Commercial Operations Date 2.

"Commissioning Period Start Date 1" – The date on which the Project Company 1 declares to the Seller that one or more power generating units are substantially complete and Complex 1 or any Gas consuming part thereof is ready for testing.

"Commissioning Period Start Date 2" – The date on which the Project Company 2 declares to the Seller that one or more power generating units are substantially complete and Complex 2 or any Gas consuming part thereof is ready for testing.

"Commissioning Period Start Date" –shall mean Commissioning Period Start Date 1 or Commissioning Period Start Date 2 as may be relevant.

"Complex 1" – The combined cycle, 10 MMCFD gas fired electric power generation station located on the Site 1 and the Project Company 1 Facilities (but excluding the Power Purchaser Interconnection Facilities) having design capacity of approximately 50 MW (net at the reference condition) to be designed, engineered, constructed, commissioned, owned, operated and maintained by the Project Company 1 whether completed or at any stage of construction, including without limitation or regard to level of development, land, engineering and design documents, all energy producing equipment and its auxiliary equipment, heat recovery, steam generators and associate equipment, fuel handling and fuel storage facilities, water transportation and treatment systems, a switchyard, and the Project Company 1's Gas receiving facilities on the Project Company 1's side of the Point of Delivery 1.



"Complex 2" – The combined cycle, 10 MMCFD gas fired electric power generation station located on the Site 2 and the Project Company 2 Facilities (but excluding the Power Purchaser Interconnection Facilities) having design capacity of approximately 50 MW (net at the reference condition) to be designed, engineered, constructed, commissioned, owned, operated and maintained by the Project Company 2 whether completed or at any stage of construction, including without limitation or regard to level of development, land, engineering and design documents, all energy producing equipment and its auxiliary equipment, heat recovery, steam generators and associate equipment, fuel handling and fuel storage facilities, water transportation and treatment systems, a switchyard, and the Project Company 2's Gas receiving facilities on the Project Company 2's side of the Point of Delivery 2.

Complex shall mean either Complex 1 or Complex 2 (as may be relevant) and "Complexes" – shall mean collectively Complex 1 and Complex 2.

"Conditions Precedent" shall mean the conditions, listed in Section 2.3.

"Contract Year 1" – A period beginning at 12:00 midnight PST on the Commercial Operations Date 1 and each anniversary thereafter, and ending at 12:00 midnight PST of the Day that immediately precedes each anniversary of the Commercial Operations Date 1.

"Contract Year 2" – A period beginning at 12:00 midnight PST on the Commercial Operations Date 2 and each anniversary thereafter, and ending at 12:00 midnight PST of the Day that immediately precedes each anniversary of the Commercial Operations Date 2.

"Contract Years" – Collective reference of Contract Year 1 and Contract Year 2.

"Daily Contract Quantity" 20 MMSCF of Gas per Day as per Gas and Pressure Specifications specified in Exhibit D.

"Day" shall mean twenty-four (24) consecutive hour period beginning and ending at 12:00 midnight PST. The reference date for any Day shall be the calendar date, which contains such twenty-four (24) consecutive hour period.

"Delayed Payment Rate" – Interest at the rate of 1.5% per month for 1<sup>st</sup> year (18% per year) and thereafter 2% per month (24% per year) on the outstanding amount of the Gas bills, or such revised rates as notified by Regulatory Authority.

"Dispute" – Any dispute, disagreement or difference between the Seller and the a Project Company in connection with or arising out of this Agreement, including, without limitation, any dispute or difference concerning the existence, legality, validity or enforceability of this Agreement or any provision hereof or the performance of a Party under any provision hereof.

"Due Date" – The meaning ascribed thereto in Section 9.3.

"ECC" – means the Economic Coordination Committee of the Cabinet, GOP

"Effective Date" – shall be the date on which the conditions precedent mentioned in Section 2.3 stand satisfied.

"Estimated Quantity" shall have the meaning ascribed thereto in Section 4.1.

"Expert" – An expert appointed pursuant to Section 18.2.

"Expiry Date" means the last day of the Supply Term 1 or Supply Term 2

"Financing Documents 1" – Such loan agreements, notes, indentures, security agreements guarantees and other documents entered or to be entered into relating to the construction and/or permanent financing (including refinancing) of Complex 1 or any part thereof.

"Financing Documents 2" – Such loan agreements, notes, indentures, security agreements guarantees and other documents entered or to be entered into relating to the construction and/or permanent financing (including refinancing) of Complex 2 or any part thereof.

"Financing Documents" – Collective reference of Financing Documents 1 and Financing Documents 2.

"Firm Delivery Period

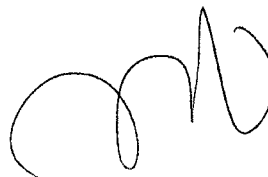
(a) With respect to Project Company 1 – Beginning on the Commercial Operations Date 1, a total of eleven (11) Months period in a Year from: (a) March 1<sup>st</sup> to November 30<sup>th</sup> and (b) sixty (60) days during the Winter Months in each Year provided that supply during the Winter Months should be consecutive for at least twenty (20) Days at each interval.

(b) With respect to Project Company 2: Beginning on the Commercial Operations Date 2, a total of eleven (11) Months period in a Year from: (a) March 1<sup>st</sup> to November 30<sup>th</sup> and (b) sixty (60) days during the Winter Months in each Year provided that supply during the Winter Months should be consecutive for at least twenty (20) Days at each interval.

"Force Majeure Event" – The meaning ascribed thereto in Section 13.1.

"Gas" – Natural Gas that is tendered for delivery and sale under this Agreement by the Seller to the Project Companies at the Points of Delivery that is in full conformance with the Gas Specifications

"Gas Allocation" means the gas allocated by the ECC through Ministry of Petroleum and Natural Resources vide Letter No. NG(II)-2(43)/13 dated 5 March 2013 as shown in Exhibit C "Gas Order"



(a) With respect to Project Company 1: – A communication from the Project Company 1 to the Seller setting forth the amount of Gas estimated to be required by Complex 1 during any Day under the Operating Procedures agreed to by the Seller and the Project Company 1 pursuant to Article IV; provided, however, a Gas Order shall not constitute an obligation by the Project Company 1 to receive and purchase the quantity of Gas specified therein on any given Day.

(b) With respect to Project Company 2: A communication from the Project Company 2 to the Seller setting forth the amount of Gas estimated to be required by Complex 2 during any Day under the Operating Procedures agreed to by the Seller and the Project Company 2 pursuant to Article IV; provided, however, a Gas Order shall not constitute an obligation by the Project Company 2 to receive and purchase the quantity of Gas specified therein on any given Day.

“Gas Price” – The price per MMBTU of Gas as notified by Regulatory Authority, plus any taxes thereon and meter rent payable by the Buyer hereunder for Gas delivered to the Points of Delivery.

“Gas Specifications” – The Gas Specifications as specified in Exhibit D.

“Gas Supply Deposit” – The meaning ascribed thereto in Section 8.3(a).

“GOP” – The Government of Islamic Republic of Pakistan.

“GOS” – The Government of Province of Sindh

“Gross Calorific Value” or “GCV” – The number of BTUs produced by combustion at constant pressure of the amount of gas that will occupy a volume of one cubic foot at 60 degrees Fahrenheit at the reference base pressure with air at the same temperature and pressure as the gas, when the products of combustion are cooled to the initial temperature of the gas and air, and when the water formed by combustion is condensed to the liquid state.

“Implementation Agreement” means the agreements so entitled entered into between a Project Companies and GOS in relation to the development of Complexes .

“Indemnified Party” – The meaning ascribed thereto in Section 10.2(d).

“Indemnifying Party” – The meaning ascribed thereto in Section 10.2(d).

“Initial Cure Period” – The meaning ascribed thereto in Section 17.6(a).

“Investors” – The holders from time to time of Ordinary Share Capital, as well as the holders of any securities that are convertible at the option of the holders into Ordinary Share Capital.

"Laws of Pakistan" – The federal, provincial and local laws of Pakistan, including without limitation, all orders, rules, regulations, statutory revisionary orders, executive orders, decrees, judicial decisions, notifications other similar directives made pursuant thereto, as such laws, orders, rules, regulations, decrees, judicial decisions and notifications or other similar directives may be amended from time to time.

"Lenders 1" – The financial institutions which shall enter into Financing Documents 1 with the Project Company 1 for the development of the Complex 1.

"Lenders 2" – The financial institutions which shall enter into Financing Documents 2 with the Project Company 2 for the development of the Complex 2.

"Lenders" – shall mean Lenders 1 or Lenders 2 as may be relevant

"Liquidated Damages" shall mean Short Quantity Liquidated Damages.

"Measuring Station 1" – A properly equipped station of the Seller, located adjacent to or on the Site 1 for measuring and controlling the pressure of Gas delivered to the Project Company 1 hereunder, which station shall include, without limitation, pressure control devices, valves, gauges, pressure and temperature records, orifice meter necessary to accurately measure the quantities of Gas delivered and sold to the Buyer.

"Measuring Station 2" – A properly equipped station of the Seller, located adjacent to or on the Site 1 for measuring and controlling the pressure of Gas delivered to the Project Company 2 hereunder, which station shall include, without limitation, pressure control devices, valves, gauges, pressure and temperature records, orifice meter necessary to accurately measure the quantities of Gas delivered and sold to the Buyer

"Measuring Stations" – Collective reference to Measuring Station 1 and Measuring Station 2.

"MMBTU" – One Million (1,000,000) BTUs.

"MMSCF" – One Million (1,000,000) cubic feet or one million standard cubic feet.

"Month" – A calendar month according to the Gregorian calendar, beginning at 12:00 midnight PST on the Day before the first Day of that month and ending at 12:00 midnight PST on the last Day of that month.

"MW" shall mean Mega Watt

"Natural Gas" – means hydrocarbons or mixture of hydrocarbons and other gases which at sixty degrees Fahrenheit and atmospheric pressure are in the gaseous state (including gas from gas wells, gas produced with crude oil and residue gas and products resulting from the processing of

gas) consisting primarily of methane, together with any other substance produced with such hydrocarbons.

“NGAMP” means Natural Gas Allocation and Management Policy, 2005, formulated by the the Government of Pakistan, Ministry of Petroleum and Natural Resources in September 2005 and its subsequent amendments from time to time shall remain effective and binding on the Parties.

“Notice of Intent to Terminate” – The Project Company Notice of Intent to Terminate, or the Seller Notice of Intent to Terminate, as the case may be.

“Operating Procedures” – The meaning attributed thereto in Section 4.3.

“Ordinary Share Capital” – Any shares of the Buyer with voting or other rights of management and control and any securities of the Buyer that are convertible into such shares at the option of the holder.

“Pakistan” – The Islamic Republic of Pakistan.

“Parties” – The Seller, GOS, Project Company 1 and / or Project Company 2 (as the case may be).

“Party” – Either the Seller, the GOS, the Project Company 1 or the Project Company 2 (as the case may be)

“Point of Delivery 1” – The point at which the inlet flange of the Complex 1 or the Project Company 1’s pipeline meet the Seller’s pipeline, and downstream of the Seller’s Measuring Station 1 within Complex 1.

“Point of Delivery 2” – The point at which the inlet flange of the Complex 2 or the Project Company 2’s pipeline meet the Seller’s pipeline, and downstream of the Seller’s Measuring Station 2 within Complex 2.

“Point of Delivery” – shall mean Point of Delivery 1 or Point of Delivery 2 as may be relevant.

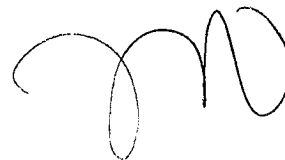
“Project Companies” – Collective reference of Project Company 1 and Project Company 2.

“Project Company” – shall mean either Project Company 1 or Project Company 2, as the case may be.

“PST” means Pakistan Standard Time, which is +5 hours Greenwich Mean Time.

“psia” – Pounds per square inch absolute.

“psig” – Pounds per square inch gauge.



"Power Purchaser Interconnection Facilities" shall have the meaning given to the term in the Power Purchase Agreements.

"Pressure Specifications" means the delivery pressure specifications for Gas specified in Exhibit D

"Prudent Gas Pipeline Industry Practices" means internationally accepted standards of good gas pipeline industry practices.

"Public Sector Entity" – (i) GOP, any Federal Entity, Provincial Government and any Provincial Government Entity, (ii) any local governmental authority, any tribal division or subdivision of any of the foregoing, (iii) any Pakistani Court or Tribunal with jurisdiction over the the Project Companies, Complex 1 or Complex 2, the contractors, the Lenders or the Project Activities or any part thereof, and (iv) any department, authority, independent regulatory agency, instrumentality, agency, body or corporation or other entity directly or indirectly controlled by any of the foregoing, and their administrators, successors in interest and permitted assigns.

"Regulatory Authority" – The Oil and Gas Regulatory Authority, established pursuant to the Oil and Gas Regulatory Authority Ordinance, 2002 (XVII of 2002), and any successor or replacement agency or any regulatory authority thereto.

"Rules" – The meaning ascribed thereto in Section 18.3.

"Rupees/Rs." – The lawful currency of Pakistan.

"SCF" or "Standard Cubic Foot" – A volume of gas that occupies one cubic foot at a base temperature of sixty degrees Fahrenheit (60°F) and at a base pressure of 14.65 psia.

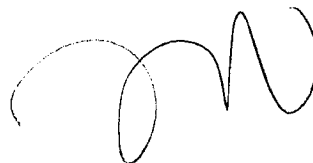

"Scheduled Outage 1" – A planned interruption of Complex 1's generating capability or any material part thereof that has been scheduled by the Project Company 1 in accordance with Section 12.2.

"Scheduled Outage 2" – A planned interruption of Complex 2's generating capability or any material part thereof that has been scheduled by the Project Company 2 in accordance with Section 12.2.

"Scheduled Outages" – Collective reference of Scheduled Outage 1 and Scheduled Outage 2.

"Seller Event of Default" – An event described in Section 17.2 for which the either of the Project Companies may issue a Notice of Intent to Terminate.

"Seller's Facilities" – That portions of the Seller's pipelines, including all pipes, materials and related facilities of the Seller, which are required to provide services to either of the Project Companies up-to and at the Points of Delivery. The Seller shall construct, own, operate and



maintain the Seller's Facilities and the Project Companies shall pay the construction costs to the Seller pertaining to their Projects. For the avoidance of doubt, the Seller shall retain the ownership of the Seller's Facilities. The Seller's Facilities are given under Exhibit F.

"Seller Notice of Intent to Terminate" – A notice of intent to terminate issued by the Seller to the Project Companies or any one of two, pursuant to Section 17.1.

"Short Quantity"

(i) In respect of Project Company 1 shall mean the difference between the Daily Contract Quantity or Gas Order 1, (whichever is less and the actual quantity of Gas delivered to Complex 1 on a particular Day.

(ii) In respect of Project Company 2 shall mean the difference between the Daily Contract Quantity or Gas Order 2 (whichever is less) and the actual quantity of Gas delivered to Complex 2 on a particular Day.

"Short Quantity Liquidated Damages" shall have the meaning ascribed thereto in Section 3.2

"Site 1" – The location of Complex 1 as described in Exhibit E.

"Site 2" – The location of Complex 2 as described in Exhibit E.

"Sites" – Collective reference of Site 1 and Site 2.

"Standards" – Collectively, the environmental guidelines and occupational health and safety standards established by the Pakistan Environmental Protection Agency and the relevant Environmental Protection Agency of the Provincial Government, as in effect on the date of this Agreement.

"Supply Term 1" – The meaning ascribed thereto in Section 2.1(a).

"Supply Term 2" – The meaning ascribed thereto in Section 2.1(b).

"Supply Term" – shall mean reference to Supply Term 1 or Supply Term 2 (as may be relevant)

"Termination Notice" - A Termination Notice served either by the Seller, or either of the Project Companies, as the case may be, pursuant to Section 17.4 (a).

"Transferee" – The meaning ascribed thereto in Section 15.2.

"Winter Months" shall mean the months of December, January and February;

## **Section 1.2    Rules of Interpretation**

In this Agreement:

- 1.2.1 headings are only for convenience, and shall be ignored in construing this Agreement;
- 1.2.2 the singular includes the plural and vice versa;
- 1.2.3 references to Articles, Sections and Exhibits are, unless the context otherwise requires, references to Articles, Sections and Exhibits to this Agreement;
- 1.2.4 unless the context requires otherwise, references to times and dates are, and shall be construed to be, references to Pakistan Standard Time;
- 1.2.5 unless otherwise provided herein, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed;
- 1.2.6 in carrying out its obligations and duties under this Agreement, each Party shall have an implied obligation of good faith; and
- 1.2.7 a reference to any legislation or legislative provision includes any statutory modification or re-enactment of or legislative provision substituted for, and any subordinate legislation under, that legislation or legislative provision.



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## ARTICLE II TERM OF AGREEMENT

### Section 2.1 Initial Term

- a) The term of this Agreement (with respect to Project Company 1) shall commence on the Commercial Operations Date 1 and shall continue, subject to the other provisions of this Agreement, for a period of twenty five(25) years. ("**Supply Term 1**").
- b) The term of this Agreement (with respect to Project Company 2) shall commence on the Commercial Operations Date 2 and shall continue, subject to the other provisions of this Agreement, for a period of twenty five(25) years. ("**Supply Term 2**").

### Section 2.2 Extension of Terms (Supply Term 1 & Supply Term 2)

The Supply Term 1 and Supply Term 2 of this Agreement shall be extended with the mutual agreement of the Seller and Project Company 1 or Project Company 2 as the case may be, in writing subject to availability of Gas from the Allocated Gas Fields. If the Parties fail to agree on the terms and conditions on which this Agreement is to be extended, this Agreement shall stand terminated on the Expiry Date in accordance with the provisions of Section 2.1. Any failure to agree on the terms and conditions for the extension of this Agreement shall not be a Dispute hereunder despite the grant of extension in Gas Allocation.

### Section 2.3 Effectiveness of the Agreement

This Agreement shall be effective on the date when the Conditions Precedent given as under are fulfilled.

- a) Approval of the Agreement from the Seller's Board of Directors;
- b) Approval of the Agreement from the Regulatory Authority



**ARTICLE III**  
**PURCHASE AND SUPPLY**

**Section 3.1    Purchase and Supply**

- a) Subject to availability of Natural Gas from the Allocated Gas Fields and in accordance with the Operating Procedures to be developed pursuant to Article IV, and the other provisions of this Agreement, from and after the Commissioning Period Start Date, the Project Companies shall purchase from the Seller and the Seller shall, pursuant to NGAMP, deliver at the Points of Delivery and sell to the Project Companies, Gas that conforms to the Gas Specifications, as follows:
- b) With respect to Project Company 1:
  - (i) during the Firm Delivery Period, the Project Company 1 shall purchase from the Seller and the Seller shall deliver at the Point of Delivery 1 and sell to the Project Company 1 all of Complex 1's requirements for Gas, up to the Daily Contract Quantity, as requested by Project Company 1 in its Gas Order issued in accordance with the Operating Procedures, and
  - (ii) during the As-Available Period , the Project Company 1 shall purchase from the Seller and the Seller shall deliver at the Point of Delivery 1 and sell to the Project Company 1, Gas on an as-available basis up to the Daily Contract Quantity, requested by the Project Company 1 in its Gas Order issued in accordance with the Operating Procedures,
- c) With respect to Project Company 2:
  - (i) during the Firm Delivery Period, the Project Company 2 shall purchase from the Seller and the Seller shall deliver at the Point of Delivery 2 and sell to the Project Company 2 all of Complex 2's requirements for Gas, up to the Daily Contract Quantity, as requested by Project Company 2 in its Gas Order issued in accordance with the Operating Procedures, and
  - (ii) during the As-Available Period, the Project Company 2 shall purchase from the Seller and the Seller shall deliver at the Point of Delivery 2 and sell to the Project Company 2, Gas on an as-available basis up to the Daily Contract Quantity, requested by the Project Company 2 in its Gas Order issued in accordance with the Operating Procedures.

### **Section 3.2    Non-Supply**

In the event the Seller fails or is unable to:

(a) deliver Gas, in such quantities as may be specified by the Project Companies in the Gas Orders issued in accordance with Section 3.1 and the Operating Procedures, during the Firm Delivery Periods, the Seller shall be liable to pay Liquidated Damages (to Project Company1 or Project Company2 as the case may be), for the differential in Gas quantities between Gas actually supplied (if less than 50% of the Daily Contract Quantity) and 50% of the Daily Contract Quantity in accordance with Part 1 of Exhibit I (*Calculation Of Liquidated Damages*) for the Short Quantity delivered on each Day (the "**Short Quantity Liquidated Damages**");

Provided that the Project Company 1 or Project Company 2 as the case may be shall provide to the Seller documentary proof evidencing the purchase of the Alternate Fuel by submitting the supporting documents to the Seller which should include but not limited to invoices / delivery receipts for purchase of Alternate Fuel, partial derating, forced outages or failure to achieve dispatch levels on account of Seller's failure to supply Gas to Project Company 1 or Project Company 2 resulting in loss of capacity payments (which the Project Company 1 or Project Company 2), would have received from its customers

Provided however that the Seller shall not be liable to pay any Short Quantity Liquidated Damages to Project Company 1 and / or Project Company 2 if the failure to supply Gas is due to or during (as the case may be)

- (i) a Force Majeure Event; or
- (ii) an act or omission attributable to the either of the Project Companies; or
- (iii) Maintenance Periods (Project Company 1 and/or Project Company 2); or
- (iv) As-Available Periods (in case of sub-clause (a) above)
- (v) if the Seller is required to curtail, interrupt or shutdown supply of Gas to Project Company 1 and / or Project Company 2 on account of Gas Load Management pursuant to NGAMP

### **Section 3.3    Payment of Liquidated Damages**

The Project Companies shall issue an invoice in respect of the Liquidated Damages, on the 5th, day of the Month following the Month to which the Liquidated Damages pertain to and the Seller shall pay the same within fifteen (15) days of receipt of the invoice.



### **Section 3.4    Liquidated Damages Reasonableness**

The failure by the Seller to supply and deliver Gas, as and when required hereinabove, shall not constitute a breach or default of this Agreement if and to the extent that the Seller pays to the Project Companies the liquidated damages stated hereinabove in section 3.2. The Parties have agreed that sums mentioned herein are reasonable as liquidated damages. The Parties agree that the Liquidated Damages are a genuine pre-estimate of the likely loss to be suffered in the event of failure by the Seller to comply with its obligations herein, as finally and bindingly estimated at the time of entering into the Agreement. The Seller thus hereby waives, to the extent permitted by any applicable law, any defence as to the validity of any liquidated damages in this Agreement on the grounds that such liquidated damages are void as penalties.

### **Section 3.5    Take or Pay**

#### Project Company 1

From and after the Commercial Operations Date 1 and during a Month in the Firm Delivery Period, the Project Company 1 shall take and if not taken pay for a minimum quantity of Gas (the "Take-or-Pay Quantity") equal to fifty percent (50%) of the Daily Contract Quantity multiplied by the difference between the number of days in that Month (or portion thereof) and (i) the number of days (or fractions thereof) of Force Majeure Events declared by the Seller or the Project Company 1 in that Month, (ii) the number of days (or fractions thereof) of non-delivery of Gas by the Seller in that Month for any reason, including a breach or default by the Seller or maintenance undertaken by the Seller pursuant to Section 12.1, and (iii) the number of days of Scheduled Outages in that Month notified to the Seller pursuant to Section 12.2.

#### Project Company 2

From and after the Commercial Operations Date 1 and during a Month in the Firm Delivery Period, the Project Company 2 shall take and if not taken pay for a minimum quantity of Gas (the "Take-or-Pay Quantity") equal to fifty percent (50%) of the Daily Contract Quantity multiplied by the difference between the number of days in that Month (or portion thereof) and (i) the number of days (or fractions thereof) of Force Majeure Events declared by the Seller or the Project Company 2 in that Month, (ii) the number of days (or fractions thereof) of non-delivery of Gas by the Seller in that Month for any reason, including a breach or default by the Seller or maintenance undertaken by the Seller pursuant to Section 12.1, and (iii) the number of days of Scheduled Outages in that Month notified to the Seller pursuant to Section 12.2.



## ARTICLE IV OPERATING PROCEDURES

### Section 4.1 Estimated Deliveries

No less than ten (10) days prior to the beginning of each Month after the Commissioning Period Start Date the Project Companies (as may be applicable) will provide the Seller with good faith estimates of the quantities of Gas in MMCFDs that the Project Companies desire the Seller to make available for delivery at Points of Delivery on a day-to-day basis commencing on the first day of the following Month. On or before 4:00 p.m. PST five (5) days prior to the beginning of each Month, the Project Companies shall provide the Seller with update of the estimated Gas requirements of the Project Companies with respect to Complex 1 and Complex 2 in MMCFDs for each Day of the following Month (the "**Estimated Quantity**"). After the first Day of the Month, the Project Companies may adjust the Estimated Quantity by Gas Order by providing notice in accordance with Section 4.3(d) below, provided however, the Seller's obligation to deliver Gas to the Project Companies shall never exceed their Daily Contract Quantity.

### Section 4.2 Telephone Notification

For purposes of nominating deliveries of Gas pursuant to this Article IV, the Project Companies shall provide instructions by telephone to the Seller's designees; provided, that such telephone nominations shall be promptly confirmed in writing.

### Section 4.3 Preparation of Operating Procedures

At least six (6) Months prior to the anticipated Commissioning Period Start Date, the Seller shall with each Project Company (as applicable) initiate the preparation of a set of mutually agreed written operating procedures to facilitate the Parties' performance under this Agreement (the "**Operating Procedures**") for Complex 1 and Complex 2 (as applicable). If the Seller and Project Company 1 or Project Company 2 as the case may be are unable to agree upon the terms of the Operating Procedures at least three (3) Months prior to the anticipated relevant Commissioning Period Start Date, the Seller and Project Company 1 or Project Company 2 as the case may be shall refer the matter for determination by an Expert in accordance with the provisions of Section 18.2(a) through Section 18.2(f) and Section 18.2(i) through Section 18.2(j), which determination shall be binding. The Operating Procedures shall be completed and available for use at least one (1) Month prior to their corresponding Commissioning Period Start Date. The Operating Procedures shall encompass the following procedures and provisions:

- (a) an overall operating plan and procedures for the delivery/receipt of Gas by the Complex in accordance with this Agreement shall be established, including any special plans or procedures that apply solely to the period between the Commissioning Period Start Date and the Commercial Operations Date;

- (b) at least one (1) Month prior to the beginning of each Year, the Project Companies shall provide the Seller good faith written estimate of their respective Gas requirements on a Month-by-Month basis for such Year;
- (c) at least ten (10) Days and five (5) Days prior to the beginning of each Month, the Project Companies shall provide to the Seller good faith written estimate and an update, respectively, of their respective Gas requirements on a Day-by-Day basis for such Month;
- (d) the notice period for Project Companies to communicate to the Seller a Gas Order that sets forth the quantities of Gas planned to be required by the Complexes during such Day;
- (e) any significant deviations from planned Gas receipts occasioned by the electric dispatch requirements of the Project Companies' customers, or any other significant unplanned deviations during a Day, shall be communicated by the Project Companies to the Seller in a revision of the Gas Order(s) for such Day on a prospective basis if reasonably practicable;
- (f) the format, content and acceptable means of communications of Gas Orders shall be agreed;
- (g) steps to be taken in the event of emergency or Force Majeure shall be established;
- (h) planning and coordination procedures for scheduled and unscheduled maintenance on the facilities of the Project Companies and the Seller shall be established;
- (i) testing protocols and schedules may be established if the Project Companies and the Seller deem that to be advisable;
- (j) when the operations or actions of the employees or contractors of one Party may affect the operations or safety of the facilities, employees or contractors of the other Party, safety rules and operating procedures shall be established;
- (k) cathodic protection and electrical isolation procedures for interconnecting facilities shall be established; and

such other matters as may be necessary or desirable to facilitate operations, communications, safety, or other matters of mutual concern may be set forth in the Operating Procedures.

#### **Section 4.4    Operating Procedures Amendments**

From time to time during the Term, either Party may propose Operating Procedure amendments to better achieve the objectives of this Agreement or for the mutual benefit of the the Seller and Project Company 1 or Project Company 2 as the case may be. Such proposals shall be delivered in writing by a proposing Party to the other Party and shall be finalized only with the mutual consent of the the Seller and Project Company 1 or Project Company 2 as the case may be. If the the Seller and Project Company 1 or Project Company 2 as the case may be are unable to agree upon the amendments to the Operating Procedures within thirty (30) Days from date of the issue of notice to propose an amendment to the operating Procedures by a Party, the the Seller and Project Company 1 or Project Company 2 as the case may be shall refer the matter for determination by an Expert in accordance with the provisions of Section 18.2(a) through Section 18.2(f) and Section 18.2(i) through Section 18.2(j), which determination shall be binding.

#### **Section 4.5    Conflicts with Agreement**

In the event of any conflict between this Agreement and the Operating Procedures developed pursuant to Section 4.3 or 4.4, the provisions of this Agreement shall prevail.

#### **Section 4.6    Notice of Construction Schedule**

Within sixty (60) Days following the Effective Date, Project Company 1 and Project Company 2 agrees to provide the Seller with notice of the anticipated construction schedule for its respective Complexes, which schedule shall include the significant construction milestones leading to the achievement of combined cycle operation. Within thirty (30) Days following the Effective Date, the Seller agrees to provide the Project Companies with notice of the anticipated construction schedule for the Seller's Facilities, and Measuring Stations.


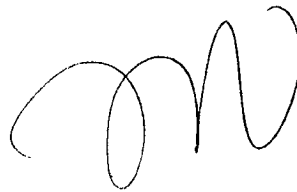
#### **Section 4.7    Notice and Construction**

As soon as reasonably practicable but in any event after the Effective Date the Project Companies shall notify the Seller of the then-anticipated Commissioning Period Start Date of their Complexes. Upon receipt of notice of the anticipated Commissioning Period Start Date, the Seller shall complete the design of all facilities, including without limitation, the Seller's Facilities and the Measuring Stations and construct and install and commission such facilities, using Prudent Gas Pipeline Practices so as to be able to supply Gas to the Complex at the Point of Delivery thirty (30) Days before the anticipated Commissioning Period Start Date. The Seller shall complete the Seller's Facilities no later than three (3) months from the date of receipt of material at Sites from the Project Companies and after receiving the full payment of cost involved in constructing Seller's Facilities from the Project Companies. The Seller shall also be responsible for connecting to Project Companies' pipes and fittings for the receipt of Gas by the Project Companies at their respective Points of Delivery. The Project Companies shall be

responsible for installing on or before their respective Commissioning Period Start Dates all necessary pipeline facilities on its side of the Points of Delivery that are compatible with the Seller's facilities at the Points of Delivery.

**Section 4.8 Commissioning and Testing**

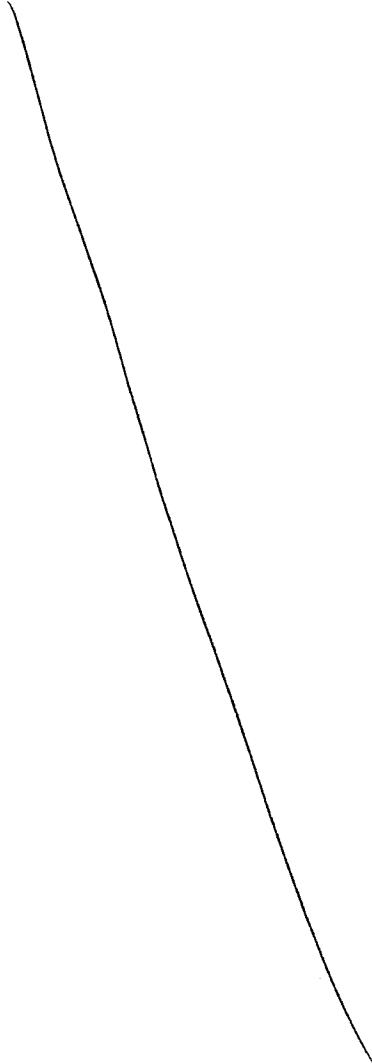
At least thirty (30) Days prior to the commissioning and testing of the Seller's Facilities and the Measuring Station 1 or Measuring Station 2 (as the case may be), the Seller shall give the concerned Project Company notice of such commissioning and testing, and the Project Company through its representative shall have the right to observe such commissioning and testing.





ARTICLE V

NOT USED



## ARTICLE VI MEASUREMENT

### Section 6.1 Measuring Stations

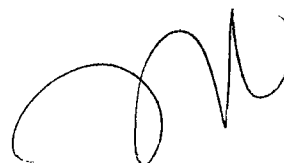
To determine the quantities and quality of Gas delivered under this Agreement, the Seller shall install a fully tested and operational Measuring Station 1 for Complex 1 and Complex 2 on or before their respective Commissioning Period Start Date. The metering system portions of the Measuring Stations shall be installed, tested, operated and maintained by the Seller in accordance with the provisions of this Agreement. Pressure control devices in the Measuring Stations shall be designed, installed, tested, operated and maintained by the Seller in accordance with internationally accepted standards of good industry practice to assure conformity with the maximum and minimum delivery pressures set forth in the Pressure Specifications set forth in Exhibit D.

### Section 6.2 Locations of Measuring Stations

Measuring Station 1 shall be located adjacent to Complex 1 and Measuring Station 2 shall be located adjacent to Complex 2; or, if requested in writing by the Seller, the Project Companies shall at no cost to the Seller, grant the Seller under mutually agreeable terms, all reasonably necessary easements and rights-of-way that the Project Companies may have to enable the Seller, at no cost to Project Companies, to install, operate, maintain, replace and/or remove its Measuring Stations on the Sites and to gain independent access to the Measuring Stations without requiring entry from the Sites.

### Section 6.3 Meter Readings

For normal billing purposes (whether recorded from visual readings at the Measuring Stations, telemetered or computed from measurement charts and records), Gas quantities sold hereunder shall be read and recorded jointly by the the Seller and Project Company 1 or Project Company 2 as the case may be at the end of each Month for each Complex 1 and Complex 2. Gas quantities sold hereunder shall be determined from such readings or records in accordance with the provisions of this Article VI and Exhibit D. Should any Dispute arise between any of the Parties as to quantities of Gas delivered hereunder, the the Seller and Project Company 1 or Project Company 2 as the case may be shall in good faith resolve their differences in accordance with the mechanism set forth in this Article VI. If the the Seller and Project Company 1 or Project Company 2 as the case may be are unable to reconcile their differences as to metered quantities, the Dispute shall be referred to an Expert for determination pursuant to Section 18.2(a) through Section 18.2(f) and Section 18.2(i) through Section 18.2(j), which determination shall be binding.



#### **Section 6.4    Measurement**

The unit of measurement for Gas delivered and sold under this Agreement shall be one (1) MMBTU. Whether determined by the flow meters, manually, or by other means, the number of MMBTU delivered and sold hereunder shall be determined by multiplying the Gross Calorific Value of Gas by the measured volume of Gas, expressed in SCF and dividing the result by one million (1,000,000). The unit of volumetric measurement shall be a cubic foot of Gas and the term "cubic foot of Gas" shall mean a cubic foot of Gas at an absolute pressure of 14.65 pounds per square inch and a temperature of sixty (60) degrees Fahrenheit, without adjustment of water vapour content, but correction factors for pressure, temperature, specific gravity, deviations from Boyle's Law and Charles's Law, specified in the relevant American Gas Association report and acceptable industry standards and practices suitable to the Complex shall be applied. The value of atmospheric pressure for calculating the pressure factor shall be 14.65 pounds per square inch and the value of acceleration to gravity shall be 32.174 feet per second. The Gas delivered hereunder shall be measured in accordance with the methods used by and recommended by the Gas Measurement Committee of the Gas Department of the American Gas Association and shall be applied in a practical manner or in accordance with the procedure or methods prescribed by Regulatory Authority.

#### **Section 6.5    Measurement Equipment**

- (a) The Seller shall design and at its expense, install, maintain and operate at Points of Delivery, measuring equipment necessary for the accurate volumetric measurement of Gas delivered by the Seller, to each of the Project Companies. Such volumetric measuring equipment shall be located immediately upstream of each of the Points of Delivery. Such measuring equipment shall be capable of recording the volumetric quantity of Gas delivered for each Day. The Seller's measuring equipment shall operate at an accuracy of measurement of plus or minus one percent ( $\pm 1\%$ ) for all meters. No meter shall be connected or disconnected at the Measuring Stations from the gas pipe except by the authorized personnel of the Seller. The meter shall be inspected periodically.
- (b) For determining the Gross Calorific Value of Gas, the Seller shall use continuous recording type standard equipment, which is employed in the gas industry for such purpose. The Project Companies shall have the right to test their respective GCV of the Gas delivered and promptly report the results of such test to the Seller; such tests shall be performed by the Approved Labs, according to American Gas Association reports and the Seller shall promptly arrange calibration of GCV, if required, measuring equipment to the satisfaction of the Project Company 1 and/or Project Company 2, as the case may be.
- (c) The accuracy of this equipment shall be better than or equal to plus or minus one percent ( $\pm 1\%$ ), the GCV recording equipment shall be calibrated/tested by the Seller on monthly

basis and the Project Companies shall be invited to witness calibration/testing. In the event of error or fault in the GCV recording equipment, corrective action shall be taken in accordance with the relevant clauses of Section 6.6.

**Section 6.6 Accuracy of Equipment.**

The accuracy of the measuring and testing equipment described in Section 6.5 (a) shall be tested and verified by the Seller on a monthly basis. All testing shall be performed in accordance with the manufacturer's requirements and specifications. All standard monthly test and calibrations shall be made at the Seller's expense; provided, however, tests undertaken solely at either of the Project Companies' requests, which are outside the standard monthly calibration tests, shall be undertaken by the Seller and the Project Company requesting such tests shall pay for such non-standard calibration test only to the extent if such equipment is measured to be within mutually agreeable calibration limits. If, upon any test, the Seller's measuring equipment, except for flow meters, is found to be inaccurate:

- (i) within plus or minus one percent ( $\pm 1\%$ ) of the measured value, then the previous recording of such equipment shall be reckoned as correct for computing Gas deliveries, but the equipment shall be promptly adjusted to operate/register/record correctly, continuous operation of the equipment by way of treating the aforesaid allowance of plus or minus one percent ( $\pm 1\%$ ) of true value as an all-time tolerance in its acceptable accuracy shall not be permitted,
- (ii) any single unit measuring equipment is found to be inaccurate in excess of the plus or minus one percent ( $\pm 1\%$ ) aforesaid under paragraph (a) above, then for the period for which such measuring equipment has been known to have been inaccurately functioning, the record/reading of such measuring equipment for the whole period shall be corrected to zero error. If, however, the period of such inaccurate functioning of the measuring equipment is not known or cannot be mutually agreed upon, then for the period equivalent to one half of the time elapsed since such equipment was last found to be plus or minus one percent ( $\pm 1\%$ ) accurate, the equipment's reading/record shall be adjusted to zero error.
- (iii) in the event of any one or more of the Seller's measurement and recording equipment (pressure, flow, temperature and C.V. etc.) being out of service, the instrument shall be put back into operation/service as soon as possible by the Seller after rectifying the fault. The volume of the Gas for the period, during which the instrument remained out of service, shall be calculated in accordance with the first of the following methods whichever is feasible:
  - (A) The actual dispatch to the Power Purchaser for the period that the equipment was out of service (verified by actual record of Power Purchaser for electricity dispatched) divided by the average conversion rate (per unit of electricity generated per MMBTU) for the previous two (2) months per unit of electricity generated (using actual record of

Power Purchaser for electricity dispatched), using the average GCV of the same two month period (in case the GCV measurement equipment is also not measuring accurately) , shall be used for Volume determination in such period.

- (B) by using that Project Company's back-up meters, if installed, owned and operated by that Project Company downstream of the Seller's Measuring Stations, if such metering facility is accurately registering (subject to testing as described herein for Seller's measurement equipment); the reading of that Project Company's back-up meters shall, however, not be used while the Seller's measurement equipment is functioning accurately.

#### **Section 6.7 Notice of Testing**

For testing the accuracy of measuring and testing equipment as provided under Section 6.6 either Party may give reasonable notice, but in no event less than seven (7) Business Days' notice, to the other Party of tests so that each Party may conveniently, at its own expense, have its representative present at such tests.

#### **Section 6.8 Inspection**

The Seller shall at any time during normal business hours of the Seller and within seventy two (72) hours of a written request from any Project Company, allow such Project Company to inspect equipment installed by the Seller in the presence of an authorized representative of the Seller pertaining to its respective Complex. The reading, calibration and adjustment of such equipment and the changing of charts shall be done only by an authorized representative of the Seller at the Project Company's expense only to the extent such equipment is measured to be within mutually agreeable calibration limits.

#### **Section 6.9 Project Companies' Meters**

Notwithstanding Section 6.5, the Project Companies may install, maintain and operate, at their sole cost and expense, measuring equipment; provided, however, that such equipment shall be designed, constructed, installed and maintained in a manner that shall be independent of the Seller's Measuring Stations and will not interfere with the operation of the Seller's measuring equipment and that such measuring equipment shall be on that Project Companies' property for its internal use only.



**Section 6.10 Not Used**

**Section 6.11 Access & Metering Room**

The Seller shall have free and uninterrupted access, throughout the term of this Agreement, for the installation, operations and maintenance of Seller's equipment at the Site. The measurement and recording equipment, all meters, pipelines, regulators, valves, devices, and other equipment of the Seller, upstream of the Points of Delivery, shall be owned, installed, operated and maintained by the Seller, using Prudent Gas Pipeline Industry Practices. Throughout the term of this Agreement, the Project Companies shall provide sufficient space for installation of the metering station and a room for the installation of the GCV measuring equipment at their respective Complexes, as well as a room and power supply for the Seller's operating personnel.

**Section 6.12 Repair of Metering Stations**

No part or equipment of the Measuring Stations installed, operated, and maintained by the Seller at the Complexes, or within the Measuring Stations, shall be installed, repaired, or removed unless done by employees or agents, of the Sellers, duly authorized, in writing, on its behalf, except in cases of emergency. Any and all Measuring Stations, installed by Seller shall be inspected by the Seller once every month or as frequently as deemed fit and appropriate by the Seller, in its discretion. The Project Companies shall be entitled to have their representatives present at all such inspections of their respective Complexes. Except in cases of an emergency when Seller shall provide such notice as is practicable under the circumstances, the Seller shall give the Project Companies not less than seven (7) Days of notice of any installation, repairs, or removal of any part of the Measuring Stations and shall permit the representatives of the Project Companies to be present while such work is carried out at their respective Complexes. Provided however, for orifice meters, such meters shall be inspected annually for necessary cleaning, and/or orifice plate replacement, if required. For other flow meters, such meters shall be inspected, as and when required, but not later than bi-annually for maintenance/replacement, if required.

**Section 6.13 Meter Tampering**

If either of the Project Companies has been found to have been responsible in any way in tampering with gas meter, allied equipment and their seals in order to secure more Gas supply to that Project Company than is recorded on the Meters and other installations maintained by the Seller, the Buyer shall be liable to pay to the Seller the Gas Price equivalent to the Gas consumed but not recorded by the measuring equipment (as substantiated by electric production record and the historical efficiency of the Complex); provided that this amount shall be due from and payable by the Buyer within fifteen (15) Days of the date of issuance of the invoice therefor by the Seller; provided further that the Seller shall ensure that the aforesaid invoice is delivered to the Buyer the same day as issuance.

**ARTICLE VII**  
**QUALITY, QUANTITY AND DELIVERY PRESSURE**

**Section 7.1    Conformance with Gas Specifications**

Subject to the provisions of Section 7.2, the Seller shall tender, deliver and sell Gas to the Project Companies under the terms of this Agreement in full conformance with the Gas Specifications, including, without limitation, the Quality Specifications and the Pressure and the Temperature Specifications (the maximum and minimum delivery pressures set forth in Annex D).

**Section 7.2    Rejection of Non-Conforming Natural Gas**

The Project Companies (or any one of them), at their option, may refuse to accept delivery of any Gas which is not in conformance with the Gas Specifications and shall give contemporaneous notice to the Seller of such refusal within forty eight (48) hours of delivery. The Seller shall take immediate remedial action to cause the non-conforming Gas to conform to the Gas Specifications and until such time that such non-conforming Gas conforms to the Gas Specifications such non-conforming Gas, if consumed shall be deemed to have been accepted, but if not consumed shall not be considered to have been delivered. Acceptance by either of the two Project Company's of non-conforming Gas shall not be taken in any way to modify or alter the Gas Specifications or bind either Project Companies or as the case may be in any future time to accept any non-conforming Gas.



## ARTICLE VIII GAS PRICE

### Section 8.1 Gas Price

- (a) Subject to subsection 8.1(b) below and the other terms and conditions of this Agreement, either of the two Project Companies shall pay to the Seller the Gas Price in Rupees per MMBTU multiplied by the quantity of Gas in MMBTU actually delivered to their respective Point of Delivery pursuant to its Gas Orders during any Month.
- (b) The Gas Price for all Gas delivered under this Agreement shall be the price in Rupees per MMBTU notified by the Regulatory Authority from time to time under the applicable law for the independent power projects (unless otherwise directed by the Regulatory Authority) set up under the Policy Guidelines for Small Independent Power Projects dated 10 October 2011 issued by National Transmission and Despatch Company and subject to Sections 8.2 and 8.3. The Seller shall, at the request of either of the two Project Companies, provide a copy of all price notifications issued by the Regulatory Authority in a timely manner. The Parties also agree that any change in the Gas Price shall be the date the revised price is effective as per the notification by Regulatory Authority.

### Section 8.2 Not Used

### Section 8.3 Gas Supply Deposit


- (a) Each Project Company shall at least fifteen (15) Days before its Commissioning Period Start Date, furnish to the Seller, at its own cost, a security deposit with respect to its Complex ( the "Gas Supply Deposit"). The Gas Supply Deposit may either be in the form of cash deposited in the Seller's designated account or bank guarantee in the form set forth in Exhibit A from scheduled bank(s), approved in writing by the Seller and naming the Seller as beneficiary thereunder. The Gas Supply Deposit should be equal to three (3) months Daily Contract Quantity valued at the current applicable Gas Price and inclusive of taxes thereon, if any. In the event Gas Supply Deposit is in the form of cash it shall earn interest at five (5) percent per annum. Subject to 8.3 (b) , the Gas Supply Deposits, if in cash, is to be retained by the Seller for the entire Term and the Seller may at its option use the Gas Supply Deposit for its business purposes from time to time.
- (b) The Gas Supply Deposit for guaranteed deliveries shall (i) be maintained during the Term; (ii) be enhanced or reduced, as the case may be, within thirty (30) Days accordingly either in case the Gas price is changed by the Regulatory Authority or the Short Quantity is delivered consistently in three consecutive Months and the Seller shall issue necessary confirmations to the guarantee issuing bank for reduction of the Gas Supply Deposits (if applicable); and (iii) returned to the



relevant Project Company within twenty one (21) Days after expiration or termination of this Agreement, net of any amounts lawfully due to the Seller.

- (c) No connection for Gas being supplied hereunder will be activated or maintained in the absence of the Project Company providing the Gas Supply Deposit to the Seller as contemplated by this Section 8.3.
- (d) In the event that either of the two (2) Project Companies fails to pay any amount payable to the Seller on the Due Date, the Seller shall be entitled to draw down or collect such amounts from the Gas Supply Deposits of such Project Company by giving a prior notice of five (5) Business Days.
- (e) In the event that:
  - (i) the Gas Supply Deposit is not replaced or renewed to the satisfaction of the Seller at least thirty (30) days prior to the date on which the said Gas Supply Deposit is scheduled to expire; or
  - (ii) the Gas Supply Deposit is not adjusted accordingly in the event that the Gas Price is changed by the Regulatory Authority to account for such change within the period prescribed by the Seller, which shall not be less than thirty (30) days; or
  - (iii) the Gas Supply Deposit is not replenished within thirty (30) days of draw down pursuant to sub-clause (d) above;

then without prejudice to any other rights or remedies available to the Seller under this Agreement but subject to the provisions of Section 9.6, the Seller shall be entitled to suspend deliveries of the Gas to such Complex which is in default..



**ARTICLE IX**  
**BILLING AND PAYMENT**

**Section 9.1    Monthly Billing**

The Seller's bills for the supply of Gas hereunder to Complex 1 and Complex 2, including any adjustments under Section 9.7, shall be furnished to Project Company 1 and Project Company 2 respectively every Month.

**Section 9.2    Delivery of Bills**

All bills duly sent by the Seller in accordance with the notices provision hereof shall be considered prima facie evidence of delivery of bills to Project Company 1 and Project Company 2 by the Seller.

**Section 9.3    Posting and Payment**

All monthly bills pertaining to Gas consumption for a Month, shall be due for issuance within the first ten (10) Business Days of the subsequent month, and the Seller shall ensure that the bills are delivered on the same day as issuance, and shall be payable within ten (10) days from the day of receipt of the bill (the "**Due Date**") by the Project Companies. For the avoidance of doubt each Project Company shall only be liable to pay bills issued in its name for the supply of Gas to its Complex.

**Section 9.4    Method of Payment**

Payment shall be made to the Seller in Karachi, Pakistan at the Seller's designated bank in the designated account of the Seller, on or before the Due Date; provided that, in the event that payment in the manner identified above is not possible, delivery by the Project Company 1 and Project Company 2 as the case may be of a pay order drawn on a scheduled bank in favour of the Seller at a designated office of the Seller shall be deemed to be an acceptable form of payment. The name of the bank and the account number of the Seller shall be provided by the Seller along with the Seller's first Monthly bill and shall be considered standing instruction until changed in writing by the Seller.

**Section 9.5    Disputed Amounts**

If payment of any bill rendered by the Seller to the Project Company is not made by the Due Date, a late payment surcharge calculated at the Delayed Payment Rate shall be applicable on any outstanding amount, including any disputed amounts withheld in accordance with this Section which are subsequently determined to be owing, calculated from the day following the Due Date till the date full payment is made by such Project Company. In the event that a Project Company disputes any part of bill, then such Project Company shall deliver Notice to the Seller

in accordance with Article XVI of such disputed amount and particulars of the complaint and shall pay any undisputed portion of such bill within the Due Date. The Seller and Project Company 1 or Project Company 2 as the case may be shall use all reasonable efforts to resolve any disputed portion of any bill within thirty (30) Days after the concerned Project Company's notification of such dispute by joint investigation of any alleged discrepancies. Any dispute (included those relating to measurement or quality specifications) that is not resolved within the said time period shall be resolved in accordance with the provisions of Article XVIII. Notwithstanding the above, the Project Companies shall have the right to dispute any bill within six (6) Months of its issuance whereafter such bill shall be deemed to be correct and no dispute shall be raised in respect thereof.

#### **Section 9.6    Suspension of Deliveries**

If a Project Company fails to make the undisputed payment by the Due Date, then the Seller shall in addition to its other rights and remedies, be entitled to (a) make drawdown on the Gas Supply Deposit provided by the concerned Project Company equivalent to the amount shown in the invoice along with the mark-up at the Delayed Payment Rate, or (b) suspend the supply of Gas by giving seven (7) days written notice of suspension to the concerned Project Company, which notice shall specify the amount which has not been paid, provided that such right of suspension shall only be exercised in the event that the balance amount remaining in the Gas Supply Deposit (provided by the concerned Project Company) following any drawdown(s) in terms of this Agreement is less than the price for Gas equivalent to fifteen (15) days of delivery of Gas; provided further that the Seller shall not suspend the supply of Gas if the requested amount is paid within seven (7) days, and provided further that if the Seller suspends the supply of Gas, the Seller shall resume the supply of Gas within twenty four (24) hours of receiving payment of such unpaid amount, together with mark-up thereon, plus the Seller's prevailing reconnection charges.

#### **Section 9.7    Estimated Billing**


In case the meter installed in the Measuring Station cannot be read due to any reason other than availability of the Seller's personnel, the Seller shall submit provisional bills based on consumption experienced in the same Month of the preceding year or if no data is available of such Month then the consumption of immediately preceding Month (taking into account the Firm Delivery Periods and the As-Available Periods) for which meter should have been read. The Seller shall adjust provisional bills based on estimated consumption against actual meter reading obtained subsequently but in no event later than the next scheduled monthly billing and bill or give credit/debit, as the case may be, to the Project Companies of the difference if any. The Project Companies shall pay such bills related to their Complex within the Due Date mentioned herein and the Seller shall adjust any refund against future charges for Gas supplied.

**Section 9.8 Billing Errors**

After the bills have been furnished and/or paid, if the Seller or a Project Company within six (6) Months after posting of any bill discovers any manifest error, omissions or discrepancies in any such bills due to any reason whatsoever, the Seller or either of the two Project Companies shall bring such discrepancies to the notice of the other and the Seller and Project Company 1 or Project Company 2 as the case may be shall agree to adjust the bills accordingly. Any mistake in the bills or meter reading shall not entitle the concerned Project Company to withhold payment of the bills by the Due Date, other than amounts which are subject to legitimate dispute in accordance with Section 9.5 above.

**Section 9.9 Set- Off**

Notwithstanding anything contained in the Agreement the Project Companies shall be entitled to set off any amounts payable by the Seller (to the respective Project Company) as liquidated damages pursuant to Article III from the amounts payable under the monthly bills issued under Section 9.3 provided the liquidated damages have not been disputed by the Seller in which case the amounts shall only be set-off after the resolution of dispute by the Expert or issuance of award by the Arbitrator in accordance with Article 18.



**ARTICLE X**  
**RISK OF LOSS, TITLE AND INDEMNITY**

**Section 10.1 Risk of Loss and Title**

The Seller shall be responsible for all of the Seller's Facilities and Measuring Stations upstream of the Points of Delivery. The Project Companies shall be responsible for their respective Complexes and any related facilities owned or controlled by Project Companies downstream of the Points of Delivery. The Project Companies shall also be responsible for site security of the Seller's equipment within the respective Sites of the Project Companies against any damage (other than for reasons of operation) and theft and shall be responsible for replacement cost of such equipment if stolen/damaged; provided however the access to the Seller shall have to be through the main access and security arrangements of the Sites by the Project Companies. Unless the Parties agree in writing otherwise, risk of loss and title to all Gas delivered to the Project Companies pursuant to the terms and conditions of this Agreement shall pass from the Seller to each Project Company at their respective Points of Delivery.

**Section 10.2 Indemnity**

Without limiting any other remedies that may be available to the Seller or the Project Companies hereunder or pursuant to applicable law, the following indemnification and liability provisions shall apply:

- (a) The Seller shall be deemed to be in exclusive control and possession of all Gas prior to its delivery hereunder and shall be responsible for any damage or injury caused thereby until the same shall have been delivered to each Project Company at their respective Point of Delivery. The Seller shall indemnify, defend and hold the Project Companies, its officers, directors, shareholders, employees and its Contractors, harmless from any and all costs (including reasonable legal expenses), damages, losses, claims, actions, penalties and liabilities resulting from property damage and injury to and death of persons, arising from (i) any negligent act or omission by the Seller with respect to Gas delivered by the Seller up to and including the Points of Delivery wherever such damage or injury occurs, whether upstream or downstream of the Points of Delivery, or (ii) subject to the provisions of Section 13.4, any breach by the Seller of any of the representations, warranties and covenants made by the Seller hereunder.
- (b) After receipt of Gas at the respective Points of Delivery the Project Companies shall be deemed to be in exclusive control and possession of such Gas and shall be responsible for any damage or injury caused thereby. Each Project Company shall indemnify, defend and hold the Seller, for its officers, directors, shareholders and employees, harmless from any and all costs (including reasonable legal expenses), damages, losses, claims, actions, penalties and liabilities resulting from property damage and injury to and death of

persons, arising from (i) any negligent act or omission by that Project Company with respect to Gas delivered hereunder after to its respective Point of Delivery wherever such damage or injury occurs, whether upstream or downstream of that Point of Delivery, or (ii) subject to the provisions of Section 13.4, any breach by that Project Company of any representations, warranties and covenants made by that Project Company hereunder.

- (c) The Seller shall indemnify and hold the Project Companies or either of them as the case may be, harmless from and against any and all claims arising out of wrongful payment of, or failure to pay, an owner for any interest in Gas delivered pursuant to this Agreement, and against all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of any adverse claims to or against title to such Gas, to any interest therein, or in the value thereof.
- (d) Any reimbursements of reasonable costs, damages, or losses which are due and payable by a Party (the "**Indemnifying Party**") pursuant to Section 10.2 shall be paid in the following manner. On or before the twenty-fifth (25th) Day of a Month following a Month in which a Party (the "**Indemnified Party**") has incurred any such costs, damages, or losses which are to be indemnified pursuant to Section 10.2, the Indemnified Party shall deliver to the Indemnifying Party a statement of account. Such statement shall provide all relevant data used by the Indemnified Party to determine the Indemnifying Party's liability related to Section 10.2 and the total amount of the Indemnifying Party's liability therefore together with any documentary support to establish same. The Indemnifying Party shall pay the amount owing within fifteen (15) days after delivery of such statement of account if said amount is reasonably established by the Indemnified Party. Any amounts not paid within such fifteen (15) days period shall bear interest/mark-up, until paid, at a rate per annum equal to the Delayed Payment Rate and shall be computed for the actual number of Days elapsed on the basis of a 365-Day Year. In the event that the Indemnifying Party disputes any part of the statement of account, then the Indemnifying Party shall deliver notice to the Indemnified Party of such disputed statement of account and particulars of the Dispute and the Indemnifying Party shall pay any undisputed part of such statement of account. The Parties shall use all reasonable efforts to resolve any disputed portion in respect thereof by joint investigation of any alleged discrepancies within fifteen (15) days after the Indemnifying Party's notification of such Dispute. Any Dispute that is not resolved within the said time period (including any matter related to the measurement or quality specifications set forth in Exhibit D) shall be resolved in accordance with the provisions of Article XVIII.

**ARTICLE XI**  
**REPRESENTATIONS, WARRANTIES AND COVENANTS**

**Section 11.1 By the Seller**

- (a) The Seller hereby represents and warrants that from the Effective Date:
- (i) The Seller will have the title and right to sell all of the Gas to be delivered hereunder, and the said Gas will be free from any and all adverse claims, including, without limitation, royalties and other interests or owners' claims related or unrelated to the Seller's Facilities and the respective Measuring Stations ;
  - (ii) The entering into this Agreement by the Seller has been duly authorized by Regulatory Authority are in conformity with the existing Laws of Pakistan;
  - (iii) The Seller is duly incorporated pursuant to the Companies Ordinance of 1984, and laws of Pakistan, so far as it is material to the Buyer Project Companies, complied fully with all applicable Laws of Pakistan and has all requisite power and authority to conduct its business, to own its properties and to execute, to deliver and to perform its obligations under this Agreement;
  - (iv) There are no proceedings pending or, to the best of its knowledge, threatened, for the dissolution of the Seller or that would materially adversely affect the performance by the Seller of its obligations under this Agreement or any of the executed contracts for the financing, design, construction and operation of the Seller's Facilities and the Measuring Stations;
  - (v) This Agreement has been duly authorized by the Board of Directors of the Seller, executed and delivered by the Seller and constitutes the legal, valid and binding obligation of the Seller; and
  - (vi) The Seller presently holds or will obtain all necessary approvals, consents, authorizations, grants or certificates of registration, notifications, licenses concessions, acknowledgments, agreements, rights-of-way, permits decisions, and similar items which are required (A) by Public Sector Entities with jurisdiction over the Seller (B) under the Laws of Pakistan, and (C) from private entities and individuals, as are necessary to enable the Seller to operate its business as presently operated, to construct, own

and operate the Seller's Facilities and the Measuring Stations and to discharge its obligations to the Project Companies hereunder.

(b) The Seller hereby covenants as follows:

- (i) The Seller shall (A) at all times maintain its corporate existence in compliance with the Laws of Pakistan, (B) at all times, so far as it is material to the Buyer, Project Companies hereunder, comply with all Laws of Pakistan applicable to the Seller, (C) procure and maintain in full force and effect as and when necessary all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items required for its performance under this Agreement (D) give all required notices and allow all required inspections under all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items obtained, or applied for, by the Seller in connection with the Seller's Facilities the Measuring Stations and (E) pay all prescribed fees that are due under the Laws of Pakistan in connection therewith;
- (ii) The Seller shall render reasonable assistance to the Project Companies, at their request, to enable them to obtain and maintain all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items that are required by the Project Companies to perform its obligations under this Agreement;
- (iii) The Seller shall develop, design, construct, complete, operate and maintain (either by itself or through the use of experienced third-party, reputable and recognized contractors) the Seller's Facilities and the Measuring Stations, and any and all additionally required facilities (A) in accordance with the Operating Procedures which are ultimately established pursuant to Article IV, (B) in accordance with the Laws of Pakistan, (C) in accordance with all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items, (D) in a good workmanlike manner (only with materials and equipment that are new, petroleum industry grade and suitable for their intended use), and (E) in such a manner as to provide that the useful life of the Seller's Facilities and the Measuring Stations, with proper operation



and maintenance, will last at least until the Expiry Date; provided that the Seller shall develop, design, construct, and complete the Seller's Facilities and the Measuring Stations, and any and all additionally required facilities no later than thirty (30) Days subject to Section 4.7 prior to the Commissioning Period Start Date.

- (iv) The performance by the Seller of its obligations under this Agreement throughout the Supply Terms is up to the Daily Contract Quantity to each Project Company during the Firm Delivery Periods, subject to availability of Gas from the Allocated Gas Fields.
- (v) The Seller, as and when requested, facilitate the Project Company to contact the operator of the Allocated Gas Field to verify the volume of Gas being supplied from time to time to the Seller.
- (vi) The Seller shall supply to the Project Companies all the Gas (not exceeding Daily Contract Quantity) it may receive from time to time from the Allocated Gas Fields before supplying it to any other party. For the avoidance of doubt it is clarified that in the event of any shortage of Gas, the Gas received from the Allocated Gas Fields may be supplied in equal volume to the Project Company 1 and Project Company 2.

**Section 11.2 By the Project Companies**

- (a) Each Project Company 1 and Project Company 2 hereby represents and warrants that:
  - (i) The entering into, and performance of this Agreement has been duly authorized by its respective Board of Directors and are in conformity with the existing Laws of Pakistan;
  - (ii) They are duly incorporated, existing and in good standing under the Laws of Pakistan, and has, so far as it is material to the Seller, complied fully with all applicable Laws of Pakistan and has all requisite power and authority to conduct its business, to own its properties and to execute, to deliver and to perform its obligations under this Agreement;
  - (iii) There are no proceedings pending or, to the best of their knowledge, threatened, for the liquidation of the Project Company 1 and Project Company 2 or as the case may be or that would materially or adversely affect the performance by the concerned Project Company of its obligations under this Agreement;

- (iv) This Agreement has been duly authorized, executed and delivered by the Project Companies and constitutes the legal, valid and binding obligations of the two (2) Project Companies;
  - (v) The execution and delivery of and, performance of its obligations under, this Agreement by the Project Companies, subject to the granting and maintenance of the requisite approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items, does not violate any of the existing Laws of Pakistan; and
- (b) If at any time during the financing, development, design, construction and completion of the Complex, the Buyer experiences any material delay in achieving the commercial operations, the Buyer shall notify the Seller of such expected delays.
- (c) Each Project Company 1 and Project Company 2 hereby covenants as follows:
- (i) The Project Company Shall (A) at all times maintain its corporate existence in compliance with the Laws of Pakistan, (B) at all times, so far as it is material to the Seller hereunder, comply with all Laws of Pakistan applicable to the Project Company, (C) procure and maintain full force and effect as and when necessary all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items required for its performance under this Agreement, and (D) give all required notices and allow all required inspections under all approvals consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments agreements, rights-of-way, permits, decisions and similar items obtained, or applied for, by the Buyer in connection with the Complex and (E) pay all prescribed fees that are due under the Laws of Pakistan in connection therewith;
  - (ii) The Project Company shall render reasonable assistance at the Seller's request to the Seller to enable the Seller to obtain and maintain all approvals, consents authorizations, grants or certificates of registration, notifications, licenses concessions, acknowledgements, agreements, rights-of-way, permits, decisions and similar items that are required by the Seller to perform its obligations under this Agreement;
  - (iii) The Project Company shall develop, design, insure, construct, complete, operate and maintain the Complex (either by itself or through the use of experienced third-party, reputable and recognized contractors) (A) in

accordance with the Operating Procedures which ultimately are established pursuant to Article IV, (B) in accordance with the Laws of Pakistan, (C) in accordance with all approvals, consents, authorizations, grants or certificates of registration, notifications, licenses, concessions, acknowledgments, agreements, rights-of-way, permits, decisions and similar items, (D) in a good workmanlike manner (only with materials and that are new and suitable for their intended use), and (E) in such a manner as to provide that the useful life of the Complex, with proper operation and maintenance, will last at least until the Expiry Date.

- (iv) The Project Company shall, within thirty (30) Days of receipt of a demand notice, from the Seller, for construction costs, containing reasonable details of such costs, provide to the Seller funds in relation to the construction costs of the Seller's Facilities in the amounts specified in the aforementioned demand notice.



**ARTICLE XII**  
**CURTAILMENT, INTERRUPTION AND SHUTDOWN**

**Section 12.1 Permitted Interruption by the Seller**

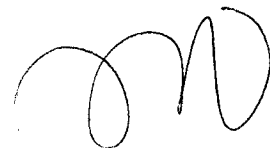
After giving at least forty eight (48) hours' notice in advance for carrying out necessary extensions, maintenance, repair and or alterations work in the Seller's Facilities, the Seller shall have the right to close, reduce or interrupt Gas supply to the relevant Complex, for short periods not to exceed seventy two (72) hours during any one period of interruption and in the aggregate no more than three hundred and sixty (360) hours each Year; provided, however, the Seller shall be responsible for paying the Short Quantity Liquidated Damages as per Section 3.2 if the closure or interruption takes place during either of the Firm Delivery Periods. Notwithstanding the above, the Seller shall be allowed not to supply Gas to Complex 1 and/or Complex 2 during As-Available Periods without any Liquidated Damages.

**Section 12.2 Scheduled Outage by the Project Companies**

In accordance with the Operating Procedures, which are established pursuant to Article IV, the Project Companies in their individual capacity shall advise the Seller in advance of the period or periods for carrying out Scheduled Outages and any other planned full or partial shutdown of their respective Complexes, which may adversely impact that particular Project Company's ability to purchase Gas from the Seller. The Seller shall make best efforts to coordinate maintenance of its facilities in the same period.

**Section 12.3 Coordination**

The Seller and the Project Companies shall make every effort to coordinate their respective shutdown times for purpose of minimizing the adverse impact on the other Party of maintenance and repair of such Party's respective facilities. Non-delivery of Gas by the Seller during any such mutually agreed shutdown period shall not constitute a breach or failure on the part of the Seller. The Project Companies and the Seller also agree that to enable the Seller to complete any maintenance or repair which has been scheduled during such a shutdown period the Seller may close, reduce, or interrupt the supply of Gas pursuant to Section 12.1.



## ARTICLE XIII FORCE MAJEURE

### Section 13.1 Definition

A "*Force Majeure Event*" shall mean any event or circumstance or combination of events or circumstances (including the effects thereof) that is beyond the reasonable control of the Seller, the GOS and the Project Company 1 and Project Company 2 or either of it and that on or after the Effective Date, materially and adversely affects the performance by such affected party of its obligations under or pursuant to this Agreement (including a Party's ability to deliver or receive Gas at the Points of Delivery); provided, however, that such material and adverse effect could not have been prevented, overcome or remedied in whole or in part by the affected Party through the exercise of diligence and reasonable care, it being understood and agreed that reasonable care includes acts and activities to protect the Complexes from a casualty or other event; that are reasonable in light of the probability of the occurrence of such event, the probable effect of such event if it should occur, and the likely efficacy of the protection measures. "*Force Majeure Events*" hereunder shall include each of the following events and circumstances (including the effects thereof), but only to the extent that each satisfies the above requirements:

- (a) any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil commotion, or act or campaign of terrorism, or kidnapping or sabotage;
- (b) any strike, work-to-rule, go-slow, or other labour action that extend beyond either Complex, or is widespread or nationwide; or
- (c) uncontrollable events including:
  - (i) lightning, earthquake, tsunami, flood, storm, cyclone, typhoon, or tornado; or
  - (ii) fire, explosion, chemical contamination, radioactive contamination, or ionizing radiation; or
  - (iii) epidemic or plague;
- (d) Governmental or semi-governmental law, regulation, order, decree, restriction, restraint, prohibition, intervention or expropriation, or the failure of any governmental or semi -governmental entity to act;
- (e) Unavoidable accident or emergency shutdown to prevent an accident;
- (f) freezing or exhaustion of wells; or

- (g) rupture of pipelines.

### **Section 13.2 Exclusions**


*Force Majeure* Event shall expressly not include the following conditions, except to the extent resulting from *Force Majeure* Event:

- (a) late delivery of plant, machinery, equipment, materials, spare parts or consumable for Complex 1 and/or Complex 2, the Seller's Facilities or the Measuring Stations;
- (b) a delay in the performance of any contractor or subcontractor to the Parties;
- (c) normal wear and tear or random flaws in materials and equipment or breakdowns in equipment;

Notwithstanding anything to the contrary expressed or implied in this Agreement, *Force Majeure* Event, unless the same is directly caused by provisions of Section 13.1, shall expressly not include inadequate supplies of Gas.

### **Section 13.3 Notice**

- (a) If by reason of event(s) of *Force Majeure* Event, a Party is wholly or partially unable to carry out its obligations under this Agreement, the affected Party shall (i) give the other concerned Party prompt notice of the event(s) of *Force Majeure* Event and the obligations hereunder affected as soon as practicable, but in any event, not later than the later of forty-eight (48) hours after the affected Party becomes aware of the occurrence of the event(s) of *Force Majeure* Event or six (6) hours after the resumption of any means of providing notice between the Project Company and the Seller, and (ii) give the other concerned Party a second notice, describing the event(s) of *Force Majeure* Event in reasonable detail and, to the extent that can be reasonably determined at the time of the second notice, providing a preliminary evaluation of the obligations affected, a preliminary estimate of the period of time that the affected Party will be unable to perform the obligations, and other relevant matters as soon as practicable, but in any event, not later than seven (7) Days after the initial notice of the occurrence of the event(s) of *Force Majeure* Event is given by the affected Party or six (6) hours after the resumption of any means of providing such notice between the Project Company and the Seller. When appropriate or when reasonably requested to do so by the other concerned Party, the affected Party shall provide further notices to the other concerned Party more fully describing the event(s) of *Force Majeure* Event and its cause(s) and providing or updating information relating to the efforts of the affected Party to avoid and/or to mitigate the effect(s) thereof and estimates, to the extent practicable, of the time that the



affected Party reasonably expects it will be unable to carry out any of its affected obligations due to the event(s) of *Force Majeure* Event.

- (b) The affected Party shall also provide notice to the other concerned Party of (i) the cessation of the event(s) of *Force Majeure* Event, and (ii) the affected Party's ability to recommence performance of its obligations under this Agreement by reason of the cessation of the event(s) of *Force Majeure* Event as soon as possible, but in any event, not later than forty eight (48) hours after the occurrence of each of (i) and (ii) above.
- (c) Failure by the affected Party to give notice of any *Force Majeure* Event to the other concerned Party within the forty-eight (48) hours period required by Section 13.3(a) shall not prevent the affected Party from giving such notice at a later time; provided, however, that in such case, the affected Party shall not be excused pursuant to Section 13.4 for any failure or delay in complying with its obligations under or pursuant to this Agreement until the notice required by Section 13.3(a) has been given. If such notice is given within the period required by Section 13.3(a), the affected Party shall be excused for such failure or delay pursuant to Section 13.4 from the date of commencement of the relevant *Force Majeure* Event.

#### **Section 13.4 Excuse from Performance**

Subject to Section 13.3 and so long as the affected Party has at all times since the occurrence of a *Force Majeure* Event complied with the obligations of Section 13.5 and continues to so comply, then the affected Party shall not be liable for (a) any failure or delay in performing its obligations under or pursuant to this Agreement, including, without limitation, in the case of the Seller, the Seller's obligation to deliver Gas up to the Daily Contract Quantity, (b) any performance deadline that the affected Party is obligated to meet under this Agreement, and (c) the Term(s) shall be extended on a Day-for-Day basis upon the occurrence of a *Force Majeure* Event. No relief including without limitation the extension of any performance or other deadlines, shall be granted to the affected Party pursuant to this Section 13.4 to the extent that such failure or delay would have nevertheless been experienced by the affected Party had such *Force Majeure* Event not occurred. Other than for breaches of this Agreement by the other Party, and without prejudice to the affected Party's right to indemnification pursuant to this Agreement, the other Party shall not bear any liability for any loss or expense suffered by the affected Party as a result of a *Force Majeure* Event.

#### **Section 13.5 Duty to Mitigate**

The affected Party shall use all reasonable efforts to mitigate the effect of a *Force Majeure* Event, including, but not limited to, the payment of all reasonable sums of money by or on behalf of the affected Party.





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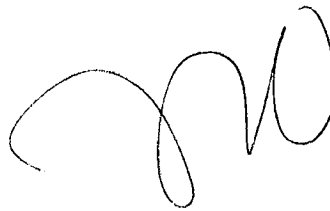
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**ARTICLE XIV**  
**GOVERNMENTAL RULES AND REGULATIONS**

**Section 14.1 Compliance with Law**

Neither Party has undertaken, will knowingly undertake or will knowingly cause to be undertaken any activity in connection with this Agreement which would conflict with the Laws of Pakistan; provided, however, that nothing herein shall be construed to restrict or limit either Party's right to object to or contest the same. Each Party shall hereafter defend and support this Agreement before any federal, provincial or municipal board, agency or body or in any federal, provincial, or municipal court if the substance, validity, or enforceability, of all or any part of this Agreement is hereafter challenged by any third party.



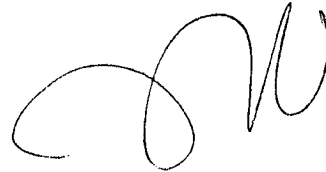
**ARTICLE XV**  
**ASSIGNMENT AND SECURITY**

**Section 15.1 Assignment**

No assignment or transfer by a Party of this Agreement or such Party's rights or obligations hereunder shall be effective without the prior written consent of the other Party, except by the Project Companies as provided in Sections 15.2 or 15.3.

**Section 15.2 Creation of Security**

Notwithstanding the provisions of Section 15.1, for the purpose of financing the Project Activities, either of the Project Companies may, pursuant to the Financing Documents, assign to, or create a security interest in favour of, the Lenders in this Agreement and that Project Company's rights, benefits and interests under or pursuant to this Agreement. Lenders may assign this Agreement to a Transferee (as defined below) of the relevant Complex in the event of foreclosure or in the exercise of their rights under the Financing Documents. As used in this Section 15.2, a "Transferee" shall be a person who (i) shall have paid all amounts, if any, then due and payable to the Seller under this Agreement, and (ii) shall have expressly assumed in writing, for the benefit of the Seller, the obligations of the relevant Project Company under this Agreement and (iii) shall have established or replenished the relevant Gas Supply Deposit to the full required amount.



**Section 15.3 Transfer of the Complex(es).**

For the purposes of giving effect to the transfer of the Complex(es) in terms of and subject to the Implementation Agreement, the Seller agrees to execute such agreements and documents necessary or expedient to ensure that the Transferee (as defined in the Implementation Agreement) has the benefit of all right, title and interest under this Agreement and assumes the obligations hereunder in place of the relevant Project Company, whereupon that Project Company will be discharged from its obligations hereunder.

**Section 15.4 No Dilution under Financing Documents.**

Nothing in this Agreement shall otherwise be construed so as to dilute in any manner rights and remedies of the Lenders under or pursuant to the Financing Documents.

**Section 15.5 Consent and Acknowledgement.**

The Seller shall consent to and acknowledge the assignment of this Agreement by the relevant Project Company to its Lenders in the form attached as Exhibit H.

**Section 15.6 Assignment to GOS**

Notwithstanding the provisions of Section 15.1, either of the Project Companies may assign this Agreement and that Project Company's rights and obligations hereunder to the GOS in accordance with this Article XV. In the event of assignment of either of the two or both the Project Companies to GOS, the deed of assignment shall accordingly be provided to the Seller by GOS. Upon such assignment or transfer, that Project Company or both the Project Companies as the case may be shall stand released and discharged from all obligations and liabilities under this Agreement.



## ARTICLE XVI NOTICES

### Section 16.1 Addresses

Except as otherwise expressly provided in this Agreement or the Operating Procedures, all notices or other communications which are required or permitted hereunder shall be in writing, shall be addressed for the attention of the persons indicated below and shall be delivered personally or sent by a reputable international courier for express delivery, registered or certified mail, facsimile, or email. The addresses for service of the Parties and their respective facsimile numbers shall be:

#### If to Project Company 1:

Address: Sindh Nooriabad Power Company Pvt. Limited  
46 Army Housing Society, Karachi,  
Attention: Chief Executive Officer  
Facsimile: 9221 34838757  
Email: ceo@snpcc.com.pk

#### If to Project Company 2:

Address: Sindh Nooriabad Power Company Phase II Pvt. Limited  
46 Army Housing Society, Karachi  
Attention: Chief Executive Officer  
Facsimile: 9221 34838757  
Email: ceo@snpcc2.com.pk

#### If to GOS:

Address: 7<sup>th</sup> Floor, Lakson Square Building No. 3, Sarwar Shaheed Road,  
Karachi  
Attention: Secretary Energy, Government of Sindh  
Facsimile: 9221 99206276  
Email: secretary@sindhenergy.gov.pk

#### If to the Seller:

Address: Sui Southern Gas Company Limited

SSGC House, Sir Shah Suleman Road, Gulshan-e-Iqbal, Karachi,  
75300,

Attention: Managing Director

Facsimile: 9221 99231604

Email zuhair.siddiqui@ssgc.com.pk

#### **Section 16.2 Method of Delivery**

All notices shall be deemed delivered (a) when presented personally, (b) if received on a Business Day when transmitted by facsimile to the receiving Party's facsimile number specified above, and, if received on a Day that is not a Business Day, on the first Business Day following the date transmitted by facsimile to the receiving Party's facsimile number specified above, (c) two (2) Business Days after being delivered to a reputable international courier for express delivery, addressed to the receiving Party, at the address indicated above (or such other address as such Party may have specified by notice delivered to the delivering Party at its address or facsimile number specified above in accordance herewith) or (d) five (5) Business Days after being deposited in a regularly maintained receptacle for the Postal Service in Pakistan, postage prepaid, registered or certified, return receipt requested, addressed to the receiving Party, at the address indicated above (or such other address as the receiving Party may have specified by notice delivered to the delivering Party at its address or facsimile number specified above in accordance herewith). Any notice given by facsimile shall be confirmed in writing delivered personally or sent by registered or certified mail, but the failure to so confirm shall not void or invalidate the original notice if it is in fact received by the Party to which it is addressed.

#### **Section 16.3 Changes**

Either Party may by notice hereunder change the addresses, and or facsimile numbers to which such notices and communications to it are to be delivered or mailed in accordance with the provisions of this Section 16.3.

#### **Section 16.4 Notices to the Agent**

A copy of any material notice sent hereunder by the Seller to the either of the Project Companies shall be concurrently sent to the Agent. Material notices include, but are not limited to, the Seller Notice of Intent to Terminate and a Seller Termination Notice under Section 17.1. Each material notice shall be delivered in accordance with the procedures set forth in Section 17.6(a) addressed to the Lenders or the Agent at the address notified by the Parties to the Seller.





**ARTICLE XVII**  
**TERMINATION FOR DEFAULT**

**Section 17.1 Project Company Event of Default**

The Seller may give a notice of termination of its obligations under this Agreement to the concerned Project Company (a "**Seller Notice of Intent to Terminate**") upon the occurrence of any of the following events (each, a "**Project Company Event of Default**") unless resulting from a *Force Majeure* Event or from a breach or default by the Seller under this Agreement. Notwithstanding anything contained herein, a Project Company Event of Default with respect to one Project Company shall not be deemed to be a Project Company Event of Default for the other Project Company unless it any of the events has also occurred with respect thereto:

- (a) except for the assignment or transfer of this Agreement to the Lenders or the GOS pursuant to (i) Article XV or (ii) the terms of the Implementation Agreement, the assignment or transfer by the Project Company of this Agreement or of the its rights or obligations hereunder in violation of Article XV;
- (b) except for the purpose of amalgamation or reconstruction that does not affect the ability of the amalgamated or reconstructed entity to perform its obligations under this Agreement and provided that the entity in question has unconditionally assumed such obligations, the occurrence of any of the following events: (i) the passing of a resolution by the shareholders of the Project Company for the winding up of the Project Company, (ii) the appointment of a provisional liquidator in case of bankruptcy adjudged by a court of competent jurisdiction, which appointment has not been set aside or stayed within ninety (90) Days of such appointment, or (iii) the making of an order winding up the Buyer by a court of competent jurisdiction;
- (c) any statement, representation or warranty made by the Buyer herein proving to have been incorrect, in any respect, when made or when deemed to have been made and the circumstances that cause such failure or incorrect statement, representation or warranty to be incorrect having a material adverse effect on the Buyer's ability to perform its obligations under Agreement;
- (d) any material breach (including the failure to pay any amounts on the Due Dates or to comply with the obligations listed in Section 8.3(e) by either of the two e Project Companies of this Agreement which is not remedied within thirty (30) Days after notice from the Seller to the Buyer and the relevant Project Company, which notice (i) states that a material breach of this Agreement has occurred and is continuing which could result in the termination of this Agreement, (ii)

identifies the breach in question in reasonable detail, and (iii) demands remedy thereof.

#### **Section 17.2 Seller Event of Default**

Either Project Company may jointly or severally give a notice of Termination of Agreement (a "Project Company Notice of Intent to Terminate") upon the occurrence of any of the following events (each, a "Seller Event of Default") unless resulting from a *Force Majeure* Event or a breach or default by such Project Company under this Agreement:

- (a) any assignment or transfer of this Agreement or of the Seller's rights or obligations hereunder in violation of Article XV;
- (b) any statement, representation or warranty made by the Seller herein proving to have been incorrect, in any respect, when made or when deemed to have been made and the circumstances that cause such failure or incorrect statement, representation or warranty to be incorrect having a material adverse effect on the Seller's ability to perform its obligations under Agreement;
- (c) any material breach by the Seller of this Agreement which is not remedied by the Seller within thirty (30) Days after notice from the the Project Company to the Seller, which notice (i) states that a material breach of this Agreement has occurred and is continuing which could result in the termination of this Agreement, (ii) identifies the breach in question in reasonable detail, and (iii) demands remedy thereof.
- (d) except for purposes, of amalgamation, reorganization, reconstruction that does not affect the ability of the resulting entity to perform its obligations under this Agreement and provided that the entity in question has unconditionally assumed such obligations the occurrence of any of the following events: (i) a decision by the shareholders of the Seller for the winding up of the Seller, (ii) the appointment of a provisional liquidator in case of bankruptcy adjudged by a court of competent jurisdiction, which appointment has not been set aside or stayed within ninety (90) Days of such appointment, or (iii) the making of an order winding up the Seller by a Court of competent jurisdiction.

#### **Section 17.3 Termination Notices**

Any Notice of Intent to Terminate given pursuant to Sections 17.1, and Section 17.2 shall specify in reasonable detail the Project Company Event of Default, the Seller Event of Default, as the case may be, giving rise to such Notice of Intent to Terminate. Following the giving of a Notice




of Intent to Terminate, the Party in default may continue to attempt to cure the Project Company Event of Default or the Seller Event of Default as the case may be, giving rise to such Notice of Intent to Terminate for a period of ninety (90) days (or such longer period as they may agree).

#### **Section 17.4 Termination of Agreement**

- (a) Subject to Section 17.6, as the case may be, at the expiry of the ninety (90) day period referred to in section 17.3, unless (a) the Parties shall have otherwise agreed or (b) the event giving rise to the Notice of Intent to Terminate shall have been cured, then the Party having given the Notice of Intent to Terminate may terminate this Agreement by giving notice thereof (the "**Termination Notice**") to the other Party and to the designated representative or Agent. Subject to the rights of the Lenders to cure any Project Company Event of Default this Agreement shall immediately terminate upon delivery of such notice.
- (b) The Parties shall continue to perform their respective obligations under this Agreement pending the final resolution of any Dispute raised by the receiving Party of a Notice of Intent to Terminate or a Termination Notice; provided that the notice of Dispute has been delivered to the Party claiming the occurrence of the Project Company Event of Default, or the Seller Event of Default, as the case may be, before the end of the relevant Cure Period (the Initial Cure Period or the Extended Cure Period, as the case may be).

#### **Section 17.5 Remedies**

The exercise of the right of a Party to terminate this Agreement provided herein, does not preclude the Party from exercising other remedies that are provided herein or are available at law; provided, however, that the Parties shall have no rights to terminate or treat this Agreement as repudiated except in accordance with the provisions of this Agreement. Remedies are cumulative, and the exercise of, or failure to exercise, one or more remedy by a Party shall not limit or preclude the exercise of, or constitute a waiver of, other remedies by that Party. Each of the Parties waives fully any right it may have to seek and collect punitive, consequential, indirect and special damages from the other Party that may arise under this Agreement, except as such damages may be included in the indemnities set forth in this Agreement or as otherwise expressly provided herein.

#### **Section 17.6 Copy of Notice of the Project Company 1 Event of Default, or the Project Company 2 Event of Default, to the Agent.**

- (a) Anything in this Agreement notwithstanding, from and after the execution of Financing Documents notified by the Project Companies to the Seller, the Seller shall not seek to terminate this Agreement as a result of any default of a Project Company without first giving a copy to the Agent (as defined below) of the Lenders (of the Project Company in

default) of any notices required to be given to the Project Company in default under Sections 17.1 and 17.3, so that the relevant Lenders can cure or procure the cure of any such default within the period for consulting specified in Section 17.3 (the "**Initial Cure Period**"), which period shall commence upon delivery of any such notice to the Agent. The Lenders will designate in writing to the Seller an agent (the "**Agent**"), and any notice required herein shall be delivered to such Agent, such notice to be effective upon delivery to the Agents as if delivered to each of the Lenders. Each such notice shall be in writing and shall be deemed to have been delivered when transmitted by the Seller and received by the Agent by facsimile to the number specified in accordance with the procedure set forth below, or five (5) Days after being deposited with a reputable courier service, addressed to the Lenders at the address indicated at execution of Financing Documents (or such other address or to the Agent at such address as they Lenders may have specified by notice delivered in accordance herewith). Any notice given by facsimile under this Section 17.6 (a) shall be confirmed in writing delivered personally or sent by reputable courier service, but failure to so confirm shall not void or invalidate the original notice if it is in fact received by the Lenders or the Agent if the address of the Lenders or the Agent is outside Pakistan, any notice delivered to the Lenders or the Agent pursuant to this Section 17.6 (a) shall be presented personally or sent by international courier or facsimile, and if sent by facsimile, confirmed by international courier, and the Initial Cure Period shall commence upon receipt by the Lenders or the Agent of the notice referenced above. The address and facsimile number for the Agent shall be provided to the Seller by their respective Project Companies at execution of Financing Documents, and thereafter may be changed by the Lenders or the Agent by subsequent delivery of a notice to the Seller at the address or facsimile number for the Seller provided in Sections 16.1 (or at such other address or facsimile number subsequently delivered to the Lenders or the Agent in accordance with this Section 17.6(a)) and otherwise in accordance with the requirements of Article XVI.

No rescission or termination of this Agreement by the Seller shall be valid or binding upon the Lenders without such notice to the Agent, and the expiration of the Initial Cure Period and, if applicable, the Extended Cure Period provided in this Section 17.6(b), as such Extended Cure Period may be extended. The Lenders may make or procure, but shall be under no obligation to make or procure, any payment or perform or procure the performance of any act required to be made or performed by the relevant Project Company, with the same effect as if made or performed by that Project Company. If the Lenders are unable to cure or procure the cure of Project Company Event of Default that is required to be cured pursuant to Section 17.3 prior to the expiration of the periods referred to above in this Section 17.6(b), the Seller shall have all its rights and remedies with respect to such default as set forth in this Agreement; unless, during such cure period under Section 17.6(b) (such period commencing on the delivery of notice to the Agent in terms of Section 17.6(a), the Lenders or the Agent may elect to notify the GOS and Seller that it desires additional time to cure, or procure the cure of, any Project Company Event

of Default whereupon the Lenders shall mutually agree with the Seller an extended period to cure any Project Company Event of Default which shall not be less than two (2) Months (the "Extended Cure Period"). In the event the Lenders and the Seller fail to agree within thirty (30) days the extended cure period then the period to cure default shall automatically stand extended by two (2) Months from the date of expiry of Initial Cure Period. During the Extended Cure Period, the Seller's right to terminate this Agreement in respect of any Project Company Event of Default, as the shall be suspended so long as the Lenders are diligently attempting to procure (other than by the relevant Project Company, unless that Project Company is acting at the direction of the Lenders) the cure of such default. In the event that any Project Company Event of Default as the case may be, is not cured on or before the expiration of the Extended Cure Period, the Seller may immediately terminate;

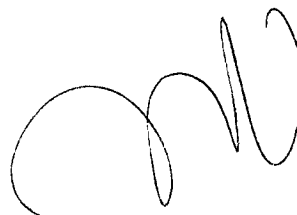
b) its obligations with respect to the Project Company in default effective upon delivery to the Lenders or the Agent of notice of such termination and may, upon such termination, exercise its right and remedies set forth in this Agreement with respect to such Project Company Event of Default. Notwithstanding any provision of this Section 17.6 to the contrary, the Initial Cure Period, and the Extended Cure Period, as the case may be, shall be extended on a Day-for-Day basis for each Day during any such period (A) during which any of the facts, restrictions or limitations described in Sections 14.1(b)(viii) or (ix) of the Implementation Agreement are in existence or in effect, or (B) during which a Pakistan Political Event (as such term is defined in the Implementation Agreement) subsists.

#### **Section 17.7 Obligations upon Termination**

Upon expiration or termination of this Agreement, the Parties shall have no further obligations or liabilities hereunder except for those liabilities that (i) arose prior to such termination, and (ii) expressly survive such termination.

#### **Section 17.8 Parties' Performance**

The Seller recognizes that the Project Companies are dependent upon the Seller for Gas for the testing, commissioning and operation of their respective Complexes, the Project Companies recognize that the Seller is very reliant upon the Project Companies as a market outlet for Gas, and each Party recognizes that the other Party may suffer substantial damages which are difficult to predict or quantify if a non-performing Party fails or is unable for any cause to perform hereunder and that damages may not provide sufficient remedy for breach of the Agreement. For this reason, among others, each Party agrees to do its utmost to perform its respective obligations under this Agreement.



**ARTICLE XVIII**  
**RESOLUTION OF DISPUTES**

**Section 18.1 Resolution by Parties**

In the event that a Dispute arises, the the Seller and Project Company 1 or Project Company 2 as the case may be shall attempt in good faith to settle Dispute by mutual discussions within thirty (30) days after the date that the disputing Party gives written notice of the Dispute to the other Party.

**Section 18.2 Determination by Expert**

In the event that the the Seller and Project Company 1 or Project Company 2 as the case may be are unable to resolve a Dispute in accordance with Section 18.1 within the time periods set forth therein, then either Party, in accordance with this Section 18.2, may refer the Dispute to an expert (the "**Expert**") for consideration of the Dispute and to obtain a recommendation from the Expert as to the resolution thereof. The Party initiating submission of the Dispute to the Expert shall provide the other concerned Party with a notice stating that it is submitting the Dispute to an Expert and nominating the person it proposes to be the Expert. Within fifteen (15) days of receiving such notice, the other Party shall notify the initiating Party whether such person is acceptable, and if such nominated expert is not acceptable to the responding Party, the responding Party shall propose a person to be the Expert. If the Party receiving such notice fails to respond or notifies the initiating Party that the person is not acceptable or nominates an Expert that is not acceptable to the initiating Party, the Parties shall meet within five (5) Business Days and discuss in good faith for a period of five (5) days to agree upon a person to be the Expert. Failing nomination by the responding Party of an Expert within the period provided or failing such agreement by the Parties of the Expert, at the end of the meeting the Dispute shall be referred for Arbitration in accordance with Section 18.3.

- (a)
  - (i) Consideration of the Dispute by an Expert shall be initiated by the Party who is seeking consideration of the Dispute by concurrently submitting to both the Expert and the other Party, written materials setting forth:
    - (A) a description of the Dispute;
    - (B) a statement of the initiating Party's position, and whether a hearing is requested by such Party; and
    - (C) copies of records supporting the initiating Party's position.
  - (ii) Within ten (10) days of the date that a Party has submitted the materials described in Section 18.2(a)(i), the other Party may submit to the Expert, with copies to the other Party:

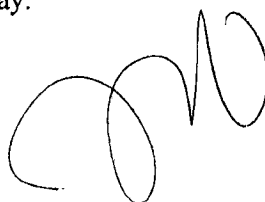
- (A) a description of the Dispute;
  - (B) a statement of such Party's position and, if not already requested, whether a hearing is requested by such Party; and
  - (C) copies of any records supporting the Party's position.
- (b) The Expert shall consider any such information submitted by the responding Party and may consider any additional information submitted by either Party at a later date but, in such event, the other Party shall be concurrently provided with such information and shall be allowed reasonable opportunity to respond thereto.
  - (c) Each Party shall have access to the other Party's relevant records and be entitled to receive copies of the records submitted by the other Party.
  - (d) Each Party shall designate one person knowledgeable about the issues in Dispute who shall be available to the Expert to answer questions and provide any additional information requested by the Expert. Except for such person, a Party shall not be required to, but may, provide oral statements or presentations to the Expert or make any particular individuals available to the Expert. If a hearing is requested by either Party pursuant to Section 18.2(a) (i) (B), or 18.2 (a) (ii) (B) the Expert shall nominate a time and place for a hearing of the Parties on the Dispute.
  - (e) The Expert shall provide a recommendation within fifteen (15) days after the ten (10) day response period provided in Section 18.2(a) has run, or within such further time as is agreed in writing by the Parties. If the Expert's recommendation is given within such fifteen (15) day period, as may be extended by the Parties, the Parties may review and discuss the recommendation with each other in good faith for a period of ten (10) days following delivery of the recommendation before proceeding with any other actions.
  - (f) The proceedings shall be without prejudice to any Party, and any evidence given or statements made in the course of this process may not be used against a Party in any other proceedings. The process shall not be regarded as arbitration and the Laws of Pakistan relating to commercial arbitration shall not apply.
  - (g) Except as elsewhere expressly provided herein to the contrary, unless the Parties agree otherwise in writing at the time the Expert is selected the determination of the Expert shall not be binding;
  - (h) Subject to Section 18.2(g), if a Party does not accept the recommendation of the Expert with respect to the Dispute or if the Expert has not provided a recommendation within the time period specified in Section 18.2(e), any Party may initiate arbitration proceedings in accordance with Section 18.3; provided, however, the Expert's determination shall be

binding and arbitration proceedings in accordance with Section 18.3 shall not be available to resolve disputes subject to Expert determination pursuant to Sections 4.3, 4.4, or 6.3.

- (i) The costs of engaging an Expert shall be borne equally by the Parties and each Party shall bear its costs in preparing materials for, and making presentations to, the Expert.
- (j) The failure of any Party to comply with the provisions and time periods set out in this Section 18.2 shall not prevent (i) the Expert from proceeding; and/or (ii) any Party from requesting that the Expert proceedings be terminated and the matter referred immediately to arbitration in accordance with Section 18.3.

### **Section 18.3 Arbitration**

- (a) Any Dispute arising out of or in connection with this Agreement that has not been resolved following the procedures set forth in Sections 18.1 and 18.2, shall be settled by arbitration in accordance with the Arbitration Act 1940 of Pakistan (the "Act") by one (1) arbitrator appointed with the mutual consent of the Parties in dispute who shall be a retired judge of the High Court of Sindh or the Supreme Court of Pakistan, in each case, based in Karachi. If the the Seller and Project Company 1 or Project Company 2 as the case may be fail to appoint an arbitrator within a reasonable period of time not exceeding thirty (30) days an arbitrator may be appointed by the court. The arbitration proceedings shall be conducted, and the award shall be rendered, in the English language.
- (b) The arbitration shall be conducted in Karachi, Pakistan. Except as awarded by the arbitrator and except as hereinafter provided, each Party shall be responsible for its own costs incurred by it in connection with arbitration hereunder.
- (c) Any arbitral award or procedural order under this Section 18.3 shall be final and binding upon the Parties and shall be the sole and exclusive remedy between the Parties regarding all Disputes, and each Party undertakes to comply with and to carry out any such arbitral award or procedural order, fully and without delay.



## ARTICLE XIX CONFIDENTIALITY

### Section 19.1 Confidential Information

Each of the Parties:

- (a) shall hold in confidence all documents and other information, whether technical or commercial, supplied to it by or on behalf of the other Party which is of a confidential nature relating to the design, construction, insurance, operation, maintenance, management and financing of the Complex and shall not (except as required by law or appropriate regulatory authorities, prospective lenders or investors in the Project Companies or the Seller and their professional advisers) publish or otherwise disclose or use the same for its own purposes otherwise than as may be required to perform its obligations under this Agreement; and
- (b) shall enter into agreements with each of their contractors, consultants and agents obligating such third parties to hold such documents and information in confidence.

Notwithstanding the above, nothing contained herein shall preclude the use of provisions similar to those contained in this Agreement and the other Agreements referred to herein in agreements prepared and issued in connection with other projects. Material for which confidential treatment is desired shall be so indicated by marking such material as confidential.

### Section 19.2 Exceptions

The provisions of Section 19.1 above shall not apply to:

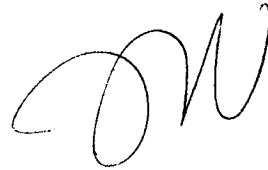
- (a) any information in the public domain otherwise than by breach of this Agreement;
- (b) information in the lawful possession of the receiving Party thereof before divulgence as aforesaid and which was not obtained under any obligation of confidentiality, and
- (c) information lawfully obtained from a third party who is free to divulge the same to any other person and which is not obtained under any obligation of confidentiality.

The obligations of the Parties under this Article XIX survive the termination or expiration of this Agreement, whichever is earlier, for three (3) Years.

**ARTICLE XX  
INSURANCE**

**Section 20.1 Maintenance of Insurance Policies**

- (a) The Seller and both the individual Project Companies shall obtain and maintain during the Supply Terms, insurance policies in accordance with its policy with respect to their respective Facilities, the Measuring Stations, and other equipment upstream of the Points of Delivery.
- (b) Both the Project Companies shall individually and the Seller shall each carry, and shall maintain in effect at all times, insurance against public liability for events within their respective spheres of responsibility for the Measuring Stations, which is adequate, together with internal reserves, to cover any reasonably foreseeable event involving the Measuring Stations.





## ARTICLE XXI MISCELLANEOUS

### **Section 21.1 No Waiver**

- (a) No waiver by either the Seller or the Project Company of any default by the other under this Agreement shall (i) operate or be construed as a waiver of any other, further or future default or defaults, whether of like or different character or nature; or (ii) be effective unless in writing duly executed by a duly authorized representative of such Party.
- (b) Neither the failure by a Party to insist on any occasion upon the performance of any term, condition or provision of this Agreement nor any delay or other indulgence granted by one Party to the other shall act as a waiver of such breach or acceptance of any variation or the relinquishment of any such right or any other right hereunder.

### **Section 21.2 Governing Law**

The terms of this Agreement shall be governed by and interpreted and construed in accordance with the laws of Pakistan. The competent Courts of Karachi, Sindh shall have exclusive jurisdiction.

### **Section 21.3 Severability**

The various articles, sections, paragraphs, provisions and clauses of this Agreement are severable. The invalidity of any portion of this Agreement shall not affect the validity of any other portion of or the entire Agreement.

### **Section 21.4 Entire Agreement; Amendments**

This Agreement shall be the full and final expression of the Parties' agreement on the matters contained herein. No modification of this Agreement, including any modification of an exhibit hereto, shall be effective unless reduced to writing and duly executed by the Parties hereto.

### **Section 21.5 Counterparts**

This Agreement may be executed in four (4) original copies and each such copy may be executed by each of the Parties in separate counterparts, each of which copies when executed and delivered by the Parties, shall constitute an original, but all of which shall together constitute one (1) and the same instrument.

### **Section 21.6 Successors and Assigns**

This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective administrators, successors-in-interest and permitted assigns.

### **Section 21.7 Third Parties**

Except as otherwise provided herein, this Agreement is intended solely for the benefit of the Parties, and nothing in this Agreement shall be construed to create any rights in, duty to, standard of care to, or any liability to, any person not a Party.

### **Section 21.8 Relationship of the Parties**

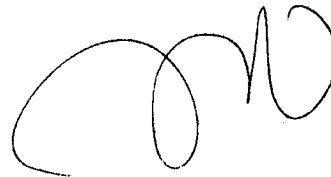
This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind the other Party.

### **Section 21.9 Survival**

Cancellation, expiration or earlier termination of this Agreement shall not relieve the Parties of obligations that, by their nature, should survive such cancellation, expiration or termination, including, without limitation, warranties, remedies, promises of indemnity and confidentiality.

### **Section 21.10 Consents and Approvals**

Any consent or approval of the Seller or the Project Companies referred to in this Agreement shall be deemed duly given if signed by its Managing Director, or such other designated official, as the case may be, as being the responsible official for the relevant consent or approval; provided, however, that the Seller may, by notice given in accordance with this Agreement, designate a different official or department for the purposes of giving any consent or approval referred to in this Agreement and not yet given.



IN WITNESS WHEREOF, this Agreement is executed by the duly authorized representatives in quadruplicated originals as of the date, month and year first written above.

For and on behalf of  
Sindh Nooriabad Power Company Pvt. Limited

BY: NAJAM UL HASNAIN

DESIGNATION

Witnesses:

1. \_\_\_\_\_

Name: Abrar Ali Syed  
N.I.C. No.: 42501-1439300-7  
Address: D-305 Bismillah  
Towers Block 'D' G-5

2. Yasir Hussain

Name: YASIR HUSSAIN  
N.I.C. No.: 42201-7993048-9  
Address: R-39, Block 19, Gulshan-e-Sajdah  
Karachi

Date: \_\_\_\_\_

For and on behalf of  
Sindh Nooriabad Power Company Phase II  
Pvt. Limited

BY: NAJAM UL HASNAIN

DESIGNATION

Witness:

1. \_\_\_\_\_



For and On behalf of  
Sui Southern Gas Company Limited

BY: Secy ED

DESIGNATION

Witness:

1. \_\_\_\_\_

Name: \_\_\_\_\_  
N.I.C. No.: \_\_\_\_\_  
Address: \_\_\_\_\_

2. \_\_\_\_\_

Name: \_\_\_\_\_  
N.I.C. No.: \_\_\_\_\_  
Address: \_\_\_\_\_

Date: \_\_\_\_\_

For and On behalf of  
Government of Sindh

BY: Secy ED

DESIGNATION

Witness:

1. Niaz Ali Shaikh  
Dir. PDS, ED, GOS

Name: SYED MUHAMMAD REHAN  
N.I.C. No.: UP101-1944102-5  
Address: A-198, Block C, T, North Nazimabad.

2. Abdul Qader

Name: ABDUL KALAM  
N.I.C. No.: 42101-1635631-3  
Address: B-91, BLOCK NO. 13  
FEDERAL-B-AREA  
KARACHI.

Date: \_\_\_\_\_

Name: NIAZ ALI SHAIKH  
N.I.C. No.: 45504-6787766-7  
Address: Dir. PDS, ED, GOS, Karachi:

2. [Signature]

Name: MAHDOOMTAJ MOHAMMAD.  
N.I.C. No.: 41306-0192817-3  
Address: P.S to Secretary Energy

Date: \_\_\_\_\_

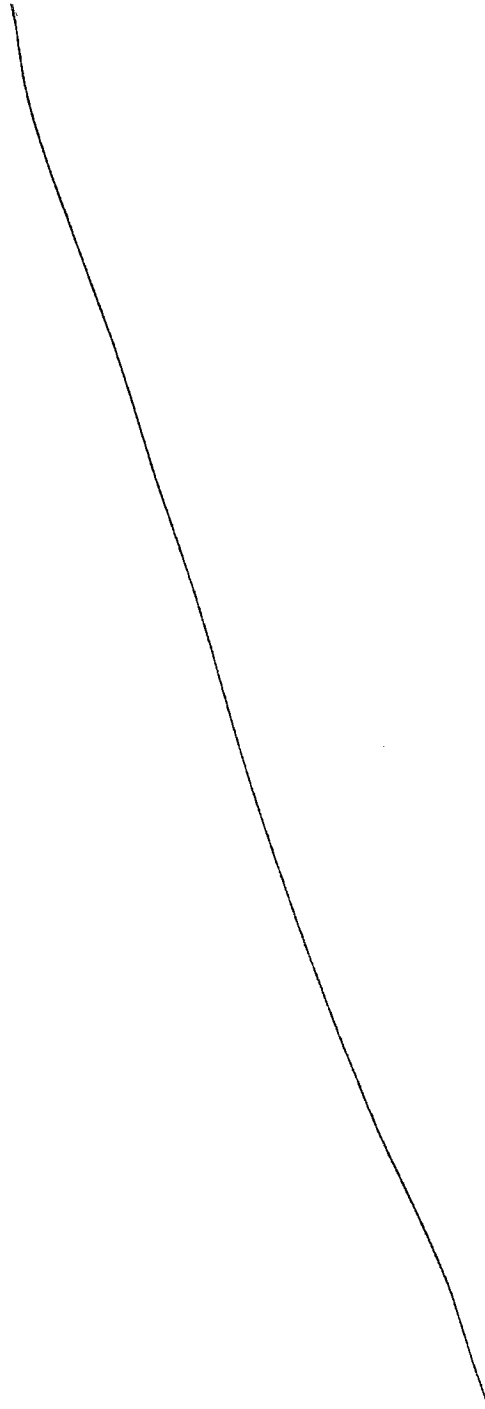
[Signature]

[Signature]

[Signature]

EXHIBIT A

Form of the Bank Guarantee for the Gas Supply Deposits



Handwritten signature or initials.

Handwritten signature or initials.

Handwritten signature or initials.



M/S. SUI SOUTHERN GAS CO., LTD.  
KARACHI.

Specimen Draft of  
Bank Guarantee

On Stamp Paper of Rs. 50/-  
pe Lac a Part thereof

**IN THE MATTER OF CONTRACT FOR SUPPLY OF GAS**

WHERE AS by contract for supply of Gas, made at Karachi on \_\_\_\_\_  
between M/s. \_\_\_\_\_

Karachi (therein and hereinafter referred to as the Customer of the one part) and Sui Southern Gas company Limited, (therein and hereinafter referred to as the company of the other part) the company agreed to supply gas to the customer and the consumer agreed to pay for supply of gas at the rates and in the manner therein set out and to secure payment thereof, the Consumer agreed to procure, for the benefit of the Company, an irrevocable Bank Guarantee for due performance and observance of the covenant namely payment for supply of gas, by the Consumer to the Company.

NOW THESE PRESENTS WITNESSETH as Follow:-

1. That we, the \_\_\_\_\_ Bank Limited  
Branch. Situated at \_\_\_\_\_  
( \_\_\_\_\_ Karachi), at  
the request and for and on behalf of our constituent, the consumer, hereby agree and undertake that we shall within three days of the receipt of written intimation from the Company that the consumer has failed to settle the demand for payment of gas consumed in accordance with the bill or bills made out, within the time noted on the bill or bills we shall unconditionally and without reference to the Consumer, pay to the company the sum outstanding not exceeding Rs \_\_\_\_\_ (Rupees \_\_\_\_\_)  
\_\_\_\_\_ ) We further agree that in the event of, our failure to, comply with Company's written requisition as aforesaid, we shall pay the company late payment surcharge @ 2% per month or part thereof until final payment.

2. That this Guarantee shall be a continuing guarantee for a sum not exceeding Rs \_\_\_\_\_ (exclusive of late payment surcharge) and shall continue to be in force in terms hereinafter mentioned notwithstanding any indulgence shown and / or extension of time given and / or facilities afforded and / or part payment accepted and / or variation of any terms of the contract between the Consumer and the Company.

P.T.O.

3. That this Guarantee shall be a continuing Guarantee and shall remain in force initially for a period of one year from the date hereof and shall, thereafter continue to remain in force until determined by three months notice in writings but shall notwithstanding such determination, continue to be in force in respect of all claims received up to and inclusive of the date of the expiry of such notice of determination.

4. And that nothing herein contained shall prejudice the rights of the company as against Consumer due to the failure of the Consumer to pay the gas bills in terms of the said Contract.

5. IN WITNESS WHEREOF, we \_\_\_\_\_  
Bank Limited, have put our respective hand and seal the day and year first hereinabove written.

Witness:

1. \_\_\_\_\_

2. \_\_\_\_\_

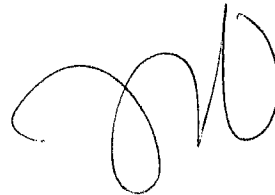
Bank Limited Authorized

Signature & Seal

Banks:

Tel No. \_\_\_\_\_

Fax No. \_\_\_\_\_



## EXHIBIT B

### Project Companies' Facilities

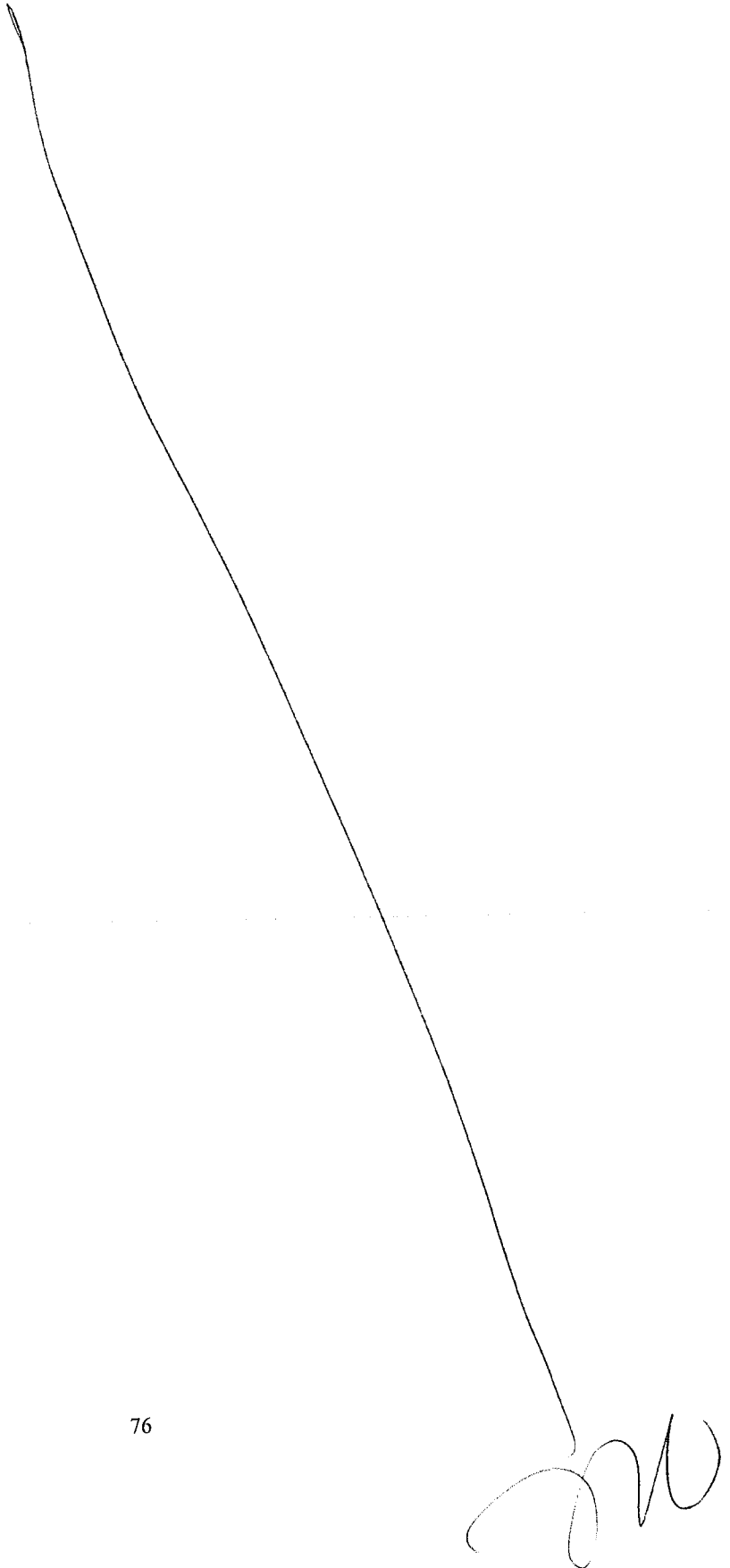
"The facilities, related to receiving of gas, located downstream of the Point of Delivery 1 including those at the Complex 1, which are owned, maintained and operated by the Project Company 1 or on Project Company 1's behalf shall be classified as Project Company 1's Facilities and the responsibility thereof shall rest with the Project Company 1."

"The facilities, related to receiving of gas, located downstream of the Point of Delivery 2 including those at the Complex 2, which are owned, maintained and operated by the Project Company 2 or on Project Company 2's behalf shall be classified as Project Company 2's Facilities and the responsibility thereof shall rest with the Project Company 2."





EXHIBIT C



2

~~A~~

**IMMEDIATE**

No. NG (II)-2(43)/13  
 Government of Pakistan  
 Ministry of Petroleum & Natural Resources  
 (Policy Wing)  
 Directorate General of Gas  
 21-E, Huma Plaza, Blue Area  
 \*\*\*

Islamabad, the 5<sup>th</sup> March, 2013

- |   |   |
|---|---|
| 1. <b>The Managing Director,</b><br>M/s Oil & Gas Development Company Ltd,<br><u>Islamabad.</u> | 02. <b>The Managing Director,</b><br>M/s Polish Oil & Gas Company (PGNIG SA)<br><u>Islamabad.</u> |
| 03. <b>The Managing Director,</b><br>M/s Sui Southern Gas Company Ltd,<br><u>Karachi</u>        | 04. <b>The Managing Director,</b><br>M/s Sul Northern Gas Pipelines Ltd,<br><u>Lahore.</u>        |

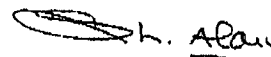
Subject: **ALLOCATION OF GAS FROM NEW SOURCES**

Dear Sir (s),

I am directed to state that Economic Coordination Committee (ECC) of the Cabinet while considering a summary on the subject vide case No. ECC-46/05/2013 dated 26.02.2013 took following decisions in partial modification of its earlier decisions vide Case No. ECC-153/19/2009 dated 06.10.2009 and ECC-107/11/2012 dated 16.08.2012:

- i. Around 10.5 MMCFD gas from Nur and Bagla has been allocated to SNGPL and SSGC on equal sharing basis;
  - ii. Upto 15 MMCFD gas from Jhal Magsi south field has been allocated to SNGPL and SSGC on equal sharing basis;
  - iii. Out of 50% share of SSGC from present production/allocation of KPD (120 MMCFD x 50% = 60 MMCFD);
  - iv. Around 38 MMCFD gas from Rehman field has been allocated to SSGC subject to award of Development & Production Lease.
  - v. Any other new gas field which or gas from other sources including Imports which may be allocated to SSGC/SNGC by ECC or any other competent authority in future;
  - vi. Out of all of above (i), (ii), (iii) and (iv) and (v) allocated to SSGC, the first 20 MMCFD gas would be placed for 100 MW power plant at Nooriabad Industrial Estate for a period of twenty five (25) years as per the request of Government of Sindh.
2. It is requested that necessary action may kindly be initiated to implement the aforesaid decision under intimation to this Ministry.

Yours truly,

 h. Alam

(Dr. Shahab Alam)  
 Director General(Gas)

**C.C:**

- (i) Director to Advisor to the Prime Minister on Petroleum & NR
- (ii) SPS to Secretary Petroleum & NR
- (iii) PA to DG (Gas) Petroleum & NR
- (iv) Master File Copy

## EXHIBIT D

## Gas and Pressure Specification



**SUI SOUTHERN GAS COMPANY LIMITED**  
**GAS QUALITY MEASUREMENT**  
**KARACHI TERMINAL**

**Minimum & Maximum (Estimated) Gas Composition and BTU  
at Nooriabad**

<u>Component</u>	<u>Minimum</u>	<u>Maximum</u>
Hexane Plus	0.163	0.0865
Propane	0.354	0.3673
I-butane	0.111	0.1067
N-butane	0.103	0.0980
Neo -pentane	0.007	0.0041
I-pentane	0.059	0.0528
N-pentane	0.0460	0.0360
Nitrogen	21.209	6.4916
Methane	73.724	91.0327
Corbon Dioxide	2.773	0.2816
Ethane	1.451	1.4427
Btu	800.5	967.89
Specific Gravity	0.690	0.60208
Metane Number	70 and above	
Gas Supply Pressure	100 psig and above	

## EXHIBIT E

### Site 1 Description

The power plant site is located about 6.5 km on Nooriabad- Jhampir Road from the main Super Highway.

### Site 2 Description

The power plant site is located about 6.5 km on Nooriabad- Jhampir Road from the main Super Highway.



## EXHIBIT F

### Initial Estimated Line size and Distance

12" dia x 18Km Pipeline + Sales Meter Station

Length of Pipeline = 18Km based on reconnaissance survey, however coordinates are required to assess actual length, which have not been provided as yet by the Buyer

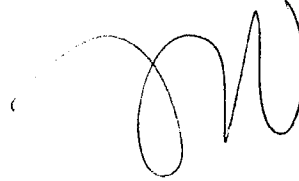
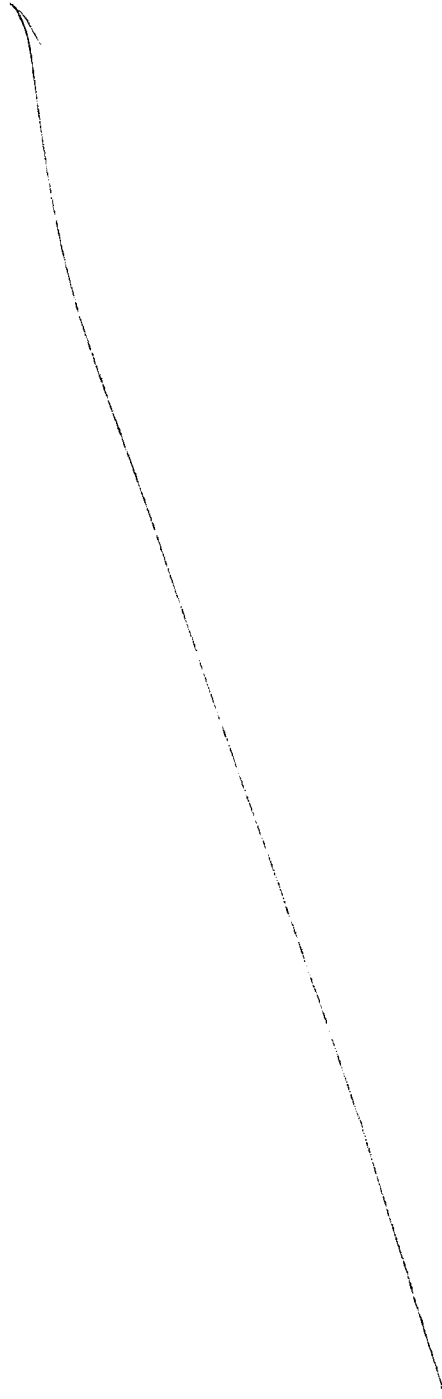


EXHIBIT G

Not Used



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## EXHIBIT H

### Consent and Acknowledgment

To: The Agent

Dear Sir

This is with reference to the Gas Supply Agreement dated \_\_\_\_\_, 2013 between the Seller, the GOS and the Project Companies (the "GSA").

Where the context requires, capitalised terms used herein and not otherwise defined shall bear the meanings assigned to them in the GSA.

We, the Seller, the GOS and the Project Companies under the GSA, acknowledge that, by virtue of Section 17.6 of the GSA, we have agreed that certain termination rights enjoyed by the Seller will be exercised in accordance with and subject to the terms of the said Section. We further agree that the Agent may transfer/novate rights and obligations of the Project Company \_\_\_ under the GSA to a third party provided any defaults of the Project Company \_\_\_ under the GSA have been cured and subject to approval by the Seller of the third party (such approval not to be unreasonably withheld or delayed).

A certificate from the Agent that it is entitled to transfer / novate rights and obligations of the Project Company \_\_\_ under the GSA shall be binding on the Project Company \_\_\_. The Project Company authorises the Agent on its behalf to execute any transfer or novation agreement that may be required in this regard. Upon execution of such transfer or novation agreement, the Seller shall be released from any and all obligations to the Project Company \_\_\_ under the GSA whether accrued or future and the Seller will thereafter be authorised to deal exclusively with the Agent and/or its nominee in respect of the GSA.

In addition, the Project Company \_\_\_ confirms that it has assigned in favour of the Agent all rights of the Project Company \_\_\_ under the GSA as security provided that such assignment does not relieve the Project Company \_\_\_ of its obligations under the GSA and does not in any way prevent the Seller from dealing with the Project Company \_\_\_ and making payments to the Project Company \_\_\_ under the GSA to the extent that such payments fall due.

In consideration of the Seller executing this acknowledgement, the Project Company \_\_\_ agrees and confirms that it will not hold the Seller liable for any acts pursuant to this acknowledgement.

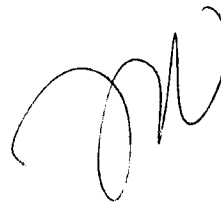


EXHIBIT I  
CALCULATION OF LIQUIDATED DAMAGES

**PART 1 – SHORT QUANTITY LIQUIDATED DAMAGES**

CALCULATION OF SHORT QUANTITY LIQUIDATED DAMAGES

Short Quantity Liquidated Damages shall be calculated, in Rupees, using the following formula,

Short Quantity Liquidated Damages =

$[(\text{Price per unit of Alternative Fuel} - \text{Price per MMBTU of Gas}) \times \text{Short Quantity}]$

The price per unit of Alternative Fuel shall be the lowest price offered by one of the Approved Oil Companies. The price per unit of Gas shall be that as set under this Agreement.

CALCULATION OF PRICE PER UNIT OF FURNACE OIL:

The price per unit of Furnace Oil shall be calculated as follows:

Price of Furnace Oil and applicable taxes	=	Rs. X/MT
GCV of Furnace Oil	=	18000 Btu/lb.
Ratio of LHV/GCV	=	0.92
Price of Furnace Oil in Million Btu	=	$(X / (1000 * 2.2046)) * (1000000 / (18000 * 0.92))$



**Gas Allocation Letter**

**IMMEDIATE**

No. NG (II)-2(43)/13  
 Government of Pakistan  
 Ministry of Petroleum & Natural Resources  
 (Policy Wing)  
 Directorate General of Gas  
 21-E, Huma Plaza, Blue Area  
 \*\*\*

Islamabad, the 5<sup>th</sup> March, 2013

- |   |   |
|---|---|
| 1. <b>The Managing Director,</b><br>M/s Oil & Gas Development Company Ltd,<br><u>Islamabad.</u> | 02. <b>The Managing Director,</b><br>M/s Polish Oil & Gas Company (PGNIG SA)<br><u>Islamabad.</u> |
| 03. <b>The Managing Director,</b><br>M/s Sui Southern Gas Company Ltd,<br><u>Karachi</u>        | 04. <b>The Managing Director,</b><br>M/s Sui Northern Gas Pipelines Ltd,<br><u>Lahore.</u>        |

Subject: **ALLOCATION OF GAS FROM NEW SOURCES**

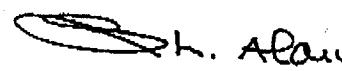
Dear Sir (s),

I am directed to state that Economic Coordination Committee (ECC) of the Cabinet while considering a summary on the subject vide case No. ECC-46/05/2013 dated 26.02.2013 took following decisions in partial modification of its earlier decisions vide Case No. ECC-153/19/2009 dated 06.10.2009 and ECC-107/11/2012 dated 16.08.2012:

- i. Around 10.5 MMCFD gas from Nur and Bagla has been allocated to SNGPL and SSGC on equal sharing basis;
- ii. Upto 15 MMCFD gas from Jhal Magsi south field has been allocated to SNGPL and SSGC on equal sharing basis;
- iii. Out of 50% share of SSGC from present production/allocation of KPD (120 MMCFD x 50% = 60 MMCFD);
- iv. Around 38 MMCFD gas from Rehman field has been allocated to SSGC subject to award of Development & Production Lease.
- v. Any other new gas field which or gas from other sources including imports which may be allocated to SSGC/SNGC by ECC or any other competent authority in future;
- vi. Out of all of above (i), (ii), (iii) and (iv) and (v) allocated to SSGC, the first 20 MMCFD gas would be placed for 100 MW power plant at Nooriabad Industrial Estate for a period of twenty five (25) years as per the request of Government of Sindh.

2. It is requested that necessary action may kindly be initiated to implement the aforesaid decision under intimation to this Ministry.

Yours truly,

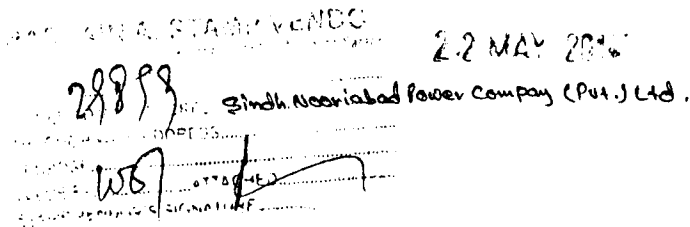


(Dr. Shahab Alam)  
 Director General(Gas)

**C.C.:**

- (i) Director to Advisor to the Prime Minister on Petroleum & NR
- (ii) SPS to Secretary Petroleum & NR
- (iii) PA to DG (Gas) Petroleum & NR
- (iv) Master File Copy

**Expression of interest to provide credit or financing along with sources and  
details thereof**




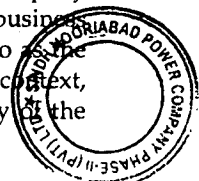
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instituted under the National

**AND**






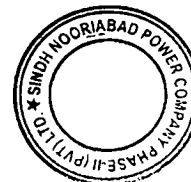
("NBP" and "SNPCL" shall, wherever the context so requires, be individually referred to as the "Party" and collectively as "Parties")

**WHEREAS:**

- A. SNPCL has approached NBP with a request to provide a term finance facility to the extent of PKR 3,000,000,000/- (Rupees Three Billion Only) (hereinafter the "Finance Facility") for the purpose of retiring the letters of credit to be issued in favour of the Offshore Project Suppliers under the LC Facility Agreement dated on or about the date hereof in relation to the Project ("Purpose");
- B. NBP has, based on the representations and warranties of SNPCL, agreed to allow it to use the Finance Facility for the Purpose on the terms and conditions contained herein.

 NOW THIS AGREEMENT WITNESSETH and it is hereby agreed and declared as under:

-  1. **INTERPRETATION**



1.1 Definitions

In this Agreement, unless the context shall otherwise require:

"Account" shall mean the account bearing no. 4584-5 that SNPCL has opened and maintaining with NBP's Corporate Branch, Chapel Plaza, Hasrat Mohani Road, Karachi;

"Agreement" shall mean this Term Finance Agreement;

"Applicable Laws" shall mean all the rules, laws and regulations in force and effect in Pakistan as may be amended from time to time;

"Assets" mean the assets of SNPCL as described in Schedule '1';

"Assignment Agreement" shall mean the assignment agreement executed by SNPCL in favour of NBP on or about the date hereof;

"Arrangement Fee" shall mean a flat fee of Rs. 5,000,000/- (Rupees Five Million Only) payable by SNPCL to NBP in full upon establishment of LCs;



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**"Authorized Representative"** means:

- a) in respect of NBP, any officer of NBP nominated by or on behalf of NBP as an authorized representative by notice to SNPCL; and;
- b) in respect of SNPCL, any officer of SNPCL nominated by or on behalf of SNPCL as an authorized representative by notice to NBP;

**"Availability Period"** shall mean the period commencing from Facility Effective Date and expiring on LC(s) Expiry Date, in which period SNPCL shall have a right to withdraw/avail the Sale Price or any part thereof and after which any un-withdrawn/un-availed amount shall stand cancelled or shall not be available to SNPCL for withdrawal;

**"Base Rate"** shall mean the average rate 'Ask Side' of the three (3) Months' Karachi Inter Bank Offer Rate (KIBOR) as published on 'Reuters' page KIBR or as published by the Financial Market Association of Pakistan as the case may be and the Base Rate for the first time will be the rate prevailing on the date of first Disbursement and for the remaining months the Base Rate will be set on the basis of rate prevailing on the last Business Day of the preceding quarterly annual period for the mark up due at the end of each quarterly period;

**"Business Day"** means a day on which commercial banks are open in Karachi to transact business with general public;



**"Charged Assets"** mean the assets as described in Schedule "2" attached hereto;

**"Current Assets"** means the aggregate of all assets which would, in accordance with generally accepted accounting principles, be classified as current assets including, without limitation, cash, notes and accounts receivable, inventories, prepaid expenses, guarantee deposits, accrued income, work in progress and short-term advances;

**"Current Liabilities"** means the aggregate of all liabilities which would, in accordance with generally accepted accounting principles, be classified as current liabilities including, but not limited to, notes and accounts payable, short-term borrowings, current maturities of long-term debt, creditors' charges, accruals, bank financing, accounts payable, deposits, unclaimed and proposed dividends and finance lease payments and other obligations due within twelve (12) months;

**"Current Ratio"** shall mean the Current Assets of SNPCL divided by the Current Liabilities of SNPCL;

**"Drawdown Notice"** shall mean the notice on the format given in Schedule "5" attached hereto;

**"Demand Promissory Note"** shall mean the instrument to be duly executed by SNPCL in favour of NBP on or about the date hereof;

**"Debt to Equity Ratio"** shall mean the aggregate of principal amount outstanding under all financing arrangements divided by Equity;

**"Disbursement"** shall mean the release of Sale Price under this Agreement to SNPCL for the Purpose.

**"Disbursement Account"** shall mean the account that SNPCL shall open and maintain with NBP wherein SNPCL shall receive the Disbursement;

**"Drawdown Date"** shall mean a date on which a drawdown/disbursement of the Sale Price or any part thereof is made to SNPCL under this Agreement;

**"Drawdown Amount"** shall have the meaning as ascribed to in Clause 5.2 herein

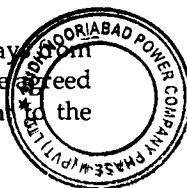
**"Event of Default"** means any of the events or circumstances described in Clause 13;

**"Equity"** means the advance against share capital, paid up capital, retained earnings, revenue reserves, capital reserves, any other form of undistributed profit including subordinated loans and surplus on revaluation of fixed assets;

**"Equipment Supply Contracts"** shall mean the contracts listed in Schedule '6' attached hereto;

**"Euro"** means the lawful currency of the member states of the European Union that have adopted and retained a common single currency through monetary union in accordance with European Union treaty law, as amended from time to time, and € or EUR shall be taken to mean the same.

**"Facility Effective Date"** shall mean the date not later than ninety (90) days from the date of execution of this Agreement or such other later date as may be agreed between the Parties, being the date by which the conditions precedent to the





facility effectiveness set out in Clause 8.1 will be complied with by SNPCL or waived or deferred by NBP;

**"Facility Documents"** shall mean this Agreement, the LC Facility Agreement and the Security Documents to be executed between SNPCL and NBP under Clause 7 of this Agreement;

**"Final Drawdown Date"** shall mean the Drawdown Date on which the entire Sale Price is disbursed by NBP in terms hereof to SNPCL;

**"Financial Indebtedness"** means any obligation of SNPCL, whether present or future, actual or contingent, to pay or deliver any moneys under or in respect of any financial accommodation, facility or arrangement granted to SNPCL including, without limitation, in respect of any:

- a) monies borrowed or raised by SNPCL including, without limitation, any finances or loans as defined in the Financial Institutions (Recovery of Finances) Ordinance No. XLVI of 2001;
- b) guarantee given by SNPCL in favour of any banking company or other person;
- c) bond, debenture, promissory note, redeemable securities, or bill of exchange (whether or not transferable or negotiable);
- d) option given by SNPCL to any one to sell or buy any of SNPCL's property at normal or discounted price;
- e) lease, or license in respect of any of SNPCL's property (real and tangible) entered into primarily for the purpose of raising finance.
- f) hire purchase or deferred payment obligation for any property acquired or service employed;
- g) obligation under any swap or future or option contract; or
- h) central excise duty and other statutory levies payable by SNPCL to the Federal, Provincial or any Local Governments; or
- i) arrangement which achieves the same or equivalent commercial effect as to any of the above.

**"Fee Letter"** shall mean the letter to be executed between SNPCL and NBP setting out the terms and conditions in relation to the Arrangement Fee;

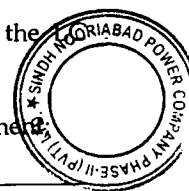
**"GoS"** shall mean the Government of Sindh;

**"Implementation Agreement"** shall mean the implementation agreement to be entered into between the GoS and SNPCL in relation to the Project;

**"LC Facility Agreement"** shall mean the agreement dated on or about the date hereof between SNPCL and NBP in relation to the LC(s) to the extent of € 22,590,000 (Twenty Two Million Five Hundred Ninety Thousand Euros Only);

**"LC Facility"** shall mean the facility provided by NBP pursuant to the Facility Agreement;

**"LC(s)"** shall have the meaning ascribed thereto in the LC Facility Agreement;



"LC Expiry Date" shall have the meaning ascribed thereto in the LC Facility Agreement;

"Letter of Hypothecation" shall mean the letter of hypothecation executed by SNPCL in favour of NBP on or about the date hereof;

"Letter of Lien" shall mean the letter executed by the GoS in favour of NBP on or about the date hereof;

"Letter of Pledge" shall mean the letter executed by the GoS in favour of NBP on or about the date hereof;

"Locked Exchange Rate" shall mean the PKR/Euro Exchange Rate locked at EUR 1 = PKR 133;

"Lien Amount" shall have the meaning given to the term in the Letter of Lien;

"Liquid Assets" shall mean the Pakistan Investment Bonds and/or Term Deposit Receipts of the GoS listed in Schedule '2' to be pledged as security by the GoS in favour of NBP for SNPCL's repayment obligations under this Agreement as more particularly described in Clause 7.1(c) hereunder;

"Material Adverse Effect" in the occurrence of any event or matter which in the reasonable opinion of NBP shall critically impair

- a) the ability of SNPCL to commence or implement the Project at any stage;  
or
- b) the ability of SNPCL to perform its obligations under this Agreement;

"Other Default" shall mean an Event of Default other than Payment Default;

"Offshore Project Suppliers" shall mean Wartsila Finland OY having its registered office at Wartsila Finland Oy, Tarhaajantie 2, FI-65101 Vaasa, Finland with whom SNPCL has entered into Equipment Supply Contracts for the purchase of machinery and equipment and for payment of engineering services in relation to the Project.

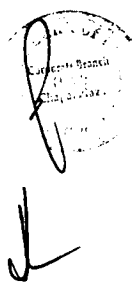
"Payment Default" shall mean an Event of Default only related to any payment obligations of SNPCL in terms of this Agreement and the LC Facility Agreement;

"Payment Documents" shall include all such commercial invoices, bills of lading, and any other documents required as a prerequisite for payment under the terms of the LC(s);

"Permitted Security Interest" means, any:

- (i) lien which arises solely by operation of law in the ordinary course of business;
- (ii) Security Interest created pursuant to the Security Documents;
- (iii) Security Interest created with the prior approval of NBP which approval shall not be withheld unreasonably; and
- (iv) Security Interests (on pari passu basis) created by SNPCL in favour of Project Financiers;

"PKR" or "Rs." or "Rupees" means the lawful currency of the Islamic Republic of Pakistan;



"Pledge Amount" shall have the meaning given to the term in the Letter of Pledge;

"Project" shall mean the construction and operation of a 50 MW (approx. gross capacity) gas fired power generating facility at SITE, Nooriabad by SNPCL on build, own, and operate basis in terms of the Implementation Agreement.

"Project Documents" includes

- (i) The Implementation Agreement entered into between SNPCL and the Government of Sindh in relation to the Project;
- (ii) The Power Purchase Agreement entered into between Hyderabad Electric Supply Company Limited and SNPCL;
- (iii) Gas Supply Agreement between Sui Southern Gas Company Limited and SNPCL;

"Project Financiers" shall mean the financial institution(s) providing a syndicated long term project finance facility to SNPCL for an amount at least equivalent to the Finance Facility for the development of the Project which is to be utilized by SNPCL for the retirement of all sums owed to NBP under the Finance Facility and for financing all other project costs in relation to the Project;

"Prudential Regulations" shall mean the prudential regulations for corporate/commercial banking issued by State Bank of Pakistan as amended from time to time;

"Purchase Price" means the sum of PKR 4,981,810,000/- (Rupees Four Billion Nine Hundred Eighty One Million Eight Hundred Ten Thousand Only) at which NBP shall sell the Assets back to SNPCL and the same shall be payable by SNPCL to NBP, subject to prompt payment bonus adjustments, in such instalments and on such date(s) as stated in Schedule 3 (Illustrative Repayment Schedule);

"Purpose" shall have the meaning ascribed to it in recital "A" above;

"Sale Price" means the PKR 3,000,000,000/- (Rupees Three Billion Only) being the price at which NBP shall purchase the Assets in accordance with this Agreement.

"Security Interest" means:

- a) a mortgage, pledge, lien, charge, assignment by way of security, hypothecation, secured interest,; or
- b) an agreement to create or give any arrangement referred to in paragraph (a) of this definition.

"Security Documents" shall mean the Letter of Hypothecation, Letter of Pledge, Letter of Lien, Demand Promissory Note, and the Assignment Agreement executed on or about the date hereof in relation to Charged Assets;

"Sponsors" shall mean Government of Sindh and Technomen Kinetics (Pvt.) Ltd.;

"NBP's Legal Advisor" means Ahmed & Qazi, Advocate & Legal Consultants having its office at 403, 404 & 417, Clifton Centre, Clifton, Karachi;



"Termination Date" shall have the meaning as ascribed thereto in Clause 1.5 below;

"Technoman Kinetics (Pvt.) Limited" shall mean a private limited company incorporated under the laws of Islamic Republic of Pakistan, having its place of business at 28, Army Housing Scheme, National Stadium, Karachi;

## 1.2 General

In this Agreement, unless the context shall otherwise require:

- a) a reference to any legislation or legislative provision includes any statutory modification or re-enactment of, or legislative provision substituted for, and any subordinate legislation under, that legislative provision;
- b) the singular includes the plural and vice versa;
- c) a reference to an individual or person includes a company, firm, trust, authority or government and vice versa;
- d) a reference to any gender includes all genders;
- e) a reference to a recital, clause, schedule or annex is to a recital, clause, schedule or annex of or to this Agreement;
- f) a recital, schedule or annex forms part of this Agreement;
- g) a reference to any agreement or document is to that agreement or document (and, where applicable, any of its provisions) as amended, novated, restated or replaced from time to time;
- h) a reference to any party to this Agreement or any other document or arrangement includes that party's executors, administrators, successors, permitted substitutes, permitted transferees and permitted assigns;
- i) where an expression is defined, another part of speech or grammatical form of that expression has a corresponding meaning; and
- j) a reference to a matter being 'to the knowledge' of a person means that the matter is to the best of the knowledge and belief of that person after making reasonable enquiries in the circumstances.

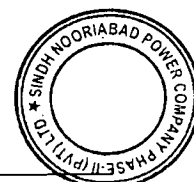
## 1.3 Headings

In this Agreement, headings are for convenience of reference only and do not affect interpretation.

## 1.4 Business Day

If the day on which any act, matter or thing is to be done under or pursuant to this Agreement is not a Business Day, that act, matter or thing shall be done no later than the immediate succeeding Business Day.

## 1.5 Termination Date



Termination date shall mean the date occurring after expiry of three (3) years from the Facilities Effective Date, on which date this Agreement shall stand terminated and all outstanding amounts that may be payable pursuant to this Agreement by SNPCL to NBP shall become payable to NBP (the "Termination Date"). Subject to the terms of this Agreement, NBP shall have and SNPCL shall not have the right to terminate this Agreement prior to the Termination Date.

1.6 **Utilization of Sale Price**

The Parties agree that SNPCL may utilize the whole or part of the Finance Facility as per the Purpose.

2. **EXTENSION OF FINANCE FACILITY**

- 2.1 NBP shall, subject to the terms and conditions contained in this Agreement, extend the Finance Facility or any portion thereof to SNPCL upon the specific request of and based on the representations and warranties of SNPCL in accordance with the procedure laid down in this Agreement;

3. **SALE PRICE AND PURCHASE PRICE**

3.1 **Purchase of the Assets by NBP and the Sale Price**

The Parties agree that NBP shall purchase the Assets, from time to time, from SNPCL for an aggregate amount not exceeding the Sale Price in accordance with and subject to the terms and conditions stated in this Agreement.

3.2 **Sale of the Assets by NBP and the Purchase Price**

The Parties agree that subsequent to the purchase of Assets by NBP as described in Clause 3.1 above, NBP shall sell the same to SNPCL and SNPCL shall purchase the same at an aggregate price not exceeding the Purchase Price, subject to prompt payment bonus adjustments, in such instalments and on such date(s) as stated in Schedule 3 (Illustrative Repayment Schedule) attached with this Agreement or otherwise mentioned in this Agreement. SNPCL shall ensure the timely payment of each instalment in respect of the Purchase Price in good and clear funds.

4. **DISBURSEMENT OF SALE PRICE**

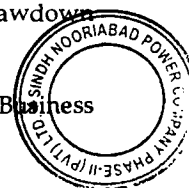
- 4.1 Disbursement of the Sale Price or any portion thereof shall be made to SNPCL directly only for the Purpose.

5. **DRAWDOWN MECHANISM**

5.1 **Drawdown Notice**

- 5.1.1 SNPCL may, subject to satisfaction of all conditions precedent (except those which are deferred or waived by NBP) stated in Clause 8.1 and Clause 8.2 of this Agreement, request for the drawdown of the Sale Price by issuing a Drawdown Notice within the Availability Period.

- 5.1.2 SNPCL shall issue a Drawdown Notice to NBP not less than three (3) Business Days prior to the Drawdown Date mentioned in such notice.



- 5.1.3 The Sale Price shall be available for utilization by SNPCL only during the Availability Period and that any Drawdown Notice received after such period shall not be entertained by NBP.

5.2 **Drawdown Amount**

- 5.2.1 Upon receipt of notice from SNPCL as per the terms contained in Clause 5.1 above, NBP shall disburse the requested amount of the Sale Price ('Drawdown Amount') into the Disbursement Account or in such other manner as maybe mutually agreed to between the Parties. Each Disbursement of the Sale Price shall be paid by NBP in good and clear funds on the proposed Drawdown Date.
- 5.2.2 Upon transfer of the Sale Price, or any portion thereof, in the Disbursement Account, SNPCL shall make all such payments immediately for retiring the LC(s) issued under the LC Facility Agreement and provide evidence of each such payment to NBP within (2) two Business Days of Drawdown Date.
- 5.2.3 Each Drawdown Amount shall be made in PKR on the lower of (i) the actual PKR/ Euro Exchange Rate prevailing on or about the Drawdown Date or (ii) the Locked Exchange Rate at the time of signing the Facility Documents.

5.3 **Payment of the Purchase Price by SNPCL**

The mark-up portion of the Purchase Price shall be paid by SNPCL to NBP quarterly in arrears and in such instalments and on such dates as are prescribed in Schedule 3 (Illustrative Repayment Schedule) hereto attached. Each such instalment shall be paid in good and clear funds before 11:30 AM PST on the due date of payment. Except for prepayments permissible pursuant to Clause 5.9, the principal portion of the Purchase Price shall be paid in lump-sum upon the Termination Date.

5.4 **Variation in Schedule 3**

The Schedule 3 (Illustrative Repayment Schedule) attached hereto is made on the assumption that SNPCL may avail the entire Sale Price on the Facility Effective Date. However, in case (a) SNPCL avails the Sale Price at a later date or (b) SNPCL avails the Sale Price through multiple drawdowns then Schedule 3 (Illustrative Repayment Schedule) shall be revised from time to time during the Availability Period on each Drawdown date. Moreover, in the event at any time the Base Rate is discontinued and/or considering the prevailing cost of funds for the money markets, it ceases to be a commercially viable option for NBP, and/or Base Rate is replaced with any other similar benchmark as suggested by NBP and agreed by SNPCL (within a period not exceeding 30 days), Schedule 3 (Illustrative Repayment Schedule) of this Agreement shall accordingly be revised by NBP and in the absence of manifest error it shall be binding upon SNPCL to repay the Purchase Price in accordance with such revised repayment schedule. NBP shall determine the revised amounts of the Purchase Price and of its instalments on the same basis on which the amounts set out in Schedule 3 (Illustrative Repayment Schedule) hereto have been determined. In any event the revised repayment schedule shall provide that the then outstanding principle component of the Purchase Price shall be payable by SNPCL on the Termination Date. However, in case SNPCL does not accept such revised repayment schedule within 30 days from NBP's informing such change to SNPCL, then SNPCL shall immediately and not later than sixty (60) days the principal component of the outstanding Purchase Price and the accrued mark-up.

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**5.5 Prompt Payment Bonus to SNPCL**

It is agreed between the Parties, that if SNPCL succeeds in paying the instalments in accordance with Schedule '3' (Repayment Schedule), then it shall, on paying each such instalment, be entitled to a bonus named as "Prompt Payment Bonus" equal to the difference between the mark-up portion of the Purchase Price calculated at mark-up rate of 22% under this Agreement and the mark-up portion of Purchase Price calculated at the mark-up rate of Base Rate + 1.25%.

**5.6 Payment of costs, charges fees and expenses by SNPCL**

Unless otherwise specified in this Agreement, payment of costs, charges, fees and expenses payable by SNPCL to NBP under this Agreement shall be made by SNPCL to NBP through the Account and/or through any account, within five (5) days after receipt of a demand of NBP by SNPCL requiring payment.

**5.7 NBP not responsible for the Assets**

The Parties agree that notwithstanding the sale to NBP of the Assets by SNPCL and the purchase thereof by SNPCL, NBP shall in no way be responsible for the specifications, condition, quality or quantity of the Assets to SNPCL or to anybody else.

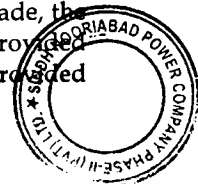
**5.8 Pre-Payment of the Purchase Price**

5.8.1 Except as otherwise provided in this Agreement, SNPCL may, at any time after the Final Drawdown Date, prepay any portion of the Finance Facility on terms as are specified hereunder. The Sale Price component shall be the only amount payable in respect of the amount of the Purchase Price to be prepaid.

5.8.2 The following further conditions will apply to prepayments:

- (i) prepayment shall require at least 7 (seven) business days' notice to the NBP in writing;
- (ii) prepayment shall be made in multiples of PKR 50,000,000/- (Pak Rupees Fifty Million only) and shall be applied in adjustment of the instalments of the Purchase Price (excluding the mark-up component mentioned the Repayment Schedule which shall not be payable) by way of a pro rata reduction in succeeding instalments;
- (iii) prepayment will be required to be made on a date of payment of an instalment of mark-up component of the Purchase Price along with payment of the amount of such instalment;
- (iv) once SNPCL provides the notice to prepay to NBP in terms of this Clause 5.9.2 such notice shall be irrevocable and SNPCL shall be obligated to make the prepayment as detailed in the relevant notice;
- (v) any amount once prepaid cannot be redrawn.

5.8.3 Upon any prepayment by SNPCL under the terms of Clause 5.8.1 and 5.8.2, NBP hereby agrees to release, within five (5) days of the prepayment being made, the security over the Liquid Assets and / or the cash deposits of the GoS, as provided in Clause 7.1 (b) and (c), pro rata to the prepayment made by SNPCL provided that such release does not affect the required margin of 10%.



6. **DETERMINATIONS ADVERSELY AFFECTING THIS AGREEMENT**

During the currency of this Agreement, in case this Agreement or any provision thereof is finally held by any court, tribunal or authority to be unenforceable or contrary to the injunctions of Islam or not conforming with any of the Islamic modes of financing, as prescribed by the State Bank of Pakistan or any other competent authority or if it is necessary for any other reason whatsoever to amend or modify the terms or any provision of this Agreement, then the parties hereto, whilst acknowledging that the terms and covenants herein contained have been prepared in absolute good faith and in accordance with information and knowledge currently available, agree that upon such happening, they shall forthwith suitably substitute this Agreement or such of its provisions as may have been declared unenforceable or contrary to the injunctions of Islam or not being in conformity with the Islamic modes of financing prescribed by the State Bank of Pakistan or any other competent authority or which are necessary to amend for any other reason whatsoever; provided always that the new terms are in accordance with the directions of the court or tribunal or authority concerned.

7. **SECURITY**

7.1 In consideration of NBP agreeing to provide the Finance Facility to SNPCL under this Agreement and as security for the payment of the Purchase Price and all other amounts becoming due or payable by SNPCL to NBP on any account whatsoever under this Agreement, SNPCL shall:

- a) Execute a Demand Promissory Note;
- b) procure the creation of a perfected lien over cash deposits of the GoS to the extent of the Lien Amount, in favour of NBP, through the Letter of Lien;
- c) procure the creation of pledge of Liquid Assets to the extent of the Pledge Amount in favour of NBP through the Letter of Pledge;
- d) create a first charge by way of hypothecation on the Charged Assets of SNPCL in favour of NBP for an amount of PKR. 4,000,000,000/- (Rupees Four Billion Only) inclusive of 25% margin through the Letter of Hypothecation.
- e) create an assignment of all insurances in favour of NBP and ensure inclusion of NBP as the co-loss payee in all Project insurances of SNPCL through the Assignment Agreement;
- f) procure an undertaking from the GoS on the format given in Schedule 7 attached hereto ;
- g) execute such other documents and deeds from time to time as may reasonably be requested by NBP for the purpose of more fully perfecting the said security created in favour of NBP in terms of this sub-clause 7.1.

7.2 **SNPCL to comply with Formalities**





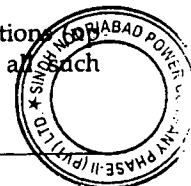
SNPCL undertakes to fulfil, at its own cost and expense, all legal and procedural formalities for the creation of the charge, mortgage, assignment, lien and/or other securities mentioned in sub-clause 7.1 above, including, without limitation, due registration (if required) of the charge/mortgage documents in the offices of authorities concerned.

8. **CONDITIONS PRECEDENT**

8.1 **Conditions Precedent to Facility Effectiveness:**

Subject to Clause 8.3.1, the Finance Facility shall not be effective unless SNPCL has provided NBP the evidence as to the fulfilment of the conditions precedents set out below:

- 8.1.1 that SNPCL has complied with the Clause 7.1 of this Agreement to the satisfaction of NBP;
- 8.1.2 a certified copy of its Board Resolution(s) confirming (a) the acceptance of the Finance Facility under this Agreement, and (b) the appointment of authorized signatories to execute the Facility Documents on behalf of SNPCL;
- 8.1.3 that nothing herein contained or SNPCL's performance under this Agreement shall conflict with any of the provisions of its constitutive documents;
- 8.1.4 that SNPCL has taken all the steps required to be taken under this Agreement with respect to fully perfecting the Charged Assets and that the Security Documents required to be registered have been duly filed with or registered wherever so required under any Applicable Laws;
- 8.1.5 that NBP has received from SNPCL all the fees and other expenses that it may have incurred in processing SNPCL's application for the Finance Facility including (i) the Arrangement Fee (ii) out of pocket expenses incurred by NBP, the evidence of which is provided by NBP to SNPCL to its satisfaction (not exceeding Rs. 1,000,000/-) and (iii) the legal fees to NBP's Legal Advisor for having all the legal documents prepared, having other related legal and other work done;
- 8.1.6 that no Event of Default has occurred or is continuing;
- 8.1.7 that SNPCL has executed all Equipment Supply Contracts with the Offshore Project Suppliers;
- 8.1.8 that SNPCL has executed the Project Documents in accordance with the Applicable Laws and in a form acceptable to NBP;
- 8.1.9 that no event or circumstance has occurred or exists which is likely to have a Material Adverse Effect on SNPCL;
- 8.1.10 that NBP has received the opinion on creation & perfection of security and execution and validity of other Facility Documents from NBP's Legal Advisor;
- 8.1.11 that SNPCL has provided to NBP the latest search report of charges/mortgages registered over the assets of SNPCL evidencing the creation of charge in favour of NBP;
- 8.1.11 that SNPCL has provided to NBP, the requisite documents/authorizations (to the satisfaction of NBP) confirming that the signatories signing all such documents of behalf of GoS are duly authorized for the same.



**8.2 Conditions Precedent to each Drawdown**

Subject to Clause 8.3, SNPCL shall not be entitled to issue a Drawdown Notice unless SNPCL has provided NBP the evidence as to the fulfilment of the conditions set out below:

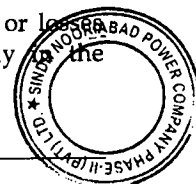
- 8.2.1 all the requirements of Section 8.1 have been satisfied and are subsisting or have been waived or deferred and any conditions set out by NBP for previously provided waivers and/or deferrals of the conditions precedents mentioned in Clause 8.1 have been complied with and satisfied to the satisfaction of NBP unless further deferred or waived by NBP;
- 8.2.2 On both of the date of issuance of the Drawdown Notice and the Drawdown Date:
- (i) the representations and warranties in this Agreement to be made by SNPCL and to be repeated on those dates are true and correct in all material respects and will be true and correct in all material respects immediately after each Disbursement;
  - (ii) no Event of Default is subsisting or shall occur as a result of making each Disbursement;
  - (iii) the Payment Documents corresponding to such Disbursement Request has been provided in an acceptable form to NBP;
  - (iv) the Disbursement, as specified in the Drawdown Notice, shall not result in any breach by NBP of the Applicable Laws, including, without limitation, the Prudential Regulations or other directives, rules, regulations and circulars of State Bank of Pakistan;
  - (v) SNPCL has certified to NBP that as at the date of the Drawdown Notice, the Project is being implemented in accordance with the requirements of the Project Documents;
- 8.2.3 no Material Adverse Change has or is likely to occur in the sole opinion of NBP;
- 8.2.4 SNPCL or its Sponsors have topped up the value of the Liquid Assets, if required, pursuant to the terms of the Letter of Pledge.

**8.3 NBP's Discretion concerning Conditions Precedent**

- 8.3.1 NBP may, waive, or postpone the time for fulfilment of any condition precedent listed in Clause 8.1 and 8.2 above.
- 8.3.2 Where a postponement is allowed under this clause, SNPCL shall comply with the terms on which the postponement is granted, and SNPCL shall be in breach of the provisions of this Agreement if it fails to satisfy by the postponement date the conditions precedent listed in Clause 8.1 and 8.2 above and the conditions on which postponement was granted.

**8.4 NBP not liable for delay in Disbursement of Sale Price**

- 8.4.1 NBP shall not be liable for any direct or indirect expenses, damages or losses incurred by SNPCL resulting directly or indirectly from any delay in the



disbursement of the Sale Price, or any portion thereof, taking place due to SNPCL's not complying with the conditions precedent stated hereinabove.

9. **PAYMENT OF FEES AND CHARGES**

9.1 **SNPCL to pay all Levies, Taxes and Expenses**

9.1.1 SNPCL shall be liable to pay the Arrangement Fee to NBP in full upon the establishment of LCs pursuant to the Fee Letter to be executed by the Parties.

9.1.2 SNPCL shall be liable, and shall continue to be liable during the currency of this Agreement to pay all taxes, duties and levies as may be required to be paid on execution, perfection or registration of any documents creating a charge on its assets in terms of Clause 7.1 of this Agreement in favor of NBP and in particular any excise duty or any other tax or levy that may become payable by NBP from time to time with regard to the amount advanced to or outstanding against SNPCL shall be born and paid by SNPCL. This provision shall not apply to any deduction or withholding which the SNPCL is required under law (pursuant to any specific statutory provision or order of any competent authority or court or any rule, notification, SRO or direction having the force of law) to make on account of taxes levied on the income/profit of NBP arising out of this Agreement. SNPCL shall deposit amounts deducted or withheld in the relevant Government treasury, and shall provide to NBP receipts, challan forms or other documents evidencing the amounts withheld/deducted and deposited as aforesaid within 14 (fourteen) days from the date of deduction

9.1.3 SNPCL shall pay excise duty or any other duty or taxes to be levied by the Provincial and or Federal Government in connection with this Agreement or any other document executed or to be executed pursuant thereto.

9.1.4 In case NBP is required to pay the same or any parts or portions thereof, SNPCL shall reimburse the same within five (5) Business Days of receiving a demand from NBP, as the case may be, and shall also hold NBP harmless against all losses, damages, costs and expenses resulting from any actions or proceedings that may be taken for the recovery thereof by any Government or other lawful authorities.

9.2 **Demand when paid by SNPCL**

9.2.1 Except as otherwise provided in this Agreement, all sums required to be paid by SNPCL under this Agreement shall be paid by SNPCL within five (5) Business Days after receiving a demand from NBP requiring such payment.

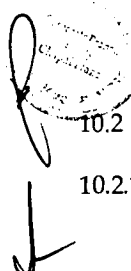
10. **PAYMENTS GENERALLY**

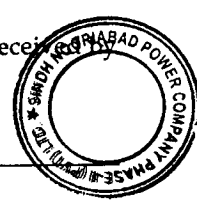
10.1 **Manner of Payment**

10.1.1 SNPCL shall make all payments under this Agreement without any set-off or counterclaim and free and clear of, and without any deduction or withholding for or on account of, any taxes, duties, costs or expenses (except any tax which SNPCL is compulsorily required to deduct by law).

10.2 **Order of Distribution**

10.2.1 Notwithstanding anything contained in this Agreement, all amounts received by NBP from SNPCL shall be applied:





- a) firstly, towards payment to NBP of amounts due to it under Clause 9;
- b) secondly, towards payment to NBP of the mark-up component of the Purchase Price;
- c) thirdly, towards payment to NBP of the Sale Price;
- d) fourthly, towards payment of liquidated damages to NBP, if any.

### 10.3 NBP Entitled to Engage Outside Valuers

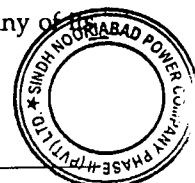
10.3.1 NBP shall have irrevocable right to engage outside valuator for the valuation/appraisal of the Charged Assets, and the fees to engage such valuator shall be borne by SNPCL provided the valuation is carried out not more than once a year.

## 11. SNPCL'S REPRESENTATION AND WARRANTIES

### 11.1 Representations and Warranties

SNPCL hereby represents and warrants to NBP that:

- a) it is a private limited company incorporated and existing under the Companies Ordinance, 1984 and is not in liquidation;
- b) it has full legal capacity and power:
  - i) to own its property and assets and carry on its business as it is now being conducted;
  - ii) to utilize the Sale Price for the purpose mentioned in this Agreement;
  - iii) to enter into, exercise its rights and perform its obligations under this Agreement;
- c) all conditions and things required by Applicable Laws to be fulfilled or done in order to enable it lawfully to enter into, and exercise its rights and perform its obligations under, this Agreement have been fulfilled;
- d) this Agreement constitutes its valid and legally binding obligations, enforceable against it in accordance with its terms;
- e) its audited Balance Sheet and Profit and Loss Account shall be prepared at all times in accordance with the Applicable Law and generally accepted accounting principles consistently applied and shall give a true and fair view of its financial condition as of the relevant date;
- f) neither its execution of, nor its exercise of, its rights or performance of its obligations under, this Agreement:
  - i) contravenes any Applicable Law to which SNPCL or any of its properties and businesses are subject;
  - ii) contravenes any undertaking or obligation on SNPCL or any of its properties;

- iii) contravenes any provision of SNPCL's Memorandum & Articles of Association;
- iv) requires SNPCL to make any payment or delivery in respect of any Financial Indebtedness before the scheduled date of that payment or delivery; or
- v) causes any limitation on the power of SNPCL to incur Financial Indebtedness to be exceeded;
- g) SNPCL shall upon NBP's demand disclose to NBP in writing all existing liabilities and commitments and all other or any other matter which is likely to have a Material Adverse Effect on it and shall furnish a certificate from the auditor confirming the same to NBP;
- h) all information furnished by SNPCL to NBP is accurate and that it has not omitted or concealed any material facts which would render such information incorrect, misleading or inaccurate and that no material adverse change has taken place in the business of SNPCL since the time the financial statements upon which NBP decided to extend its portion of the Sale Price to SNPCL were furnished to NBP; and
- i) to the best of SNPCL's knowledge no extraordinary circumstances and no change of law has occurred which would make it impossible for it to carry on its business or fulfil its obligations under this Agreement.
- j) no litigation cases having Material Adverse Effect are pending or threatening at the time of Disbursement against SNPCL or the Project itself or its Sponsors or its group companies.
- k) The selection process and subsequent award for financing, engineering, ownership and operation of the Project has been granted in accordance with the Applicable Laws.

#### 11.2 Reliance on Representations and Warranties

SNPCL acknowledges that NBP has entered into this Agreement in reliance on the representations and warranties in Clause 11.1 and the same shall be taken to have been repeated by SNPCL on the Facility Effective Date and each Drawdown Date.

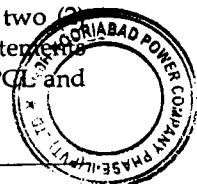
#### 12. SNPCL'S COVENANTS

##### 12.1 Positive Covenants

SNPCL undertakes and covenants with NBP that it shall:

- a) use the Sale Price or any part thereof only for the purposes mentioned in this Agreement;
- b) deliver to NBP, adequate number of copies of the audited annual accounts and balance sheet of SNPCL at the closing of each preceding financial year within three (3) months after the close of such year and to also deliver to them adequate number of copies of half-yearly accounts within two (2) months of the close of the relevant half-year. These financial statements shall reflect the true and fair view of the financial position of SNPCL and

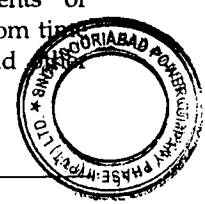




shall be drawn in conformity with generally accepted accounting principles consistently applied and shall also provide its quarterly financial statements within one month of the end of the period;


- c) provide NBP (upon the request) with copies of all documents, reports, notices, circulars and particulars which SNPCL provides to its shareholders at the same time as they are provided to its shareholders;
- d) provide NBP, within 10 (ten) Business Days of request, with any information relating to its financial condition, business assets and affairs as NBP may reasonably request;
- e) keep proper records and books of account and provide to NBP or its employees, agents or representatives necessary details relating to its activities at all times and permit the representatives of NBP to inspect such books and records at any time after receiving a 48 hour prior notice from NBP;
- f) pay or keep paid up all taxes, dues, rents, rates and charges of any governmental or municipal authority or other competent authority, and in particular to punctually pay all rates, rents, property taxes in respect of the Charged Assets and in respect of the properties on or in which the Charged Assets may be located;
- g) maintain its buildings, sites, works, constructions, plants, equipment, facilities and other assets and in particular the Charged Assets in a usable state and take all reasonable precautions against such risks including fire, arson, riots, earthquakes, and acts of terrorism;
- h) give NBP prompt notice of any litigation, arbitration or administrative proceedings affecting it or any of its property which, if adversely determined, could have either separately or in aggregate a Material Adverse Effect on it;
- i) until the entire Purchase Price and all other dues and payment payable by SNPCL hereunder, or under any other document executed pursuant to this Agreement, shall have been paid in full to NBP, SNPCL shall not create or permit to exist any Security Interest over the Charged Assets other than a Permitted Security Interest or any charge existing on the Charged Assets;
- j) execute all documents and do all acts and things as are stated in this Agreement or as NBP may reasonably require in terms of this Agreement;
- k) enter into supplementary agreement(s) with NBP if at any time pursuant to the Government/State Bank of Pakistan directives any term or condition of this Agreement is required to be altered or some new conditions are required to be incorporated therein,;
- l) obtain and maintain all consents required in connection with the Facility Documents and the Project;
- m) furnish properly to NBP such information as it may from time to time reasonably request and allow NBP or its employees, agents or representatives, at its request, which may reasonably be made from time to time, inspection and examination of the Charged Assets and

*[Handwritten signature]*



premises, movable and immovable assets, books of accounts and other financial documents and records of SNPCL;

- n) insure and always keep insured the Charged Assets (and all additions thereto) to at least the value of the aggregate outstanding amount of all loans obtained by SNPCL on the security of the Charged Assets) against all reasonable risks including (but not limited to) loss or damage by fire, explosion, lightening storm, tempest, flood, earthquake, war, subversive activities, riots, theft, dacoity and civil commotion with a well reputed insurance company or companies, to produce the policies of such insurance to NBP, if required, to duly pay or cause to be paid the premiums and other sums of money payable in respect of such insurance and if required, to produce to NBP the receipts for the same within ten (10) days of the same becoming due and to assign the policies of insurance in favour of NBP to the extent of the amount from time to time due to NBP hereunder, and to cause the notice of the interest of NBP to be noted on the policies of insurance;
- o) conduct and manage its business and affairs with diligence and efficiency in accordance with sound financial and business practices and with the assistance of qualified personnel;
- p) maintain its existence and right to carry on business and take all steps necessary to maintain and renew its lease/hire agreements, other contracts, rights, powers, privileges, concessions, licences and franchises which are necessary or materially useful for the conduct of its business and maintain its books of accounts and other records adequately to reflect truly and fairly its financial position and the results of its respective operations in conformity with generally accepted accounting principles consistently applied;
- q) comply with the Prudential Regulations of the State Bank of Pakistan as notified by NBP and all other Applicable Laws;
- r) maintain the following financial ratios throughout the tenor of the Finance Facility:
  - i. Current Ratio of 1:1 from July 1<sup>st</sup>, 2015 until the remaining tenor of the Finance Facility;
  - ii. maximum Debt to Equity Ratio of 70:30;
- s) comply with all the terms and conditions of all the documents that are/will be executed in respect of the Finance Facility;
- t) immediately inform NBP if there is any event having a Material Adverse Effect on SNPCL and to take all steps to rectify such Material Adverse Effect; and
- u) immediately inform NBP of the occurrence of any Event of Default;
- v) use and procure the equipment in relation to the Project for their intended purpose and in accordance with operating instructions;
- w) maintain all assets in relation to the Project in good condition and replace parts thereof as and when required;

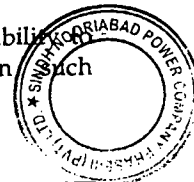


- x) maintain acceptable and adequate accountings, management and cost accounting systems and books and records of account in accordance with International Financial Reporting Standards as adopted in Pakistan;
- y) ensure that GoS maintains at least 40% shareholding in SNPCL until the Termination Date;
- (z) ensure that the first disbursement under the Project Financiers facility will be used to settlement of all sums that are or will become due by SNPCL to NBP under the Finance Facility and/or LC Facility
- (aa) Provide NBP with copies of construction progress reports on the Project as and when received from its contractors / suppliers.
- (bb) After the vacation of the stay order issued by the Honourable Supreme Court of Pakistan in Suo Motu case no. 16 of 2011, within fifteen (15) Business Days of SNPCL's immovable property located at near Sindh Industrial Trading Estate, Nooriabad, Jhimpir Road, Nooriabad, Sindh (the "Property") being registered and mutated in the name of SNPCL, SNPCL shall create a mortgage over the Property in favor of NBP to the extent of PKR 4,000,000,000 (Rupees FOUR BILLION Only) for the purposes of securing its payment obligations under this Agreement and the LC Facility Agreement.

## 12.2 Negative Covenants

Until the entire amount of the Purchase Price and all other amounts due and payable by SNPCL hereunder shall have been paid in full to the satisfaction of NBP, SNPCL shall not except with the prior written consent of NBP:

- a) sell, transfer or otherwise dispose of any substantial part of its undertaking or assets or undertake or permit any merger, consolidation, dismantling or reorganization;
- b) create any charge, interest, lien, right or any encumbrances of any nature whatsoever on the Charged Assets (except for Permitted Security Interest), or on any part or portion thereof, in favour of any bank, financial institution, modaraba, company or other person or concern whatsoever;
- c) demolish or remove any part of the buildings or erections in which the Charged Assets are located or the fixtures and fittings annexed thereto except in the ordinary course of repair, maintenance, replacement or improvement;
- d) change its Memorandum & Articles of Association in a manner that materially and adversely effects its ability to perform its obligations under this Agreement, or change its fiscal year or change the nature of its business as stated in the Memorandum of Association of SNPCL;
- e) take any action which is likely to have a Material Adverse Effect;
- f) not to accelerate repayment of any existing debt or financial liability any one before its stated maturity date except when such





repayment/prepayment does not have the affect of materially prejudicing SNPCL's ability to perform its obligations under this Agreement.

- g) declare any such dividend declaration and payment whereof will result in violation of any of its financial covenants contained in this Agreement or in any agreements to which NBP and SNPCL are parties;
- h) transfer the Finance Facility or any part thereof to any of its associated companies or undertaking whether by way of loan, investment, or discount or by any other mode whatsoever;
- i) make payment of the subordinated loan (or by whatever name called) given by Sponsors to SNPCL , if any;
- j) distribute any profits to its shareholders through cash dividend in case of any delay in repayment of Purchase Price to NBP in accordance with the Repayment Schedule;
- k) in any way allow or permit anything to be done in respect of Charged Assets, so as to make SNPCL's rights therein liable to be extinguished or in any way impaired and SNPCL shall keep the Charged Assets free from all charges and encumbrances of whatsoever nature except for Permitted Security Interest and those already created thereon and disclosed to NBP;

### 13. EVENTS OF DEFAULT

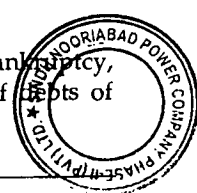
#### 13.1 Events of Default

Each of the following events shall constitute an Event of Default if not rectified within a period of ten (10) days (or such other period as may be agreed by the Parties) in the event of Payment Default and sixty (60) days (or such other period as may be agreed by the Parties) in the event of Other Default capable of rectification, from the date NBP notifies SNPCL in writing of the same:

- a) default of SNPCL in paying on the due date for payment, of any sum payable under this Agreement;
- b) default of SNPCL in paying on the due date for payment, of any sum payable under the LC Facility Agreement;
- c) default by SNPCL in performance of any of its commitments, obligations and/or covenants under this Agreement (or any other agreement or arrangement with NBP entered into pursuant to or by reference to this Agreement);
- d) any statement, representation or warranty made or repeated by SNPCL in or pursuant to this Agreement is or proves to have been incorrect or misleading in any material respect, or any statement, representation or warranty made or repeated by SNPCL in any notice, certificate or statement referred to or delivered under this Agreement is or proves to have been incorrect or misleading in any material respect, or any such statement, representation or warranty is incorrect in any material respect at any time;
- e) liquidation, winding-up, insolvency, appointment of receiver, bankruptcy, cessation of business activities or cessation of the payment of debts of



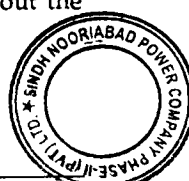
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SNPCL, or any other legal or factual situation, including judicial or amicable settlement of debts, which has a Material Adverse Effect on SNPCL;

- f) attachment or assignment or transfer of delivery to or take over of any substantial part of SNPCL's property or assets of SNPCL by any receiver, encumbrancer, assignee, or any other person or body whether appointed by SNPCL or a Court or the government under any law or regulation;
- g) making of any order or passing of a resolution for the winding up of SNPCL or if SNPCL is merged or amalgamated with another company or corporation or is reconstituted provided that any such action has a Material Adverse Effect on SNPCL;
- h) any transformation of the form, nature or corporate objects of SNPCL which has a Material Adverse Effect on SNPCL;
- i) governmental measure or decision, whether general moratorium or individual decision which has a Material Adverse Effect upon SNPCL;
- j) one or more judgments, decrees or orders for the payment of money in excess of PKR 1,000,000,000/- (Rupees One Billion Only) rendered against SNPCL which has not been suspended or set-aside by an appellate forum within 30 days from the date of such order;
- k) the taking of any step by SNPCL for the purpose of entering into a compromise or arrangement with any of its members, or creditors, generally or any class of them provided that such a compromise or arrangement has a Material Adverse Effect on SNPCL;
- l) the security furnished by SNPCL to NBP under Clause 7 deteriorates in quality or value to such extent that it is no longer sufficient for the purpose for which it was furnished and no adequate alternate security is provided, this fact always to be determined in view of the outstanding amount;
- m) any Security Document executed or furnished by SNPCL under Clause 7 for any reason whatsoever ceases to be in full force and effect or is declared to be void or is repudiated such that the remaining security is no longer sufficient for the purpose for which it was furnished and no adequate alternate security is provided;
- n) the occurrence of any event whatsoever which may have a Material Adverse Effect on SNPCL;
- o) if all or any material provisions of this Agreement;
  - i) do not have effect or cease to have effect in accordance with its terms; or
  - ii) are or become void, voidable, illegal or unenforceable;
- p) if the Equity holding of the GoS in SNPCL falls below 40% without the prior consent of NBP;

*[Handwritten signature]*



- q) any change in the form of the Implementation Agreement which would materially affect the ability of SNPCL to fulfil its obligations under this Agreement and/or in any manner jeopardize the rights of NBP under this Agreement.
- r) Any authority expropriating, nationalizing or assuming control over the Project or limiting the ability of SNPCL to carry on its business;
- s) Abandonment or destruction of the whole or a material part of the Project unless it is fully insured and the insurance proceeds are available to be applied in reinstatement of the same;

### 13.2 Nature of Events of Default

Each Event of Default is several and independent from other Events of Default and one Event of Default shall not be limited by reference to another Event of Default.

### 13.3 Consequences of an Event of Default

Subject to clause 13.4 below, NBP may declare by notice in writing to SNPCL at any time after the occurrence of an Event of Default (which remains un-rectified):

- a) that the obligations of NBP to disburse the Sale Price shall be terminated, whereupon the Finance Facility shall be terminated forthwith; or
- b) that the outstanding amount of the Purchase Price and other amounts due by SNPCL under this Agreement (whether or not as yet due for payment) shall have become due and payable by SNPCL, whereupon such outstanding amounts of the Purchase Price and other amounts shall become due and payable by SNPCL and shall be paid by SNPCL to NBP within five (5) Business Days of the receipt by SNPCL of the said notice issued by NBP without the need to obtain a judgment or completion of any other formality.

**PROVIDED FURTHER THAT** in no event, any delay on the part of NBP, in the exercise of the said right to cancel the Finance Facility or to require immediate payment of the outstanding amount of the Purchase Price and other amounts, may be interpreted as a waiver of this right except as provided in this Agreement.

### 13.4 Payment of Liquidated Damages if payments under this Agreement are delayed

Where any amount is required to be paid by SNPCL under this Agreement on a specified date and is not paid by SNPCL on that date or where any amount is payable by SNPCL under this Agreement within a specified period after receiving a demand and is not paid by SNPCL within such period, SNPCL shall become liable to pay to NBP by way of liquidated damages (not by way of interest) calculated at the rate of 20% per annum on the amount not paid on the due date or of the amount demanded and not paid by SNPCL within the stipulated period from the due date or the effective date of the demand to the date of actual payment or recovery.

### 13.5 Declaration by NBP and rights of NBP



(a) The amount of the outstanding Purchase Price declared by NBP to be due and payable will be the aggregate amount stated in the notice given by NBP. SNPCL shall pay the amount to NBP within five (5) Business Days after the receipt of such notice. If SNPCL fails to pay the outstanding amount within five (5) Business Days from the date of the receipt by SNPCL of such notice from NBP demanding payment, NBP shall have the right to forthwith take the following remedies amongst other remedies available under the law:

(i) to forthwith enforce and realize the securities provided in Clause 7 hereof in the following manner:

a) Firstly, NBP shall exercise its enforcement rights under: (i) the Letter of Lien over the lien on the cash deposits of the GoS as entailed in Clause 7.1 (a); and (ii) the Letter of Pledge over the pledge of the Liquid Assets as entailed in Clause 7.1 (b).

b) if the amounts recovered pursuant to:

(i) withdrawal of funds tendered by way of cash deposits under the Letter of Lien; and

(ii) encashment of the Liquid Assets under the Letter of Pledge,

are not sufficient to settle the outstanding amounts (if any) due under this Agreement to NBP by SNPCL, NBP shall proceed to enforce and realize the Charged Assets (other than the Liquid Assets / cash deposits of the GoS) provided in Clause 7 (other than Clause 7.1 (a) and (b)), including, without limitation, to sell with or without the intervention of the Court, the Charged Assets;

(ii) in case all the above fails to satisfy the claim, to file suits for the recovery of the outstanding due to NBP and for the sale of the Charged Assets, including, without limitation, for the appointment of receivers and prompt attachment of all other moveable and immovable properties of SNPCL;

(iii) in case all the above fails to satisfy the claim, to apply for winding up of SNPCL in accordance with the provisions of the Companies Ordinance, 1984; and

(b) The net amount realized by sale of any security or securities after deduction of reasonable expenses on sale, disposal or realization, including, without limitation, reasonable commissions, fees, and fees shall be utilized towards settlement of any amount still outstanding from SNPCL towards NBP. If the net sale proceeds be insufficient, SNPCL shall continue to be liable to NBP for the deficit. However, if the net sale proceeds exceed SNPCL's liability towards NBP, the balance shall be refunded to SNPCL.

14. COST OF FUNDS IN CASE OF RECOVERY BY LEGAL PROCEEDINGS

Where any amount not paid by SNPCL has to be recovered by litigation, SNPCL shall become liable to pay the cost of funds as permitted under the law.



15. **TERMINATION OF SNPCL'S OBLIGATIONS**

If and when the entire amount of the Purchase Price and/or all other monies which shall be payable by SNPCL hereunder shall have been paid to and received by NBP in accordance with the provisions of this Agreement, this Agreement and all obligations of SNPCL hereunder shall terminate.

16. **NOTICES**

16.1 **Method of Giving Notices**

A notice, consent, approval or other communication (each a "Notice") under this Agreement shall be in writing, signed by or on behalf of the person giving it, addressed to the person to whom it is to be given and;

- (a) delivered by messenger or Courier;
- (b) sent by pre-paid mail;
- (c) transmitted by facsimile,

to that person's address.

16.2 **Time of Receipt**

A Notice given to a person in accordance with this clause is treated as having been given and received:

- (a) if delivered, on the day of delivery if delivered before 3:00 PM on a Business Day, otherwise on the next Business Day;
- (b) if sent by mail on the 4th day after the letter containing the Notice, duly stamped, is posted.
- (c) if transmitted by facsimile and the transmission report states that it was sent in full and without error, on the day of transmission if that report states that the transmission was completed before 3:00 PM on a Business Day, otherwise on the next Business Day.

16.3 **Address for Notices**

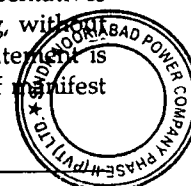
For the purposes of this clause, a party (the "sender") may take the address and facsimile number of another party (the "recipient") to be:

- (a) the address and number set out in Schedule '4'; or
- (b) where the recipient notifies the sender of another address of number, the last address of number so notified to it.

17. **GENERAL**

17.1 **NBP's Statement Conclusive**

A statement, signed on behalf of NBP by any of its Authorized Representatives as to any matter under this Agreement or any amount due (including, without limitation, amounts owing by SNPCL) at the date specified in the statement is conclusive against all other parties to this Agreement in the absence of manifest



error.

17.2 **Attorney**

Each attorney or Authorized Representative who executes this Agreement on behalf of a Party declares that the attorney has no notice of the revocation or suspension by the grantor or in any manner of the power of attorney or the requisite authorization under the authority of which the attorney or the Authorized Representative executes this Agreement.

17.3 **Benefit of Agreement**

- a) This Agreement shall be binding upon and inure to the benefit of each party hereto and its or any subsequent successors.
- b) SNPCL shall not be entitled to assign or transfer all or any of its rights, benefits and obligations hereunder.
- c) NBP may, from time to time, with SNPCL's consent in writing assign all or any of its rights, benefits and obligations hereunder;
- d) NBP may disclose to any actual or potential assignee or to any person who may enter into contractual relations with NBP in relation to this Agreement such information about SNPCL as NBP shall consider appropriate.

17.4 **Remedies and Waivers**

No failure to exercise, nor any delay in exercising, on the part of NBP, any right or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise thereof or the exercise of any other right or remedy. The rights and remedies herein provided are cumulative and not exclusive of any rights or remedies provided by law.

17.5 **Entire Agreement**

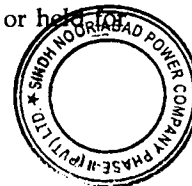
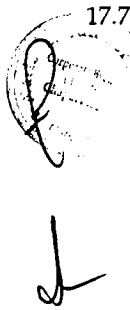
This Agreement represent the entire agreement and understanding between parties in relation to the subject matter hereof and supersedes all previous agreements and/or understandings between the Parties in relation thereto.

17.6 **Amendments**

No amendment, modification or waiver in respect of this Agreement will be effective unless in writing (and writing shall include a facsimile transmission) and executed by each of the parties or confirmed by an exchange of telexes or electronic messages on an electronic messaging system.

17.7 **Further Documents**

The Parties agree to execute and deliver all such other and additional instruments and documents and to do such other acts and things as may be necessary to more fully effectuate this Agreement, to give effect to the true intent of the parties and for the purposes of perfecting any security given or held for the purposes hereof.



17.8 Indemnification

SNPCL shall indemnify and hold NBP and its employees harmless from, against and in respect of any losses, costs, liabilities, or damages resulting from any misrepresentation, omission, breach of representation /warranty that SNPCL may have given in or under this Agreement, and also against any suit, action, proceeding or demand brought by any third party, including any governmental authority or agency, in connection with this Agreement.

18. GOVERNING LAW AND JURISDICTION

18.1 This Agreement and all related documents or agreements shall be governed by the laws of the Islamic Republic of Pakistan.

18.2 Any court of competent jurisdiction in Karachi shall have non-exclusive jurisdiction to entertain all suits/cases and other matters arising out of or under this Agreement.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement through their attorneys/Authorized Representatives on the day, month and year first above written.

FOR AND ON BEHALF OF  
SINDH NOORIABAD POWER COMPANY (PVT.) LIMITED

Signature: \_\_\_\_\_

Name: NAJAM-UL-HASNAIN

CNIC No.: 61101-1771217-9

Designation: CEO

WITNESSES:

1. Signature: \_\_\_\_\_

Name: Qasim Qasim

C.N.I.C.: 42301-0596794-7

2.

Signature: \_\_\_\_\_

Name: Asadullah Khan

C.N.I.C.: 42101-5704730-7

FOR AND ON BEHALF OF  
NATIONAL BANK OF PAKISTAN

Signature: \_\_\_\_\_

Name: S. Imtiaz Ahmed Subzwari

CNIC No.: 42101-9396002-3

Designation: \_\_\_\_\_

Witnesses:

1. Signature: \_\_\_\_\_

2.

Signature: \_\_\_\_\_

Muhammad Faisal Siddiqui  
AVP/Operations Manager  
National Bank of Pakistan  
Corporate Br. Chapal Plaza, Karachi

42301-6990545-1



Name: Omam Qureshi

C.N.I.C.: 49301-0576499-7

Name: Ansalar Zillat Khan

C.N.I.C.: 42101-5704730-7

**SCHEDULE 1**

**Assets**

Movable assets of SNPCL

✓



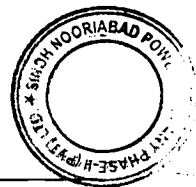


SCHEDULE '2' - Part 1

Charged Assets

All present and future moveable assets of SNCPL

↓



**SCHEDULE '2' - Part 2**

**Liquid Assets**

<u>Instrument</u>	<u>Tenure</u>	<u>Issue Date</u>	<u>Maturity Date</u>	<u>Face Value</u>	<u>Market Value</u>
Pakistan Investment Bonds					

The above Securities are deposited in the Government of Sindh IPS Account bearing reference 100084-2 with NBP Treasury and have been determined as per the Locked PKR / Euro exchange rate of 133 and market price of the above Securities as determined by NBP on the date of execution of this Letter of Pledge.

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*[Handwritten signature]*

*[Circular stamp: CHAIRMAN, GOVERNMENT OF SINDH]*



### SCHEDULE '3'

#### Illustrative Repayment Schedule

All amounts in PKR million.

Sr. No (I)	Instalment Due Date (II)	Sale Price Outstanding (III)	Sale Price Component (IV)	Mark up at Max Rate (V)	Total Purchase Price Instalment (VI)
0	1-Jul-14				
1	1-Oct-14	3,000.00		166.36	166.36
2	1-Jan-15	3,000.00		166.36	166.36
3	1-Apr-15	3,000.00		162.74	162.74
4	1-Jul-15	3,000.00		164.55	164.55
5	1-Oct-15	3,000.00		166.36	166.36
6	1-Jan-16	3,000.00		166.36	166.36
7	1-Apr-16	3,000.00		164.55	164.55
8	1-Jul-16	3,000.00		164.55	164.55
9	1-Oct-16	3,000.00		166.36	166.36
10	1-Jan-17	3,000.00		166.36	166.36
11	1-Apr-17	3,000.00		162.74	162.74
12	1-Jul-17	-	3,000.00	164.55	3,164.55
Total			3,000.00	1,981.81	4,981.81

1. This is an illustrative payment schedule based on a bullet disbursement at the start of the Availability Period assumed as 1<sup>st</sup> July 2014. This schedule will be updated upon every Disbursement and on each subsequent Disbursement thereafter. For all installments (principal and mark-up) due during the period commencing from the Facility Effective Date and terminating 3 years from Facility Effective Date, the following Mark-up Rate shall apply:

**Mark-up Rate** means Base Rate plus 1.25% per annum with no floor or cap

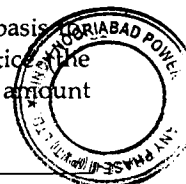
where:

**Base Rate:**

Base Rate shall mean the average rate 'Ask Side' of the three (3) Months' Karachi Inter Bank Offer Rate (KIBOR) as published on 'Reuters' page KIBR or as published by the Financial Market Association of Pakistan as the case may be and the Base Rate for the first time will be the rate prevailing on the date of first Disbursement and for the remaining months the Base Rate will be set on the basis of rate prevailing on the last Business Day of the preceding quarterly annual period for the mark up due at the end of each quarterly period;

**Note:** The Agreement is based on the premise that KIBOR rates continue to be a true representation of banks' cost of funds and therefore continue to be a realistic benchmark for pricing a facility of this nature. In the event at any time the Base Rate is discontinued and/or considering the prevailing cost of funds for the money markets, it ceases to be a commercially viable option for NBP, and/or Base Rate is replaced with any other similar benchmark as suggested by NBP and agreed by SNPCL (within a period not exceeding 30 days), the Agreement and repayment schedule will be amended accordingly.

In the event the parties fail to agree on an instrument or an alternate basis for determining the Base Rate within thirty (30) days of receipt of a notice (the "Notice") by NBP to SNPCL, SNPCL shall prepay the entire outstanding amount



of the facility within sixty (60) days of the receipt of Notice along with any accrued mark-up and other charges and expenses.

**2. Calculation of Prompt Payment Bonus**

All payments under the illustrative payment schedule will be subject to deduction of prompt payment bonus in accordance with the provisions of Section 2.4 of this Agreement.

Prompt Payment Bonus = Difference between (1) and (2) below:

- (1) Amount of Purchase Price (as given in Column VI above) due on the respective Due Date (as given in Column II)
- (2)  $S \times R \times (N/365) + \text{Sale Price Component as given in Column IV}$

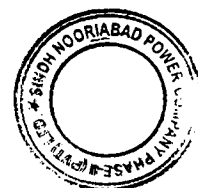
where:

- S = Amount mentioned in Column III under Sale Price Outstanding as shown against the Due Date immediately preceding the Due Date on which the amount of Prompt Payment Bonus is to be calculated.
- R = Mark-up Rate as defined above for each relevant Payment Period.
- N = Number of days elapsed between the installment Due Date (on which the Prompt Payment Bonus is to be calculated) and the immediately preceding Installment Due Date.

3. Please note that this Illustrative Payment Schedule is made on the basis notional Purchase Price Rate of 22%. If during the currency of the Facility the Mark-up Rate breaches the notional cap of 22% the notional cap would be revised to reflect the Markup on the Mark-up Rate.

✓

2



**SCHEDULE '4'**

**Addresses and Numbers for Notices**

**FOR AND ON BEHALF OF  
SINDH NOORIABAD POWER COMPANY (PVT.) LIMITED**

Attention: Commodore (Retd.) Najam ul Hasnain, CEO

Address: 28, Army Housing Scheme, National Stadium, Karachi,

Telephone: 021-<sup>3</sup>~~4~~838755

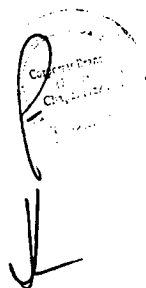
Facsimile: 021-34838757

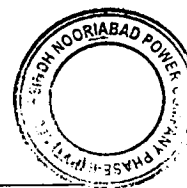
**FOR AND ON BEHALF OF  
NATIONAL BANK OF PAKISTAN**

Attention: Rehmat Ali Hasnie

Address: EVP - Head Investment Banking, NBP

Telephone: 021-99062128





**SCHEDULE '5'**

**Format of Drawdown Notice**

Mr. \_\_\_\_\_  
National Bank of Pakistan,  
\_\_\_\_\_

Date: \_\_\_\_\_

Dear Sir,

**Term Finance Agreement dated \_\_\_\_\_**

We refer to the Term Finance Agreement dated \_\_\_\_\_ executed by and between SNPCL and NBP ("Agreement").

Unless the context requires otherwise, all capitalised terms used in this Drawdown Notice shall have the same meaning as ascribed thereto in the Agreement.

We hereby give you notice that we wish to drawdown Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ Only) being the Sale Price/portion of the Sale Price, on \_\_\_\_\_ ("Drawdown Date") being a Business Day not earlier than three Business Days from the date of this Drawdown Notice and thus, you are requested to transfer the required funds into the Disbursement Account. We hereby confirm that all Conditions Precedents required to be fulfilled in terms of the Agreement under Clause 8.1 and 8.2 have been complied with.

The representations and warranties set out in the Agreement are and will be true and not misleading (whether by omission or otherwise) on the Drawdown Date with reference to the facts and circumstances then subsisting.

Yours truly,

**FOR AND ON BEHALF OF  
SINDH NOORIABAD POWER COMPANY (PVT.) LIMITED**

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

CNIC No.: \_\_\_\_\_

Designation: \_\_\_\_\_

*[Handwritten signature]*




SCHEDULE '6'

Equipment Supply Contracts

The Supply Contract dated 27<sup>th</sup> March 2014 between Wartsila Finland OY and Wartsila Pakistan (Pvt.) Limited and Technomen Kinetics LLC-FZ and Sindh Nooriabad Power Company Phase I

IL

A handwritten signature, possibly 'f', is written over a circular stamp. The stamp contains the text 'Sindh Nooriabad Power Company' and 'Phase-I'.

Schedule 7

Format of the Undertaking by GoS

L R  
Performance  
15.12.12  
Theravada





## SIGNATURE PAGE

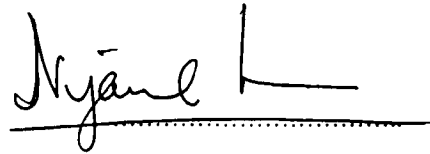
IN WITNESS WHEREOF this Agreement has been executed by the Parties hereto and is intended to be and is hereby delivered on the date first above written.

PHASE-II  
SINDH NOORIABAD POWER COMPANY (PVT.) LIMITED (SNPCL)

For and on behalf of SINDH  
NOORIABAD POWER  
COMPANY PHASE II (PVT.)  
LIMITED through its authorised  
signatory

Name: NAJAM UL HASNAIN  
Designation: CEO

SIGNATURE



Name:  
Designation:

SIGNATURE

IN THE PRESENCE OF:  
SIGNATURE OF WITNESSES

1- Name: *Omam Qasim*  
Address: *C/o NBP*  
NIC No: *42301-0596494-9*

2- Name: *Arsalam Nadeem Khan*  
Address: *40 NBP*  
NIC No: *42101-5704730-7*



## NATIONAL BANK OF PAKISTAN

For and on behalf of NATIONAL BANK OF  
PAKISTAN through its authorised  
signatory }

SIGNATURE

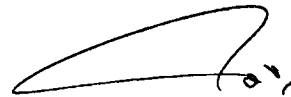
Name:  
Designation:

S. Imtiaz Ahmer Subzwari  
AVP/Chief Manager B-9323  
National Bank of Pakistan  
Corporate B: Chapal Plaza, Karachi



Name:  
Designation:

Muhammad Faisal Siddiqui  
AVP/Operations Manager  
National Bank of Pakistan  
Corporate B: Chapal Plaza, Karachi



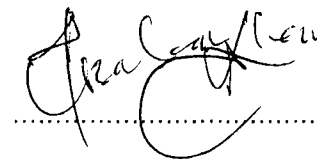
IN THE PRESENCE OF:  
SIGNATURE OF WITNESSES

SIGNATURE

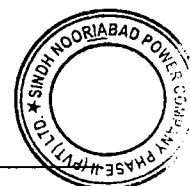
1- Name: *Omam Qasim*  
Address: *Chapal*  
NIC No: *42301-0536494-9*



2- Name: *Amalun Ullah Khan*  
Address: *40 NBP*  
NIC No: *42101-5704730-7*



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22 MAY 2014

S.No. 12851 D. No. \_\_\_\_\_  
ISSUED TO WITH ADDRESS Sindh Agricultural Power Company (Pvt.) Ltd.  
THROUGH WITH ADDRESS \_\_\_\_\_  
PURPOSE 1051 \_\_\_\_\_  
VALUE 1051 ATTACHED \_\_\_\_\_  
SUPPLIER'S SIGNATURE \_\_\_\_\_

Nyame L

JUNE

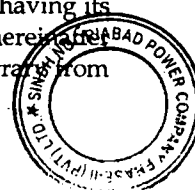
**THIS LC FACILITY AGREEMENT** is made at Karachi on this \_\_\_\_ day of ~~May~~, 2014;

**BETWEEN**

**NATIONAL BANK OF PAKISTAN**, a banking company constituted under the National Bank of Pakistan Ordinance 1949, with its Head Office situated at I.I. Chundrigar Road, Karachi and a place of business at Corporate Branch, Chapel Plaza, Hasrat Mohani Road, Karachi (hereinafter referred to as "NBP" which expression shall, where the context so permits, be deemed to mean and include its successors-in-interest, liquidators, executors, administrators and permitted assigns), being party of the One Part:

AND

**SINDH NOORIABAD POWER COMPANY PHASE II (PVT.) LIMITED**, a private limited company incorporated under the laws of Islamic Republic of Pakistan, having its place of business at 28, Army Housing Scheme, National Stadium, Karachi (hereinafter referred to as the "SNPCL", which expression shall, unless apparent to be contrary from the

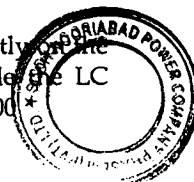
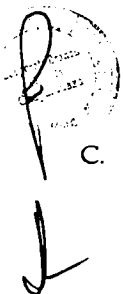


context, include its successors-in-interest, liquidators and permitted assigns), being party of the Other Part.

(NBP and SNPCL shall, wherever the context so requires, be individually referred to as the "Party" and collectively as "Parties")

**WHEREAS:**

- A. The Parties have entered into a Term Finance Agreement dated on or about the date hereof (hereinafter "**Term Finance Agreement**"), for the purpose of availing a term finance facility ("**Finance Facility**") to the extent of PKR 3,000,000,000/- (Rupees Three Billion Only) for the Purpose (as defined in the Term Finance Agreement);
- B. SNPCL has requested NBP to provide a letter of credit facility to the extent of € 22,590,000 (Twenty Two Million Five Hundred Ninety Thousand Euros Only) (hereinafter "**LC Facility**"), for the purposes of issuance of LCs, from time to time, in favour of the Offshore Project Suppliers for the import of machinery and equipment;
- C. At the request of and based on the representations of SNPCL and strictly in accordance with the terms and conditions of this Agreement, NBP has agreed to provide the LC Facility (as a sub-limit to the Finance Facility) to the extent of € 22,590,000



(Twenty Two Million Five Hundred Ninety Thousand Euros Only) for the purposes mentioned in recital "B" above.

NOW THIS AGREEMENT WITNESSETH and, notwithstanding any previous understandings and exchange of communications between the Parties, it is hereby agreed and declared as under:

1. **DEFINITIONS**

All the Capitalized terms used but not defined here shall have the meaning ascribed to them in the Term Finance Agreement.

Unless the context requires otherwise, the following words and phrases shall have the following meanings:

"Account" shall mean the account bearing no. 4584-5 that SNPCL has opened and is maintaining with NBP's Corporate Branch, Chapel Plaza, Hasrat Mohani Road, Karachi;

'Authorized Representative' means:

- a) in respect of NBP, any officer of NBP nominated by or on behalf of NBP as an authorized representative by notice to SNPCL;



- b) in respect of SNPCL, any officer of SNPCL nominated by or on behalf of SNPCL as an authorized representative by notice to NBP.

**"Business Day(s)"** mean a day on which commercial banks are open in Karachi to transact business with general public;

**"Events of Default"** are such as are described in Article 11 below;

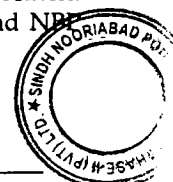
**"Euro"** means the lawful currency of the member states of the European Union that have adopted and retained a common single currency through monetary union in accordance with European Union treaty law, as amended from time to time, and € or EUR shall be taken to mean the same.

**"Equipment Supply Contracts"** shall mean the contracts listed in Schedule '3' attached hereto;

**"Facility Effective Date"** shall mean the date on which all the Conditions Precedents mentioned in Clause 6.1 stand fulfilled by SNPCL unless deferred or waived by NBP;

**"Facility Documents"** shall mean this Agreement, the Term Finance Agreement and all relevant security documents to be executed between SNPCL and NBP under Clause 4 of this Agreement;

*[Handwritten signature]*



"Facility Termination Date" shall mean 31<sup>st</sup> October ,2015, being the date on which this Agreement shall stand terminated in respect of such LC Facility Amount and all the amount that may be payable by SNPCL to NBP which remain unpaid up to that day shall become payable to NBP;

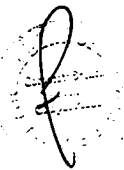
"GoS" shall mean the Government of Sindh;

"LCs" means the letters of credits that will be established by NBP from time to time in favor of the Offshore Project Suppliers on the format as may be acceptable to NBP, the validity period of each LC shall not exceed a maximum of fourteen (14) months from the LC Issuance Date of the relevant LC unless extended by NBP;

"LC(s) Expiry Date" shall mean the date on which each of the LC(s) stand expired;

"LC Facility Amount" means the sum of € 22,590,000 (Twenty Two Million Five Hundred Ninety Thousand Euros Only), being the maximum amount of which NBP may from time to time establish the LC(s) on or after the Facility Effective Date;

"LC Period" means the period commencing from the LC Issuance Date and ending on the LC(s) Expiry Date;

  
↓



**"LC Funding Date"** means in respect of the LC(s), the date(s) on which NBP is required to make payment of the LC Amounts in terms of such LC(s) to the Offshore Project Suppliers;

**"LC Amounts"** means the amounts claimed, from time to time, by the Offshore Project Suppliers under the respective LC(s) based on documents presented pursuant to the concerned LC;;

**"LC Facility"** shall have the meaning ascribed to it in recital "B" above;

**"LC Issuance Date"** shall mean the date on which the LC(s) are issued by NBP;

**"Lien Amount"** shall have the meaning given to the term in the Letter of Lien;

**"Liquid Assets"** shall mean the Pakistan Investment Bonds and/or Term Deposit Receipts of the GoS listed in Schedule '1' ,to be pledged as security by the Sponsors in favour of NBP for SNPCL's repayment obligations under this Agreement as more particularly described in Clause 4 (c) hereunder;

**"Material Adverse Effect"** in the occurrence of any event or matter which in the reasonable opinion of NBP shall critically impair

- a) the ability of SNPCL to commence or implement the Project at any stage;  
or
- b) the ability of SNPCL to perform its obligations under this Agreement;

**"Offshore Project Suppliers"** shall mean Wartsila Finland OY having its registered office at Wartsila Finland Oy, Tarhaajantie 2, FI-65101 Vaasa, Finland with whom SNPCL have entered into an Equipment Supply Contract for the purchase of machinery and equipment and for payment of engineering services in relation to the Project;

**"Pledge Amount"** shall have the meaning given to the term in the Letter of Pledge;

**"Project"** shall mean the construction and operation of a 50 MW (approx. gross capacity) gas fired power generating facility at SITE, Nooriabad by SNPCL on build, own, and operate basis in terms of the Implementation Agreement.

**"Security(ies)"** means the securities as described in Clause 4 below to secure SNPCL's obligation to pay NBP any amount that SNPCL may be liable to pay under this Agreement in respect of the LC Facility;

**"Security Interest"** means;

- a) a mortgage, pledge, lien, charge, assignment by way of security, hypothecation, secured interest; or
- b) an agreement to create or give any arrangement referred to in paragraph (a) of this definition;

**"Sponsors"** shall mean (i) Government of Sindh and (ii) Technomen Kinetics (Pvt.) Ltd.

**"Term Finance Agreement"** shall have the meaning ascribed thereto in recital "A" above;





## 1.2 General

In this Agreement, unless the context shall otherwise require:

- a) a reference to any legislation or legislative provision includes any statutory modification or re-enactment of, or legislative provision substituted for, and any subordinate legislation under that legislative provision;
- b) the singular includes the plural and vice versa;
- c) a reference to an individual or person includes a company, firm, trust, authority or government and vice versa;
- d) a reference to any gender includes all genders;
- e) a reference to a recital, Article, Schedule or annex is to a recital, Article, Schedule or annex of or to this Agreement and the same shall be deemed to be an integral part of this Agreement;
- f) a recital, schedule or annex forms part of this Agreement;
- g) a reference to any agreement or document is to that agreement or document (and, where applicable, any of its provisions) as amended, novated, restated or replaced from time to time;
- h) a reference to any party to this Agreement or any other document or arrangement includes that party's executors, administrators, successors, permitted substitutes, permitted transferees and permitted assigns;
- i) where an expression is defined, another part of speech or grammatical form of that expression has a corresponding meaning; and
- j) a reference to a matter being "to the knowledge" of a person means that the matter is to the best of the knowledge and belief of that person after making reasonable inquiries in the circumstances.
- k) the schedules and annexures attached herewith shall form an integral part of this Agreement and SNPCL shall comply with all the terms and conditions contained therein.

## 1.3 Headings

In this Agreement, headings are for convenience of reference only and do not affect interpretation.

## 1.4 Business Day

If the day on which any act, matter or thing is to be done under or pursuant to this Agreement is not a Business Day, that act, matter or thing shall be done no later than the immediate succeeding Business Day.

## 1.5 Termination Date



*[Handwritten signature]*



The termination date for the LCs issued by NBP shall mean the date on which such LCs shall stand expired/terminated/settled/retired in full and all the outstanding amounts that may be payable by SNPCL to NBP under such LCs shall become payable to NBP. The LC(s) Expiry Date shall not at any point in time exceed the Facility Termination Date.

## **2. ISSUANCE OF LC**

It is hereby agreed between the Parties that subject to SNPCL's compliance of all the terms and conditions mentioned in Clause 6.1 of this Agreement, NBP agrees that no later than five (5) Business Days of receipt of each written request from SNPCL, it shall establish LC(s) in favor of the Offshore Project Suppliers for such amounts as may be notified in the aforesaid request.

Subject to a claim made within the LC Period, payment by NBP under the LC shall be made strictly in accordance with the terms of the concerned LC.

### **2.1 Payment of costs, charges, fees, commission and expenses by SNPCL**

Payment of costs, charges, fees, commission and expenses payable by SNPCL to NBP under this Agreement shall be made by SNPCL to NBP through the Account within five (5) days after receipt of a demand of NBP by SNPCL requiring such payment.

### **2.2 Mode and Source of Repayments**

2.2.1 Notwithstanding anything contained in this Agreement, at least one (1) Business Day prior to an LC(s) Funding Date, SNPCL shall be required to (and hereby covenants to) ensure and procure payment of the LC Amounts to NBP. It is anticipated that all such retirements of respective LC(s) and the LC Amount shall be made through drawdowns under the Finance Facility in accordance with the terms of the Term Finance Facility Agreement, however, to the extent that such retirements are not possible in full through such drawdowns under the Finance Facility, SNPCL shall be required to make good the differential sums required for the retirements from its own sources.

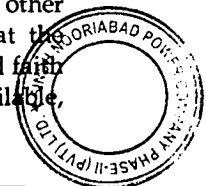
2.2.2 Whenever any payment/funding under this Agreement shall become due on a day that is not a Business Day, the due date thereof shall be extended to the next succeeding the Business Day.

### **2.3 LC Fees and Charges**

2.3.1 The LC commission shall be charged as per NBP schedule of charges to be paid by SNPCL to NBP on the outstanding balance under the LC and the first payment shall be made by SNPCL to NBP on the LC Issuance Date and thereafter at the start of each subsequent quarter;

## **3. DETERMINATIONS ADVERSELY AFFECTING THIS AGREEMENT**

During the currency of this Agreement, in case this Agreement or any provision thereof is finally held by any court, tribunal or authority to be unenforceable or contrary to the injunctions of Islam or not conforming with any of the Islamic modes of financing as prescribed by the State Bank of Pakistan or any other competent authority, then the Parties hereto, whilst acknowledging that the terms and covenants herein contained have been prepared in absolute good faith and in accordance with the information and knowledge currently available, agree that:



- a) upon such happening, they shall forthwith suitably substitute this Agreement or such of its provisions as may have been declared unenforceable or contrary to the injunctions of Islam or not being in conformity with the Islamic modes of financing prescribed by the State Bank of Pakistan or any other competent authority; and
- b) that such substituted agreement or provisions shall be of such nature and shall contain such terms so as not to relegate either Party hereto to a fiscally detrimental position than the one that they may be enjoying under this Agreement provided that the new terms are in accordance with the directions of the court or tribunal or authority concerned.

4. **SECURITY AND OTHER DOCUMENTS**

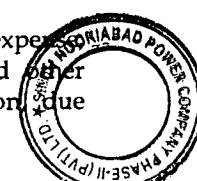
In consideration of NBP agreeing to extend LC Facility and in order to secure its obligations in respect relating thereto or any other amount payable by SNPCL to NBP on any account whatsoever towards NBP under this Agreement or any other agreement/arrangement that may have been entered into or may be entered in future between SNPCL and NBP in pursuance of this Agreement, SNPCL shall:

- a) create a lien over all import documentation;
- b) procure the creation of a perfected lien over cash deposits of the GoS, to the extent of the Lien Amount in favour of NBP, through the Letter of Lien;
- c) procure the creation of pledge of Liquid Assets to the extent of the Pledge Amount in favour of NBP through the Letter of Pledge;
- d) create a first charge by way of hypothecation on all present and future moveable assets of SNPCL being imported under the LC(s) in favour of NBP for an amount of Rs. 4,000,000,000/- (Rupees Four Billion Only) inclusive of 25% margin.
- e) create an assignment of all insurances in favour of NBP and make sure NBP gets the co-loss payee status in all Project insurances of SNPCL;
- f) procure a joint and several undertaking from the Sponsors on the format given in Schedule '4' attached hereto;
- g) provide such other security either by way of pledge, hypothecation, mortgage or otherwise as may be mutually agreed in writing between the Parties, either in addition to or in substitution of the securities mentioned above; and
- h) execute such other documents and deeds from time to time as may reasonably be requested by the NBP for the purpose of more fully perfecting the said security created in favour of the NBP in terms of this Clause 4.

5. **SNPCL TO COMPLY WITH FORMALITIES**

SNPCL undertakes to fulfill or cause to be fulfilled, at its own cost and expense, all legal and procedural formalities for the creation of charges and other securities mentioned in Article 4 above, including, without limitation, due

Signature  
Date  
Stamp



registration of the charge documents in the offices of the Registrar of Companies of Securities and Exchange Commission of Pakistan under the provisions of the Companies Ordinance, 1984 or wherever else NBP may require SNPCL to have such documents registered.

6. **CONDITIONS PRECEDENT**

6.1 **Conditions Precedents**

NBP shall not be obliged to establish/open the LC(s) under the terms of this Agreement until each of the following conditions has been met to the satisfaction of NBP:

- (a) Confirmation from SNPCL that the issuance of the LC shall not result in any violation by SNPCL of any applicable law;
- (b) the Conditions Precedent provided in Section 8.1 of the Term Finance Agreement (as applicable) stand fulfilled and all representations, covenants and warranties of SNPCL in the Facility Documents continue to be true and correct;
- (c) no Event of Default is subsisting and that the issuance of any LC shall not result in the occurrence of any Event of Default;
- (d) the schedule of payments under the LC(s) to be issued have been provided to NBP and the form of the LC(s) is acceptable to NBP;

Provided, however, that NBP may waive or postpone the time for fulfillment of any conditions precedent as contained in this Clause. Where a waiver or postponement is allowed under this Clause, SNPCL shall comply with the terms on which the waiver or postponement is granted.

6.2 **NBP not liable if Agreement does not come into Effect**

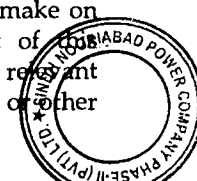
NBP shall not be liable for any direct or indirect expenses, damages or losses incurred by SNPCL resulting directly or indirectly from any delay in coming into effect of the Agreement due to SNPCL not being able to satisfy NBP that all the Conditions Precedent as stated in Article 6.1 above have been met.

7. **PAYMENT OF FEES AND CHARGES**

7.1 **SNPCL to pay all Levies, Taxes and Expenses**

- 7.1.1 SNPCL shall be liable, and shall continue to be liable during the currency of this Agreement to pay all taxes, duties and levies as may be required to be paid on execution, perfection or registration of any documents creating a charge on its assets in terms of Clause 6.1 of this Agreement in favour of NBP and in particular any excise duty or any other tax or levy that may become payable by NBP from time to time with regard to the amount advanced to or outstanding against SNPCL shall also be borne and paid by SNPCL. This provision shall not apply to any deduction or withholding which the SNPCL is required under law (pursuant to any specific statutory provision or order of any competent authority or court or any rule, notification, SRO or direction having the force of law) to make on account of taxes levied on the income/profit of NBP arising out of this Agreement. SNPCL shall deposit amounts deducted or withheld in the relevant Government treasury, and shall provide to NBP receipts, challan forms or other

A handwritten signature in black ink is written over a circular stamp. The stamp contains the text "Company Secretary" and "Chaitanya" in a circular arrangement.



documents evidencing the amounts withheld/deducted and deposited as aforesaid within 14 (fourteen) days from the date of deduction

In case NBP is required to pay the same or any parts or portions thereof, SNPCL shall reimburse the same within five (5) Business Days of receiving a demand from NBP, as the case may be, and shall also hold NBP harmless against all losses, damages, costs and expenses resulting from any actions or proceedings that may be taken for the recovery thereof by any Government or other lawful authorities.

**7.2 Demand when paid by SNPCL**

Except as otherwise provided in this Agreement, all sums required to be paid by SNPCL under this Agreement shall be paid by SNPCL within five (5) Business Days after receiving a demand from NBP requiring such payment.

**8. PAYMENTS GENERALLY**

**8.1 Manner of Payment**

SNPCL shall make available sufficient funds (on the relevant due date) in the Account to satisfy its payment obligations under this Agreement and shall also make all payments under this Agreement to NBP from the Account and shall do so without any set-off or counterclaim and free and clear of, and without any deduction or withholding for or on account of, any taxes, duties, costs or expenses (except any tax which SNPCL is compulsorily required to deduct by law).

**8.2 Order of Application of Received Funds**

Notwithstanding anything contained in this Agreement, all amounts received by NBP from SNPCL shall be applied:

- a) firstly, towards payment to NBP of amounts due to it under Article 2; and;
- b) secondly, towards payment to NBP of and amount under any other provision of this Agreement.

**9. SNPCL'S REPRESENTATION AND WARRANTIES**

**9.1 Representations and Warranties**

SNPCL hereby affirms that all SNPCL's representations and warranties as entailed in Clause 11.1 (except sub-clause b(ii) of Clause 11.1) of the Term Finance (as applicable) shall be part and parcel of this clause and shall be deemed to be repeated herein for the purposes of this Agreement.

**9.2 Reliance on Representations and Warranties**

SNPCL acknowledges that NBP has entered into this Agreement in reliance upon each of the representations and warranties stated in Article 9.1 and the same shall be taken to have been repeated by SNPCL on the Facility Effective Date.

**10. SNPCL's COVENANTS**

**10.1 Positive Covenants**



SNPCL undertakes and covenants with NBP that:

- (a) it shall use the LC Facility solely for the purposes of issuance of the LCs;
- (b) that all positive covenants undertaken by SNPCL's under Clause 12.1(except sub-clauses (a) and (i) of Clause 12) of the Term Finance Agreement (as applicable), shall be part and parcel of this clause and shall be deemed to be repeated herein for the purposes of this Agreement.

#### 10.2 Negative Covenants

SNPCL hereby affirms that all the negative covenants of SNPCL as entailed under Clause 12.2 of the Term Finance Agreement (as applicable) shall be part and parcel of this clause and shall be deemed to be repeated herein for the purposes of this Agreement.

### 11. EVENTS OF DEFAULT

#### 11.1 Events of Default

The Events of Default set out under Clause 13.1 of the Term Finance Agreement (as applicable) shall be part and parcel of this clause and shall be deemed to be repeated herein for the purposes of this Agreement.

#### 11.2 Nature of Events of Default

Each Event of Default is several and independent from other Events of Default and one Event of Default shall not be limited by reference to another Event of Default.

#### 11.3 Consequences of an Event of Default

NBP may without prejudice to any of its other rights, declare by notice in writing to SNPCL at any time after the occurrence of an Event of Default (which remains un-rectified):

- (a) Any portion of the LC Facility Amount in respect of which the LCs have not been issued by NBP under this Agreement stand terminated forthwith and that all the amounts (relating to any commissions, fees, markup & other expenses etc. that are incurred by NBP in this regard) that may be outstanding by SNPCL towards NBP under this Agreement stand due and payable by SNPCL and shall be paid by SNPCL to NBP within five (5) Business Days of the receipt by SNPCL of the said notice issued by NBP without the need to obtain a judgment or completion of any other formality.

- (b) forthwith enforce and realize the Security in the following manner:

1. Firstly, NBP shall exercise its enforcement rights under: (i) the Letter of Lien over the lien on the cash deposits of the GoS as entailed in Clause 4 (b); and (ii) the Letter of Pledge over the pledge of the Liquid Assets as entailed in Clause 4 (c).
2. If the amounts recovered pursuant to:



(i) withdrawal of funds tendered by way of cash deposits under the Letter of Lien; and

(ii) encashment of the Liquid Assets under the Letter of Pledge,

are not sufficient to settle the outstanding amounts (if any) due under this Agreement to NBP by SNPCL, NBP shall proceed to enforce and realize the other Security (other than the Liquid Assets/ cash deposits of the GoS) provided in Clause 4 (other than Clause 4 (b) and (c)), including, without limitation, to sell the Security with or without the intervention of the Court;

- (c) file suits for the recovery of the outstanding amounts due to NBP, including, without limitation, for the sale of Securities and the appointment of receivers and prompt attachment and sale of all other moveable and immovable properties of SNPCL; and/ or
- (d) in case all the above fails to satisfy the claim, to apply for winding up of the SNPCL in accordance with the provisions of the Companies Ordinance, 1984;

PROVIDED THAT in no event will any delay on the part of NBP in the exercise of its right to cancel the facilities that it may have extended to SNPCL under this Agreement and to require immediate payment of all the amounts that may be payable by SNPCL under this Agreement to NBP, may be interpreted as a waiver of NBP's right to do so except as provided in this Agreement.

The net amount realized by sale of any Security after deduction of reasonable expenses on sale, disposal or realization, including, without limitation, reasonable commissions, fees, and fees shall be utilized towards settlement of any amount still outstanding from SNPCL towards NBP. If the net sale proceeds be insufficient, SNPCL shall continue to be liable to NBP for the deficit. However, if the net sale proceeds exceed SNPCL's liability towards NBP, the balance shall be refunded to SNPCL.

12. **LIQUIDATED DAMAGES IN CASE OF NON-PAYMENT OF DUES**

Where any amount under this Agreement is not paid by SNPCL on a specified date or where any amount is payable by the SNPCL under this Agreement within a specified period after receiving a demand and is not paid by the SNPCL within such period, SNPCL shall become liable to pay to NBP by way of liquidated damages (and not by way of penalty or interest) calculated at the rate of 20% per annum on the amount not paid on the due date or of the amount demanded and not paid by SNPCL within the stipulated period from the due date or the effective date of the demand to the date of actual payment or recovery, together with reasonable costs and expenses incurred by NBP in effecting recovery from SNPCL.

13. **TERMINATION OF SNPCL's OBLIGATIONS**

If and when the entire amount that may be payable by SNPCL to NBP under this Agreement shall have been paid to and received by NBP under this Agreement, this Agreement and all obligations of SNPCL hereunder shall stand terminated.

14. **NOTICES**

14.1 **Method of Giving Notices**



A notice, consent, approval or other communication (each a "Notice") under this Agreement shall be in writing, signed by or on behalf of the person giving it, addressed to the person to whom it is to be given and;

- (a) delivered by messenger or Courier; or
- (b) sent by pre-paid mail; or
- (c) transmitted by facsimile, to that person's address.

#### 14.2 Time of Receipt

A Notice given to a person in accordance with this Article is treated as having been given and received:

- (a) if delivered, on the day of delivery if delivered before 3:00 PM on a business day, otherwise on the next business day;
- (b) if sent by mail on the 1st day after the letter containing the Notice, duly stamped, is posted;
- (c) if transmitted by facsimile and the transmission report states that it was sent in full and without error, on the day of transmission if that report states that the transmission was completed before 3:00 PM on a business day, otherwise on the next business day.

#### 14.3 Address for Notices

For the purposes of this Article, a party (the "sender") may take the address and facsimile number of another party (the "recipient") to be:

- (a) the address and number set out in Schedule '2'; or
- (b) where the recipient notifies the sender of another address or number, the last address or number so notified to it.

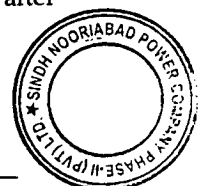
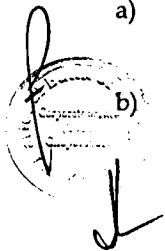
### 15. GENERAL

#### 15.1 NBP's Statement Conclusive

A statement signed on behalf of NBP by any of its authorized representatives, as to any matter under this Agreement or any amount due (including, without limitation, the amounts owed by SNPCL) on any date specified in the statement shall be conclusive against all other parties to this Agreement in the absence of manifest error.

#### 15.2 Benefit of Agreement

- a) This Agreement shall be binding upon and inure to the benefit of each Party's successor.
- b) SNPCL shall not be entitled to assign or transfer all or any of its rights, benefits and obligations hereunder, though NBP may do so after intimating SNPCL about it;





- c) NBP may disclose to any actual or potential assignee or to any person who may enter into contractual relations with NBP in relation to this Agreement such information about SNPCL as NBP shall consider appropriate.

**15.3 Remedies and Waivers**

No failure to exercise, nor any delay in exercising, on the part of NBP of any right or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise thereof or the exercise of any other right or remedy. The rights and remedies herein provided are cumulative and not exclusive of any rights or remedies provided by law.

**15.4 Entire Agreement**

This Agreement represents the entire Agreement and understanding between the Parties in relation to the subject matter hereof and shall supersede all previous agreements and/or understandings between the Parties in relation thereto.

**15.5 Amendments**

No amendment, modification or waiver in respect of this Agreement will be effective unless in writing (such writing to include a facsimile transmission) and executed by each of the Parties.

**15.6 Further Documents**

SNPCL agree to execute and deliver all such other and additional instruments and documents and to do such other acts and things as may be necessary to more fully effectuate this Agreement, to give effect to the true intent of the Parties and for the purposes of perfecting any security given or held for the purposes hereof.

**15.7 Indemnification**

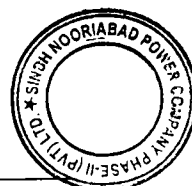
SNPCL shall indemnify and hold NBP and its employees harmless from, against and in respect of any losses, costs, liabilities, or damages resulting from any misrepresentation, omission, breach of representation /warranty that SNPCL may have given in or under this Agreement, and also against any suit, action, proceeding or demand brought by any third party, including any governmental authority or agency, in connection with this Agreement.

**16. GOVERNING LAW AND JURISDICTION**

16.1 This Agreement and all related documents or agreements shall be governed by the laws of the Islamic Republic of Pakistan.

16.2 The Courts at Karachi shall have non-exclusive jurisdiction to hear any dispute and matter relating to or arising out of this Agreement.

IN WITNESS WHEREOF the Parties have executed this Agreement on the day, month and year first above written.



FOR AND ON BEHALF OF  
SINDH NOORABAD POWER COMPANY PHASE II (PVT.) LIMITED

Signature: Najam L

Name: NAJAM UL HASNAIN

CNIC No: 61101-1771217-9

Designation: CEO

FOR AND ON BEHALF OF  
NATIONAL BANK OF PAKISTAN

Signature: S. Imtiaz Ahmer

Name: S. Imtiaz Ahmer Subzwari  
AVP/Chief Manager B-9323  
National Bank of Pakistan  
Corporate Bk. Chapel Plaza, Karachi  
42101-739003-3

CNIC No: 42101-739003-3

Signature: Muhammad Faisal Siddiqui

Muhammad Faisal Siddiqui  
AVP/Operations Manager  
National Bank of Pakistan  
Corporate Bk. Chapel Plaza, Karachi  
42201-9290545-1

42201-9290545-1

The Parties in the presence of following witnesses have executed this Agreement:

1. Signature: [Signature]

Name: Ahmed Amir

CNIC No.: 42301-0596444-7

2. Signature: [Signature]

Name: Asadullah Khan

CNIC No.: 42101-5704730-7

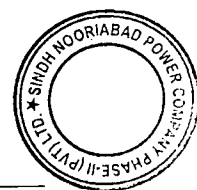


SCHEDULE '1' - Part 1

Securities

All present and future moveable assets of SNCPL

↓



**SCHEDULE '1' - Part 2**

**Liquid Assets**

<u>Instrument</u>	<u>Tenure</u>	<u>Issue Date</u>	<u>Maturity Date</u>	<u>Face Value</u>	<u>Market Value</u>
Pakistan Investment Bonds					

The above Securities are deposited in the Government of Sindh IPS Account bearing reference 100084-2 with NBP Treasury and have been determined as per the Locked PKR / Euro exchange rate of 133 and market price of the above Securities as determined by NBP on the date of execution of this Letter of Pledge.

↓



SCHEDULE '2'

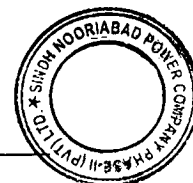
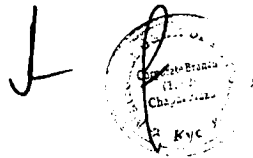
Addresses and Numbers for Notices

**FOR SINDH NOORIABAD POWER COMPANY (PVT) LIMITED**

Attention: Chief Executive  
Address: 28 Army Housing Scheme,  
National Stadium, Karachi  
Telephone: 021-<sup>3</sup>4838755  
Facsimile: 021- 34838757

**FOR NATIONAL BANK OF PAKISTAN**

Attention: Rehmat Ali Hasnie  
Address: EVP- Head Investment  
Banking, NBP  
Telephone: 021-99062128



SCHEDULE '3'

Equipment Supply Contracts

The Supply Contract dated 27<sup>th</sup> March 2014 between Wartsila Finland OY and Wartsila Pakistan (Pvt.) Limited and Technomen Kinetics LLC-FZ and Sindh Nooriabad Power Company Phase I

Handwritten signature and a circular stamp. The stamp contains the text "Sindh Nooriabad Power Company" and "Phase II (PVT) LTD.".



**SCHEDULE '4'**

**Format of the Undertaking by GoS**

↓

Chapman & Partners  
Chartered Accountants  
KVC



## **Feasibility Report**



## 1 – INTRODUCTION

### 1.1 GENERAL

Pakistan experienced acute power shortage in 1980s which resulted in long load shedding, causing tremendous adverse impacts on country's economy. In order to alleviate this situation, Government of Pakistan created Private Power and Infrastructure Board (PPIB) in the year 1994 to encourage and facilitate the private sector for investing in Power Generation. PPIB announced Power Policy 1994 under which a number of Thermal Power Projects were setup, mostly based on imported furnace oil. These power plants greatly improved the power availability in the country, but, import of oil caused heavy burden on national economy. In order to reduce dependence on imported fuel, a number of private power plants and some of the WAPDA's plants were converted on natural gas.

In 1998, Government of Pakistan reframed power policy. According to this policy four (4) Generation Companies (GENCOs) were setup in Thermal Power Wing of WAPDA with a view to ultimately privatize existing Public Sector owned Thermal Power Plants. Moreover, future Thermal Power Generation was restricted to the private sector only. However, the response of private investors was not very enthusiastic and therefore, GOP felt necessary to create an environment with new incentives attracting the private investor on one hand and to keep electricity prices within affordable limits for consumers on the other hand. As such, Power Generation Policy of 2002 has been introduced emphasizing the use of indigenous fuel resources. PPIB is striving hard to boost up power generation by inviting prospective investors and imparting them necessary guidance and support for the development of Hydel as well as Thermal Power Projects.

According to load forecast study conducted by WAPDA's Power Planning Department, load demand in the year 2024-25 will rise to the tune of 41,909 MW considering high growth scenario and 29,623 MW in case of low growth scenario, predicting rise in growth rate from 4.2% to 7.5% by the year 2024-25. The above study implies that unless speedy measures are adopted for setting up new power generation projects, load shedding will continue to impair the economy, worsening the situation in the following years.

### 1.2 INITIATIVE OF GOVERNMENT OF SINDH

In the light of the present conditions as described in the foregoing para, the Government of Sindh (GoS) has decided to Build, Own and Operate Power Plants at various industrial estates in the province of Sindh. The underlying objective of this initiative is to promote industrialization in the province and to increase the wellbeing of the residents of the province. The uninterrupted electricity thus produced will be available to the industries and will eliminate load shedding in various Sindh Industrial Trading Estates (SITES).

The first power project is planned to be developed at SITE, Nooriabad having a net capacity of 50 MW. The project was envisaged to be developed on Public-Private-Partnership basis. The GoS shall contribute up to a maximum of 49% of equity and the private sector partner shall assume 51% equity in the project. A special purpose company in the name and style of Sindh Nooriabad Power Company Phase II (Pvt.) Limited was established for the development of the project.

The project shall be based on natural gas. The allocation of 10 Million Cubic Feet per Day (MMCFD) has been secured through a decision taken by Economic Coordination Committee (ECC) of the Federal Cabinet. A Gas Supply Agreement (GSA) has been negotiated and initialed with Sui Southern Gas Company Limited (SSGC), execution being pending approval by the Oil & Gas Regulatory Authority (OGRA) for a term of twenty five (25) years.

The project is being developed under the Guidelines for Small Independent Power Producers (SIPP) announced by the Pakistan Electric Power Company Limited (PEPCO) and approved by the PEPCO Board of Directors. The details are enclosed as Appendix A for ready reference.

The project shall be a Combined Cycle Power Plant based on natural gas at Nooriabad. Adequate land of 25 acres has been acquired for the project. SNPC has already obtained Letter of Intent (LOI) from Hyderabad Electric Supply Company Limited (HESCO) after payment of necessary fees and providing Performance Guarantee as per the Policy Guidelines for SIPP. The LOI is issued for conducting the feasibility study for 50 MW Combined Cycle Power Plant within nine (9) months.

### 1.3 APPOINTMENT OF CONSULTANTS

SNPC, appointed MEConsult (Pvt.) Limited, Karachi based consulting company, specialized in the development of power projects, as Consultants for carrying out the Feasibility Study for the proposed plant. This report is the consequence of the efforts and inputs of the Consultants supported by the Sponsors.

<b>1 – INTRODUCTION .....</b>	<b><u>1-1</u></b>
1.1 General .....	<u>1-1</u>
1.2 Initiative of Government of Sindh .....	<u>1-1</u>
1.3 Appointment of Consultants .....	<u>1-2</u>

## 2 – SELECTION OF PROJECT SITE

### 2.1 GENERAL

The proposed Power Plant is based on pipeline quality Gas reservoirs allocated by the decision of the ECC of the Federal Cabinet. The decision of the ECC is appended herewith. The proposed Power Plant will be located at Nooriabad, Sindh. The Letter of Interest (LOI) issued by HESCO, Government of Pakistan (GOP) also indicates the location of project in this area. Adequate land of twenty five (25) acres has been allotted to the project through the efforts of the GoS.

### 2.2 RECONNAISSANCE SURVEY

The reconnaissance Survey of the area for the selection of the site was carried out and out of the various potential sites the land selected based on the criteria established for the selection of the site.

Criteria kept in view for selecting the site for the power plant were:

- i) Nearness to gas supply source i.e main trunk line of SSGC.
- ii) Nearness to water supply sources.
- iii) Nearness to existing infrastructure like service roads.
- iv) Minimum effects of existing stack emissions.
- v) Ease and economy in acquisition of land.
- vi) Evacuation of electricity produced from the power plant

### 2.3 SELECTED SITE

The final selected site meets the criteria set for the Combined Cycle Power Plant. A Google Map showing the location of the project site is enclosed as Figure 2.1.

#### 2.3.1 Location with respect to nearness to gas supply source

- i) This site is located six (6) kilometer off the Super Highway between Karachi and Hyderabad on the SITE, Nooriabad road joining Jhimpir, Thatta.
- ii) This site is closer to existing infrastructures as it is located off the major highway of the province.
- iii) The main gas trunk line is located some eighteen (18) kilometers from the site. The dedicate gas pipeline of twelve (12) inch diameter shall be laid by SSGC to ensure regular and uninterrupted supply of gas at 100 psig.

#### 2.3.2 Availability of Water Sources

The water source shall be ground water with makeup from the water pipeline providing water to the industries located in SITE, Nooriabad. Efforts have been made to get the required allocation of water from the

aforementioned water pipeline

### **2.3.3 Distances**

Approximate distance of six (6) kilometer from Super Highway on Nooriabad – Jhampir road as shown on Fig. 2.1 below.

### **2.3.4 Minimum Effects of Stack Emissions**

- i) The power plant will comply with the National Environmental Quality Standards (NEQS).
- ii) Since the power plant is based on natural gas there is little concern for stack gas emissions as the power generation machinery will comply with NOx, SOx and Particulate Emissions.
- iii) The power plant is located at site where there is very sparse population and in the vicinity of the industrial estate.

### **2.3.5 Ease and Economy in Acquisition of Land**

The Government of Sindh provided the allocation of the land at the governmental rates and is quite cheap as compared to the adjacent lands.

### **2.3.6 Evacuation of Electricity**

Currently SITE, Nooriabad receives electricity from Kotri/Jamshoro power plants. The existing demand of SITE, Nooriabad and surrounding areas is close to 110 MW. There are several sponsors who are contemplating to put up industries in the SITE, Nooriabad and surrounding areas and their demand is approximately 185 MW. Therefore electricity evacuation from the proposed power plant will be convenient for HESCO.

<b>2.1</b>	<b>General.....</b>	<b>1</b>
<b>2.2</b>	<b>Reconnaissance Survey.....</b>	<b>1</b>
<b>2.3</b>	<b>Selected Site.....</b>	<b>1</b>
2.3.1	Location with respect to nearness to gas supply source .....	<b>Error! Bookmark not defined.</b>
2.3.2	Availability of Water Sources.....	<b>2</b>
2.3.3	Distances .....	<b>2</b>
2.3.4	Minimum Effects of Stack Emissions .....	<b>Error! Bookmark not defined.</b>
2.3.5	Ease and Economy in Acquisition of Land Error! Bookmark not defined.	
2.3.6	Evacuation of Electricity .....	<b>Error! Bookmark not defined.</b>

### 3 – PHYSICAL CONDITIONS OF THE PROJECT AREA

#### 3.1 LOCATION

Nooriabad, Pakistan is located at 25.175 [latitude in decimal degrees], 67.7996 [longitude in decimal degrees] at an elevation/altitude of meters. The average elevation of Nooriabad, Pakistan is 180 meters. 50 MW SNPC Combined Cycle Power Plant (SNPCCCP) site is located south east of main super Highway (M9) on Thatta - Thana Bola Khan Road in Thatta district. The district is bounded on the north by Jamshoro district, on the south by Arabian Sea, on the east by Hyderabad, Tando Muhammad Khan and Badin districts and on the west by Karachi district. Total area of Thatta district is 17,351 square kilometres with a population of 1,113,194 (Census of 1991) with a population density of 64 persons per square kilometre. The M9 Motorway (Karachi-Hyderabad) passes from Nooriabad, a road from Nooriabad called Thatta – Thana Bola Khan leads to the proposed project site. This road is a paved single track road and the site is accessible from Karachi by this road. The distance of project site from Karachi is about 90 km and from M9 on Nooriabad is 6.5 km.

The nearest functional railway station is Jangshahi. There is a Kalri Lake from where the present SITE Nooriabad industries are provided with water.

#### 3.2 PHYSIOGRAPHY

The project area is located in the riverain plain of Indus river. Physically the entire area starting upstream of Indus Delta, including the major tributaries in the Punjab Province, comprises a remarkably flat level plain consisting of a deep stone-free layer of alluvial silt and sand. Only in Sargodha (central Punjab) and around Rohri (upper Sindh) exceedingly eroded rock bearing strata rises above the level of Indus Plain. The project area is located about 550 km from the Indus Delta and 180 m above mean sea level as such, neither of the area mentioned above is close to the project site at Nooriabad. There are some variations in the project region, the old beds of the rivers, trace lines of old canals and higher pockets of sand dunes that still connect the area to its past as part of Thar Desert to the south east. The topography of the area around SNPCCCP site is generally flat.

The land formation is of recent geological origin. It has been the result of sedimentary deposits due to Indus river flows. Soils of the area are generally very little activity for agriculture even with provision of fresh water. The lands in the site area are irrigated by small nallahs and rain water.

#### 3.3 CLIMATE

The climate of Thatta district is the same as prevailing throughout the lower Sindh. There being no meteorological station in Nooriabad, the data recorded at Karachi and Hyderabad is applicable, however international web sites have been searched to arrive at the mean site conditions. There are two well defined seasons, the hot and the cold. The former may be said to begin at any time after the middle of March, the latter after the middle of October. May, June and July are the hottest months. The extreme maximum temperature recorded

during this hot season is 47°C (1961-2003) with average maximum of 42.4°C. December and February are the coldest months. The extreme minimum temperature recorded during cold season is +4°C. The months of August and September are stuffy and suffocating. Dust storms are also not unknown and fierce hot winds are common in the months of May, June and July. The district being situated not so far away from the sea experience some of the sea breeze. The autumn sets in September and lasts for one or two months. Rainfall is poor in the district. The weather report of the area is presented in Table 3.1 appended herewith..

### **3.4 HYDROLOGY AND WATER RESOURCES**

#### **3.4.1 River and Canals**

The project site is situated about 25 km of Kalri lake. The Indus River located at about 50 Km in the south east of the plant site. Of direct importance to the project is the fresh water lake; Kalri Lake and Haleji Lake from where bulk of the water supply is available to SITE Nooriabad and will be available to the proposed Power Plant. No worthwhile canals exist in the area of influence and therefore bulk of the water supply for cooling and hygiene purposes shall be from the pipeline and ground water.

#### **3.4.2 Ground Water**

Ground water in the vicinity of the plant site is saline and unsuitable for use as drinking water. The usable fresh ground water available throughout the entire province of Sindh is not substantial enough to be considered as a water resource at present or with any future potential. Detailed information to determine ground water characteristics such as location of aquifers, transmissivities, and direction and rate of ground water flows will be gathered by carrying out drilling of boreholes and performance of pumping out tests on the site. Similar practice is being followed by other installations located in the area e.g. Al-Abbas Cement, Lucky Cement, textile mills and other industries. The results of these investigations indicate that enough potable ground water resources are available to meet the plant requirements. It is proposed to meet the water supply requirements for plant operation and for drinking purposes by installation of tube wells on the site.



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## 4 – GEOTECHNICAL INVESTIGATIONS AND FOUNDATION DESIGN

### 4.1 GENERAL

A reconnaissance of the project area will be carried out at commencement of the work, for planning of surface and subsurface investigations. Pertinent data of investigations and design for power plant and other projects located in vicinity of the site will be collected for assessment of overall geology and geotechnical conditions of the area. A program for surface and subsurface investigations has been prepared. The investigations conducted, their results, evaluation and recommendations are described in the following paragraphs.

### 4.2 TOPOGRAPHIC SURVEY

Topographic survey of the proposed site has not been carried out as yet. The details will be provided upon carrying out the survey. The key map of the project area are shown on Fig. 4.1 and the contour plan is shown on Fig. 4.2

### 4.3 PHYSIOGRAPHY AND GEOLOGICAL HISTORY

The project area is located in the riverain plain of Indus river. Globally the site is located at or near the cross of 25.175 [latitude in decimal degrees], 67.7996 [longitude in decimal degrees] longitude. Topographically the area around the site is flatland. It is part of the Indus basin, located on the right bank of the Indus at a distance of about 50 km. The relief of the area is medium-low and the general slope ranging between 3.5% to 2% in the south and southwest direction.

The prevailing geological conditions around the site and in the region are result of not so extensive deposition for a long period of time in the geological ages. Consequently, the region is not in the flood plains of the Indus River. The recent geological history in the vicinity of the site has been of erosion rather than deposition.

Soils of the area are generally not so good for agriculture even with provision of fresh water due to hard rocky terrain.

### 4.4 REGIONAL GEOLOGY

The geology of the Project site as well as the region is closely related to the formation process of the Himalayan orogeny involving the collision of the Indian and Asian plates. Regional Geological map of the area is shown on Fig. 4.3.

According to the tectonic map of Pakistan, published by Geological survey of Pakistan, the region falls in the Indus basin. The immediate geology is several hundred meters of unfolded sedimentary cover of upper Pleistocene to recent alluvial deposits which are tectonically undisturbed and form platform cover in Indus plains. These deposits are differentiated on the map as:

- Qf – Flood plain deposits.
- Qfn – Flood plain deposits of lower terraces.
- Qcm – Flood plain deposits of middle terraces.

- Qm – Stream bed & Meander belt deposits.
- Qs – Eolian sand deposits.
- Qsc – Old eolian sand deposits + chung formation.

The deposits are dominantly comprised of sand with thin layers of clayey silt / silty clay.

In this area no significant or active tectonic feature is present within a radius of 100 km of the project site.

#### **4.5 GEOLOGY OF THE PROJECT AREA**

The proposed site of SNPC Combined Cycle Power Plant lies at a distance of about 6.5 km from the M9 connecting Karachi and Hyderabad. Considering the Geological setting, the area lies in the Indus Basin.

According to Geological Map of Pakistan, as shown on the Regional Geological Map (Fig. 4.3), the deposits in the site areas are:

- ▶ Flood plain deposits
- ▶ Stream Bed deposits
- ▶ Stream meandering deposits
- ▶ Eolian deposits

The site geology (sub-surface) will be assessed has been assessed by drilling number of Boreholes of 20 to 50 meters depth spread over the site area and major structure locations. The results of the Boreholes will be provided later.

#### **4.6 SUBSURFACE INVESTIGATIONS**

In order to determine the engineering characteristics of the foundation boreholes will be drilled at the project site ranging in depth from 20m to 50m. The location of the boreholes will be shown on Fig. 4.4. Borehole logs of these holes are appended to the report as Appendix A. In addition to these borehole pumping out tests have also been carried out at two locations for assessment of groundwater quality and quantity.

#### **4.7 FIELD AND LABORATORY TESTING**

All the relevant tests will be conducted and results will be produced in the report.

#### **4.8 FOUNDATION EVALUATION AND RECOMMENDATIONS**

The foundation evaluation and recommendations will be produced in the report.

#### **4.9 SEISMIC DESIGN PARAMETERS**

Desk studies have been performed for determination of parameters for dynamic design. The site is located in an area of comparatively lesser seismic activity. For the purpose of the present study reliance has been made on the seismic zoning map of Pakistan developed by Geological Survey of Pakistan and design of other structures located in the close vicinity of the project site. According to the seismic zoning map the project site lies in the Zone 1, which translates into area where expected earthquake damage based on the historical

record may be termed as Minor. It is recommended to use a ground acceleration of 0.1 g as Design Basis Earthquake (DBE) for the project.

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## 5 – WATER SOURCES

### 5.1 GENERAL

The surrounding area of project comprises of generally flat land and is under cultivation wherever sweet water supply is available. The lands are irrigated by rain and some water from the nearby lakes. Groundwater in the area is generally saline with values of Total Dissolved Solids (TDS) as high as 2300 mg/lit. Few pockets of sweet groundwater exist in close vicinity of the rain water collection dams. The pipeline from the nearby lake is being utilized by industrial installations present in the area and also by locals for their potable water consumption. Due to comparatively lesser quantity of water requirement for the project it was decided to utilize the pipeline and tap the sweet groundwater likely to be present in close vicinity at a depth of about 100 meters. To ascertain the quality and quantity of the groundwater present in vicinity of the project site it is proposed to install two pumping out tests through two Tubewells of 1.0 cusecs capacity each. Location of the two test wells is shown on Fig. 5.1.

### 5.2 INSTALLATION OF WELLS

The objective of installation of Tubewells was to obtain subsurface hydrogeological data through construction of two test water wells (1-cusec capacity), six Piezometers i.e. Observation Wells (three near each of the well), perform pumping out tests and subsequently development of both the wells. The data thus obtained will be interpreted to ascertain whether three cusecs of water discharge can be pumped out from the groundwater source by installing a number of water wells of suitable capacity at appropriate locations. Summary of the salient objectives of this work is given below

- a. To establish Sub-surface lithology / geology
- b. To identify water bearing formations
- c. Collection of lithological samples of the material obtained during drilling at specified intervals or every change in formation
- d. Preservation of samples in a sample box for further study and analysis
- e. Preparation of drilling time logs to assess the behavior of materials during drilling
- f. For running aquifer test to know the nature of draw down at different pumping rates, specific capacity, transmissivity and recovery of the aquifer
- g. To know the chemical quality of the groundwater
- h. To know the possibility of up-coming of the saline water from the deeper depths
- i. To work out how much groundwater can safely be pumped out for the use of the project installations as well as its residential settlements
- j. And how the required 3-cusecs quantity of groundwater could be made available through the installation of tubewells.

The details of subsurface geological material encountered in form of borehole logs at

Tubewell TW-1 shall be given in Fig 5.2 and at Tubewell TW-2 in Fig 5.3. Tubewell TW-1 shall be drilled up to a depth of 300 ft. whereas Tubewell TW-2 will be drilled up to 325 ft.

On the basis of subsurface lithological results and D & T (Developing and Testing) of the wells, design of the vertical turbine pump and motor will be worked out and the following parameters will be determined:

- i) Capacity of the pump
- ii) Setting depth of pump
- iii) Water Table

### 5.3 SPECIFIC CAPACITY AND AQUIFER TEST

After installing the casing and gravel packing the wells will be thoroughly developed by pumping. The purpose is to remove drilling fluid residual material if any and for collecting information pertaining to water discharge from the installed wells and get crystal clear water free of any turbidity and sand content till permissible limits are achieved. The Tubewells will be thoroughly cleaned and backwashed. The Tubewells will run at discharge of one cusec for six hours. The development will be stopped after six hours at each of the tubewells. During this phase a very low draw down was noticed. For the other hydraulic parameters different tests will be performed and the data pertaining to Specific Capacity, Step Draw-down Test, Constant Discharge Test (Aquifer Test) and Recovery Test will be collected in the field for its subsequent computation and analysis.

#### 5.3.1 Development of TW-1

The details will be provided once the TW-1 is drilled. The results will be shown on Table 5.1.

##### 5.3.1.1 Step Draw-Down Test of TW-1

To know the capacity, performance and efficiency of the water test well TW-1 a four (4) steps Draw-down Test will be conducted for a period of 16 hours. The data thus collected under controlled conditions would give a measure of the productive capacity of the completed well. For this purpose, the well will be pumped at a constant rate of 0.5 cusecs for four (4) hours, then three equal increments of 0.25 cusecs will be given and pumping will be done at 0.75, 1.00 and 1.25 cusecs for four hours at every step.

The draw-down observed at different discharge levels will be as under

##### For Main Well

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs

- d) at 1.25 cusecs

**For Observation Well # 1 (3 m away from Main Well)**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**For Observation Well # 2 (5 m away from Main Well)**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**For Observation Well # 3 (10 m away from Main Well)**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**5.3.1.2 Pumping (Constant Rate) Test of TW-1**

The pumping test will be carried out for 12 hours continuously at one-cusec discharge. The drawdowns observed will be summarized as follows:

- i) Main Well
- ii) Observation Well # 1
- iii) Observation Well # 2
- iv) Observation Well # 3

Test field data was compiled, computed and analyses through "UN-Groundwater for Windows" software. Keeping in view the environmental conditions and subsurface setup of the area, partial penetration formula was applied to get possible best fit results. This exercise generated T-value as 10000 gallons/ft/day.

**5.3.1.3 Recovery Test Data Convention (TW-1 and its Piezometers)**

In the case of recovery of water levels after the pump stopped discharging, the convention is the following:

"The history of pumping is provided during the pumping stage ending the pumping with the line containing the final time of pumping and the final drawdown and replacing the pumping rate with zero (0) at the time pump was shut off. From that time on, the time input is in total time



elapsed from the beginning of pumping and not from the moment the recovery started".

The well will be pumped for 720 minutes at a constant rate of 449 GPM and the final drawdown was equal to 100 ft. The pump was then shut off and the recovery measured.

#### **Main Well**

The pumping was stopped on, 2013 at :00 hours at that time dynamic water level will be 100 feet that recovered to its 75 feet position thus a recovery of 25 feet was observed in just 1.5 minutes

#### **Observation Well #1**

The water level on, 2013 at :00 hours was 150 feet, it recovered to 125 feet by one hour the same day, thus a recovery of 50 feet was observed in 15 minutes

#### **Observation Well # 2**

Water level on, 2013- at :00 hours was 200 feet, it recovered to 150 feet by one hour thus a recovery of 75 feet was observed in 30 minutes

#### **Observation Well # 3**

Water level on, 2013 at :00 hours was 250 feet, it recovered to 200 feet by one hour thus a recovery of 50 feet was observed in 15 minutes

### **5.3.2 Development of TW-2**

It started at:00 hours on, 2013 and was completed by :00 hours the same day. The static water was recorded 250 feet at the start of development and the dynamic water level at the end of the test was 200 feet. Thus the drawdown was 50 feet. The tubewell was run at a discharge of one cusec. Specific Capacity was calculated up to 500 gpm/ft of drawdown. The water was turbid for the first half an hour then the turbidity started decreasing. At :00 hours the water became crystal clear. Quality of the water sample was checked in the field where its temperature was 25<sup>o</sup> C, pH was 7.5 and EC was 300  $\mu$ m. However, the detail results obtained from PCSIR laboratory are shown on Table 5.2.

#### **5.3.2.1 Step Draw-Down Test of TW-2**

To know the capacity, performance and efficiency of the water test well TW-2 a four (4) Steps Draw-down test was conducted for one hour. The data thus collected under controlled conditions would give a measure of the productive capacity of the completed well. For this purpose, the well was pumped at a constant rate of 1.5 cusecs for five hours, then three equal increments of 0.25 cusecs were given and pumping was done at 1.5, 1.25 and 1.0 cusecs for four hours at every step.

The drawdown observed at different discharge levels were as under:

**For Main Well**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

For Observation Well # 1 (5 m away from Main Well)

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**For Observation Well # 2 (10 m away from Main Well)**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**For Observation Well # 3 (15 m away from Main Well)**

- a) at 0.50 cusecs
- b) at 0.75 cusecs
- c) at 1.0 cusecs
- d) at 1.25 cusecs

**5.3.2.2 Pumping (Constant Rate) Test of TW-2**

The pumping test was carried out for four hours continuously at one cusec discharge. The drawdowns observed are summarized as follows

- i) Main Well
- ii) Observation Well # 1
- iii) Observation Well # 2
- iv) Observation Well # 3

All the Test field data were compiled computed and analyses through "UN-Groundwater for Windows" software. Keeping in view the environmental conditions and subsurface setup of the area, partial penetration formula was applied to get the best-fit results. Specific Capacity is 500 GPM / ft of drawdown at one cusec.

**5.3.2.3 Recovery Test Data Convention (TW-2 and its Piezometers)**

In the case of recovery of water levels after the pump stopped discharging, the convention is the following.

"The history of pumping is provided during the pumping stage, ending the pumping with the line containing the final time of pumping and the final drawdown and replacing the pumping rate with zero (0) at the time pump was shut off. From that time on, the time input is in total time elapsed from the beginning of pumping and not from the moment the recovery started".

The well was pumped for 30 minutes at a constant rate of 500 GPM and the final drawdown was equal to 50 ft. The pump was then shut off and the recovery measured.

#### **Main Well**

The pumping was stopped on, 2013 at:00 hours at that time dynamic water level was 100 feet that recovered to its 150 feet position at one hour, thus a recovery of 50 feet was observed in just 30 minutes.

#### **Observation Well #1**

The water level on, 2013 at :00 hours was 200 feet; it recovered to 150 feet by one hour the same day, thus a recovery of 50 feet was observed in 15 minutes.

#### **Observation Well # 2**

Water level on, 2013 at :00 hours was 250 feet, it recovered to 200 feet by one hour, thus a recovery of 50 feet was observed in 30 minutes.

#### **Observation Well # 3**

Water level on, 2013 at :00 hours was 200 feet, it recovered to 150 feet by one hour, and thus there was recovery of 50 ft in 20 minutes.

### **5.4 QUALITY OF WATER**

#### **Tubewell TW-1**

The quality of the water in the Main well is not chemically fit. Results reveal that values of conductivity, TDS and hardness of groundwater are very high. Other test values are also exorbitantly on the higher side.

#### **Tubewell TW-2**

The quality of the water in the Main well is chemically fit. Results reveal that groundwater is of calcium bicarbonate type as the calcium and bicarbonates are dominant. Other components are present as minor traces. All the values are within the permissible range of WHO.

#### **Hand Auger Hole**

A Hand Auger Hole was also drilled to a depth of about 350 feet on the right side of the plot.

It was located about 100 m south of the site of TW-2. In this borehole from surface to a depth of 350 feet, brown clay was encountered. Beyond that up to the depth of 250 feet fine to medium grained grayish sand was encountered. A water sample was collected from this borehole and chemically tested at PCSIR Laboratory, Lahore and the results are shown on Table 5.3. The quality of the water on the basis of these tests is fit for consumption.

## 5.5 RESULTS OF INVESTIGATION

The groundwater investigations and development data analysis reveal that

### TW-1

TW-1 is rejected based on un-satisfactory chemical results.

### TW-2

- i) All the tests made for different parameters are within the prescribed range of WHO
- ii) The results reveal that the aquifer is fairly transmissive and unconfined conditions prevail in its aerial extent.
- iii) The aquifer is mainly composed of fine to medium sand.
- iv) Tubewells of 1.0 to 1.5 cusecs capacity can be installed at suitable sites within the vicinity of TW-2 site area, to meet the project requirements of 1.0 cusecs.
- v) These tubewells need to be of shallow depth and be installed at a distance say about of 500 feet from each other in a staggered form.

## 5.6 WATER SUPPLY SYSTEM

Keeping in view the groundwater aquifer parameters and redundancy factor it is proposed to install Tubewells at two locations i.e. right side of the project site. It is proposed to install 02 Nos. 1.5 cusecs capacity tubewells at around 350 ft distance from each other. In addition to these another set of two tubewells of 1.5 cusecs capacity are proposed to be installed on the left side of the project site. These tubewells will be operated under a programme to be developed to match with the requirement channels and to ensure minimum drawdown of sweet groundwater. Water from these tubewells will be conveyed to the underground water storage tank at project site by independent water supply pipelines. The pipelines will run as shown on Fig. 5.1.

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## 6.1 GAS RESERVES

Supply of the gas to consumers in Pakistan is managed by two entities i.e. Sui Northern Gas Pipe Line (SNGPL), responsible of gas distribution in the provinces of Punjab and Khyber Pakhtunkhwa and Sui Southern Gas Company (SSGC), operating gas in the provinces of Sindh and Balochistan. Some consumers have also constructed pipelines at their own from some of the fields such as Mari field and Kandh Kot.

The gas discoveries in various areas of Pakistan are currently going on and there will be significant increase in gas production in the near future. However the demand is also rising and therefore require significant efforts to increase the supply of gas through indigenous sources as well as import of gas through pipeline and/or LNG.

Utilization of gas has been allowed by GOP in Power Sector, in order to reduce power generation cost and ultimately the electricity rates which are tremendously high at present.

	FY09	FY10	FY15	FY20	FY25	FY30
Gross Gas Demand						
Average	1,612	1,669	4,247	6,211	1,425	1,414
Range	4,144	4,241	6,166	1,611	1,222	11,139
Gas Supplies	1,695	1,641	4,115	2,321	2,111	1,917
Surplus/(Deficit)						
Average						
Range						
Surplus/(Deficit) as percent of Demand						

- Domestic and commercial
- Power Sector
- General Industries
- Fertilizers
- CNG

In order to augment country's gas resources import of gas from Iran, Qatar and Turkmenistan is under consideration to GOP

A joint Working Committee (JWC) of professionals from Iran and Pakistan was constituted in 1993 to carry out a pre-feasibility study of a gas pipeline from Iran to Pakistan and to suggest the most appropriate strategy for the realization of the project.

A project for laying of 2670 km 56 inch diameter pipeline at estimated cost of US\$ 5 Billion to transport 3.3 BCFD gas to Pakistan. The project is recently signed by both the presidents of Pakistan and Iran. Pakistan is set to meet its own gas requirement on long term basis.

This project has been shelved for all practical purposes.

The project envisages laying of 1440 km 48 inch dia pipe line at an estimated cost of US \$ 1.7 billion from Turkmenistan's Daulatabad gas field to Multan in Pakistan via Afghanistan to transport 1.5 to 2 billion cubic feet per day (BCFD). This pipeline can also be extended up to Gawadar where an LNG facility could be installed for export to the Far East countries e.g. Japan and Korea, which are the biggest markets for LNG.

An Agreement was signed between the two countries and UNOCAL of USA and Delta Oil Company of Saudi Arabia in July 1997. It was agreed that UNOCAL will form consortium for the construction of gas pipeline from Turkmenistan to Pakistan (Multan).

UNOCAL formed a consortium namely CENTGAS with participation of Japanese, Korean and Pakistani companies. The price agreement was signed with CENTGAS in September 1997. Later UNOCAL withdrew from the consortium and progress

could not be made. Some new proposals have now come up to revive the Pakistan – Turkmenistan project.

#### 6.4.4 Availability of gas for potential sites of new Thermal plants

The projected imported gas available for Pakistan is as follows

- ▶ 1.5 – 2 BCF per day gas flow from Turkmenistan
- ▶ About 1.5 BCF per day gas flow from Iran

Moreover, gas from new discoveries in Pakistan such as Zamazama, Sawan, Bhit, Miano, Zarghun, Sui Deep and Mari Deep, Kunar Pasakhi, Tando Allah Yar, Dars Jhal Magsi, Nashpa, Sanjhor, Malazai etc. having projected cumulative flow rate of about 1.5 – 2.0 BCF per day may also be utilized for Power Sector if not otherwise diverted.

In this scenario a dedicated source of even low quality gas has been preferred to ensure supply of gas throughout useful life of the proposed power plant.

### 6.5 GAS AVAILABILITY FOR SINDH NOORIABAD POWER COMPANIES

#### 6.5.1 General

The Government of Sindh had a claim on the four dormant gas fields, namely, Nur, Bhagla, Jakhro and Sara West. The Ministry of Petroleum and Natural Resources (MoPNR) has decided to divert the gas from Nur and Bhagla to the main distribution network, upon which the GoS MoPNR to allocate 20 MMCFD of gas from other gas fields for 2x50 MW (100 MW) power projects at Nooriabad Sindh. Based on this request a summary was moved by the MoPNR to Economic Coordination Committee (ECC) of the Cabinet to approve such allocation.

#### 6.5.2 ECC Decision

Based on the Summary of MoPNR, ECC approved the summary as follows.

Economic Coordination Committee (ECC) of the Cabinet while considering a summary on the subject vide case No. ECC-46/05/2013 dated 26.02.2013 took following decisions in partial modification of its earlier decisions vide Case No. EN-153/19/2009 dated 06.10.2009 and ECE107/11/2012 dated 16.08.2012

- i. Around 10.5 MMCFD gas from Nur and Bagla has been allocated to SNGPL and SSGC on equal sharing basis;
- ii. Up to 15 MMCFD gas from Jhal Magsi south field has been allocated to SNGPL and SSGC on equal sharing basis.
- iii. Out of 50% share of SSGC from present production / allocation of KPD (120 MMCFD x 50% = 60 MMCFD);
- iv. Around 38 MMCFD gas from Rehman field has been allocated to SSGC subject to award of Development & Production Lease;



- v. Any other new gas field which or gas from other sources including imports which may be allocated to SSGC/SNGPL by ECC or any other competent authority in future;
- vi. Out of all of above (i), (ii), (iii), (iv) and (v) allocated to SSGC, the first 20 MMCFD gas would be placed for 100 MW power plant at Nooriabad Industrial Estate for a period of twenty five (25) years as per the request of Government of Sindh.

#### **6.5.3 Gas Supply Agreement with SSGC**

Based on the decision of the ECC, SSGC and SNPC initialed the GSA on March 27<sup>th</sup>, 2013 pending execution approval of the Oil & Gas Regulatory Authority (OGRA). The initialed GSA has already been sent to OGRA for approval.

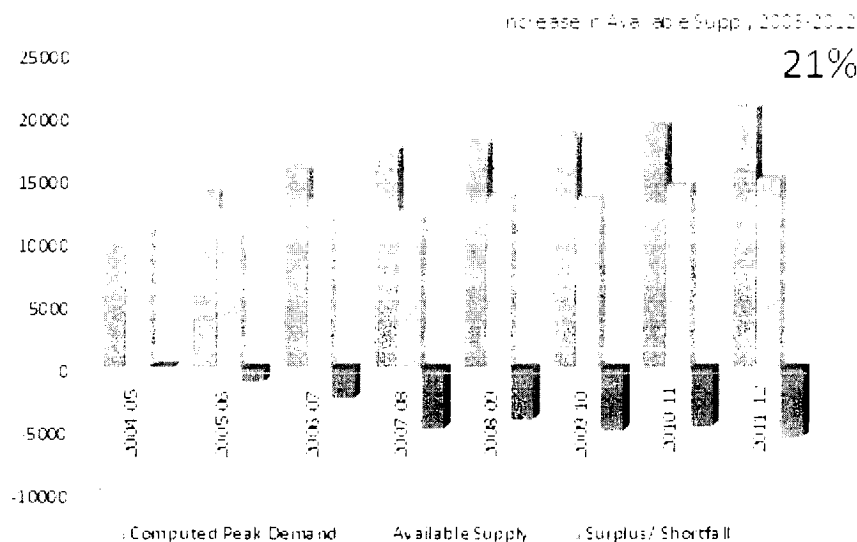
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## 7 – POWER REQUIREMENT AND ROLE OF THE PROJECT

### 7.1 LOAD FORECAST

Pakistan's growing economy and increasing living standard has resulted in ever increasing growth of electric power demand in the past. During the last five years i.e. 2008 to 2012, the power demand in the WAPDA system has grown by 21% (Annual average growth of 4.2%)

#### Historical Supply & Demand



Considering the past trend and anticipated future developments in the country, WAPDA, in collaboration with the Planning and Development Division of the Energy Wing of the Government of Pakistan (GOP), has prepared and projected in April 2004, three scenarios (**Low**, **Medium** and **High**) of long term electricity demand from the year 2003 to the year 2025 in the country. The Regression Based Load forecast taking into account the impact of electricity price changes, has been projected for 22 years i.e. from the year 2003-04 to the year 2024-25. Summary of this load forecast is tabulated below

Period	Load Forecast (MW)		
	Low	Medium	High
2003-04 to 2007-08	11434 to 13521	11445 to 13603	11461 to 13612
2008-09 to 2012-13	14168 to 17318	14333 to 18155	14348 to 18288
2013-14 to 2017-18	18166 to 21973	19348 to 24778	19544 to 25602
2018-19 to 2022-23	22970 to 27331	26234 to 32783	27324 to 36277
2023-24 to 2024-25	28481 to 29623	34558 to 36358	38992 to 41909

This load forecast, indicates that the electric load of 11000 MW in the year 2002-03 will ultimately shoot up in the year 2024-25 as under:

► Low Growth Scenario	29623 MW
► Medium Growth Scenario	36358 MW
► High Growth Scenario	41909 MW

The regression based load forecast for the WAPDA System and under medium scenario developed and projected upto the year 2024-25 are shown in Table 7.1 and Table 7.2. This depicts that the power demand in WAPDA system will grow at an average rate of about 4.3% during the first five years i.e. 2003-08, while for the period from the year 2003 upto the year 2025, the power demand will grow at an average rate of 5.6%. The installed Capacity and Capability of WAPDA system is presented in Table 7.3.

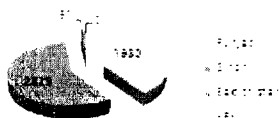
## 7.2 INSTALLED CAPACITY AND CAPABILITY OF PEPCO SYSTEM

### 7.2.1 Installed Capacity

The current existing and planned power plants in PEPCO and KESC systems are depicted below:

## Thermal Power Sector

PEPCO Existing



KESC Existing



## Thermal Power Sector

PEPCO Planned



KESC Planned



In addition to PEPCO and KESC power plants, the Independent Power Plants (IPPs) were developed under 1994 Policy and 2002 Policy, the details of existing and developing IPPs are as under:

## Thermal Power Sector

IPP under 1994 Power Policy

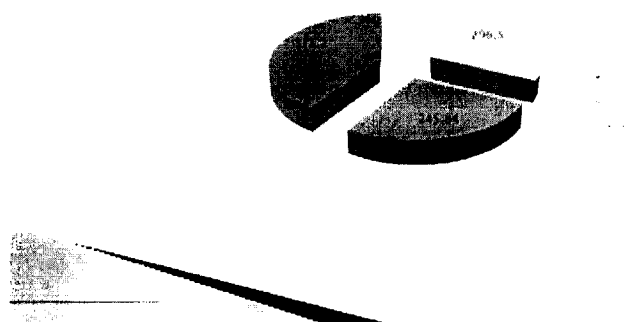


IPP under 2002 Policy



## Thermal Power Sector (Planned IPP)

• Uchail	375 MW
• Radian Energy	150 MW
• Orange Power	147 MW
• Star Power	120 MW
• Khandia Power	120 MW



In addition to thermal power plants there are public sector and private sector hydel power plants, the details are as under:

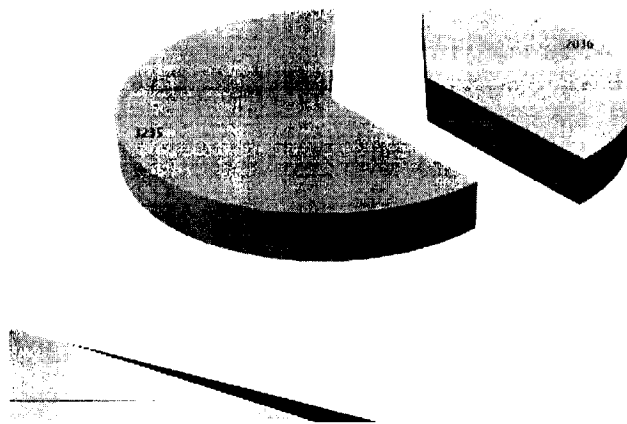
## Hydel Power Sector

Public Sector Existing

Public Sector Planned  
Under Construction



## Hydel Sector (Planned IPP)



### 7.2.2 Effective Capability

The effective capability of PEPCO/WAPDA's power generation system varies significantly during the year due to seasonal variation in the hydel potential. During the high water flow months of the summer season, the hydel capacity is at maximum and thus PEPCO/WAPDA's effective capability becomes 15,855 MW. The effective capability reduces to 12,623 MW during low water flow season.

### 7.3 ROLE OF PROPOSED 50 MW SINDH NOORIABAD COMBINED CYCLE POWER PROJECT

The proposed power plant is located near the industrial estate of Nooriabad. The electricity demand of SITE, Nooriabad is about 110 MW and a pending demand of 185 MW. The industrial estate is currently being supplied from Kotri and Jamshoro power plants, due to which there are high transmission and distribution losses. With the institution SNPC 50 MW Combined Cycle power project there will be significant saving in the losses and the local industry will be benefited by the regular supply of electricity. Together with SNPC Phase II 50 MW Combined Cycle, this will augur well with the local industry and economic activity will be enhanced appreciably.

<b>7 – POWER REQUIREMENT AND ROLE OF THE PROJECT.....</b>	<b>1</b>
7.1 Load Forecast.....	1
7.2 Installed Capacity and Capability of WAPDA System.....	2
7.2.1 Installed Capacity .....	2
7.2.2 Effective Capability .....	5
7.3 Role of Proposed 50 MW Sindh Nooriabad Combined Cycle Power Project .....	5



## 8 – PLANT STUDY AND LAYOUT

### 8.1 PLANT NOMINAL SIZE

The plant size as indicated in the LOI is 50 MW (net at mean site conditions). According to normal practice adopted by PPIB, the capacity of the plant should be within range +5% to -5%. As such the net installed capacity of 52.5 to 47.5 MW may be considered appropriate depending upon available range of power generating equipment being produced by the reputed manufacturers.

### 8.2 COMBINED CYCLE PLANT CONFIGURATIONS

In a Thermal Power Plant the most important factor is thermal efficiency. Conventional steam power units may achieve 38% efficiency at the maximum whereas simple cycle gas turbine plant efficiency could reach upto 34% and simple cycle gas engine plant efficiency could reach 48%. Therefore, the current trend is to adopt combined cycle system in order to recover heat losses as far as possible. Modern techniques and technological advancements have paved way to achieve thermal efficiencies ranging from 48% to 52% in a combined cycle power plant, attracting the energy sector to reshape their preference. While conceiving a combined cycle plant there could be several combinations such as:

i)	One gas turbine with HRSG, one steam turbine and a generator on a common shaft.	1 G.T. + 1 HRSG + 1 ST + 1 Gen. configuration
ii)	One gas turbo generator with HRSG and a steam turbo generator on independent shaft	1 G.T.G + 1 HRSG + 1 STG configuration
iii)	Two gas turbines having a common HRSG and one steam turbine unit.	2 GTG + 1 HRSG + 1 STG configuration
iv)	Five gas engines with independent HRSGs and one steam turbine	5 GEG + 5 HRSG + 1 STG configuration
v)	Three gas engines with independent HRSGs and one steam turbo-generator.	3 GEG + 3 HRSG + 1 STG configuration)

Each configuration has its own merits and demerits. Comparison of the different configurations reveals that:

- ▶ Configuration (i) having gas turbine, steam turbine and generator on common shaft is the most economical having lower capital and maintenance cost. By adopting single generator of bigger size, a lot of electrical equipment is eliminated as compared to other configurations employing more than one generator. **However, total power loss may be foreseen in case of any fault in any of the major equipment.**
- ▶ Combination (iii), having two gas turbines with common HRSG and one steam unit, provides not only the required degree of flexibility in operation but relatively more

power output without additional fuel as compared to 1 + 1 configuration. 50% of installed capacity remains available almost all the time. Outage of STG results in 25% power generation loss whereas shutdown of any HRSG would cause 25% power reduction.

- Recently, the gas engines efficiencies in simple cycle has improved significantly. The current available engine efficiencies are in the range of 46% to 48% thus leaving a very small capacity in HRSG and steam turbine. The steam turbine is generally in the range of 4-6% of the engine installed capacity. The configurations under (iv) and (v) offers great flexibility and lower capital cost. However the maintenance cost in gas engines configuration is higher than any of the gas turbine configurations.

Considering all aspects, such as specific capital cost, output, O & M cost and flexible operation, the combination of two gas turbines with independent HRSGs and one steam turbo-generator would be preferred. It also provides following advantages as compared to 1 + 1 configuration:

- a) Higher part load efficiency
- b) Greater operational flexibility
- c) Higher energy availability
- d) Lower down time

### 8.3 SELECTION OF MAJOR EQUIPMENT

#### 8.3.1 Available Machines and Combined Cycle Configuration

There are one reputed manufacturers of Aero-derivative gas turbines and three gas engines manufacturers and allied equipment namely General Electric, Wartsila, MAN and Rolls Royce. The products of Japanese manufacturers like Kawasaki and Mitsubishi are also worth considering, however due to their negligible presence in Pakistan, they were not considered further. **While selection of equipment, a major factor that had to be kept in view is the suitability from the standpoint of efficiency, presence in Pakistan and lower ratio of capital cost and maintenance cost.**

From the gathered information, different options have been formulated out of available sizes of gas turbines, gas engines and combined cycle plant equipment being produced by manufacturers of repute.

##### Option I – LM6000PC SPRINT (GE) with Combined Cycle

GE's Aero-derivative gas turbine model LM6000PC SPRINT comprises of one gas turbines of LM6000PC SPRINT with output of 48 MW at ISO conditions, independent heat recovery boiler and one steam turbine of 12 MW arranged in 1+1 configuration. Total plant output at ISO conditions will be 60 MW with a heat rate of 6,440 BTU / kWh at 53% thermal efficiency. The net output (net of compressor and auxiliaries at 30 deg C and 60% relative humidity will be 48.8 MW and 48.8%

thermal efficiency.

#### **Option II – Wartsila (20V34SG) with combined cycle**

Wartsila gas engine combined cycle model 20V34SG comprises of 5 No. gas engines of 9.73 MW each, five HRSGs of compatible size and a steam turbine of 3.5 MW. The rating of plant at 35 deg C will be 52.15 MW with a thermal efficiency of 48.7% and heat rate of 7004 BTU/kWh.

#### **Option III – Wartsila (20V50SG)**

Wartsila's another option configuration comprises of three gas engines model 20V50SG of 18.32 MW and one condensing steam unit of 3.51MW, the total installed capacity of plant is 58.46 MW at 35 deg C conditions. The heat rate is 6743 BTU/kWh with a thermal efficiency of to 50.6 %.

#### **Option IV – MAN (18V51/60DF)**

MAN Diesel configuration comprises three 18V51/60DF dual fuel gas/diesel engines with an output of 51.6 MW, HRSGs of appropriate size and a steam trubogenerator of 5 MW. Thus, the total installed capacity (32 deg C) would be 56.6 MW. The plant heat rate is 7359 BTU/kWh and thermal efficiency 46.4%.

### **8.3.2 Selection Criteria**

Due to limitation of approved plant size the following criteria has governed the selection of suitable configuration of gas turbine's, make and model:

- 1) Capability to operate on the minimum efficiency offered in bidding process.
- 2) Plant size within the range of 50 MW +/-5%.
- 3) 4) Maximum achievable thermal efficiency or the lowest heat rate.

### **8.3.3 Shortlisted Models**

All the above were considered and the final selection will be done once the detailed proposals of all the aforementioned manufacturers will be received.

<b>8 – PLANT STUDY AND LAYOUT .....</b>	<b>1</b>
<b>8.1 Plant Nominal Size.....</b>	<b>1</b>
<b>8.2 Combined Cycle Plant Configurations .....</b>	<b>1</b>
<b>8.3 Selection of Major Equipment.....</b>	<b>2</b>
8.3.1 ..... Available Machines and Combined Cycle Configuration .....	2
Option I – LM6000PC SPRINT (GE) with Combined Cycle.....	2
<b>Option II</b> – Wartsila (20V34SG) with combined cycle .....	3
Option III – Wartsila (20V50SG) .....	3
Option IV – MAN (18V51 60DF).....	3
8.3.2 Selection Criteria .....	3
8.3.3 Shortlisted Models.....	3

## 9 – GAS SUPPLY PIPELINE AND GAS REQUIREMENT

### 9.1 QUALITY OF GAS

As stated earlier under section 6 of the report, the gas is a pipeline quality gas, the composition of gas as provided by Sui Southern Gas Company Limited (SSGC) has minimum and maximum specification.

The Gas composition of given by SSGC is given in Table 9.1 which reflects mol %age as below:

<u>Component</u>	<u>Minimum</u>	<u>Maximum</u>
Hexane Plus	0.163	0.0865
Propane	0.354	0.3673
I-butane	0.111	0.1067
N-butane	0.103	0.0980
Neo pentane	0.007	0.0041
I-pentane	0.059	0.0528
N-pentane	0.0460	0.0360
Nitrogen	21.209	6.4916
Methane	73.724	91.0327
Carbon Dioxide	2.773	0.2816
Ethane	1.451	1.4427
Btu	800.5	967.89
Specific Gravity	0.690	0.60208

### 9.2 DELIVERY POINT

The location of "Delivery Point" would be at the power plant site. The gas will be transported from the gas main pipeline and travel about 18 km to arrive at the power plant site. The pipeline will be of 12 in diameter and will have a delivery pressure of 100 psi.

The construction of pipeline will take about 3 months after signing the Gas Sale Agreement (GSA) and payment of pipeline and infrastructure cost by SNPC.

### 9.3 GAS TRANSMISSION

From the delivery point, gas will be transmitted through an underground pipeline of about 12 inch diameter to be constructed at the cost of SNPC. Route survey will be conducted by SSGC Planning Department and cost will be estimated. This gas pipeline will be about 18 km long, capable of transporting 20 MMCFD gas at 100 psig enough for SNPC and SNPC Pahse II. It shall consist of ERW pipe with section valves and fittings of class 150 or higher, coated with Polyethylene – rubber laminated inner and out wraps, 50% overlapped, buried in natural soil, having cover of not less than one (1) meter. Cathodic protection is also foreseen

to protect against corrosion. The installation of the pipeline will be executed through a specialized contractor.

The gas received at plant premises will be subjected to further process i.e removal of moisture/condensate and pressure regulation in accordance with the power plant equipment requirement.

#### **9.4 GAS REQUIREMENT**

The gas consumption has been calculated at different loading conditions. The maximum gross output of 50+5% MW could be achieved at 30°C. The daily consumption in this case works out to be 10 MMCFD. The design of gas supply pipeline will be based on this flow

<b>9 – GAS SUPPLY TERMINAL AND GAS REQUIREMENT .....</b>	<b>1</b>
9.1 Quality of Gas .....	1
9.2 Delivery Point.....	1
9.3 Gas Transmission.....	1
9.4 Gas Requirement .....	2

## 10 – LOAD FLOW STUDY

### 10.1 OBJECTIVE

The objective of Load Flow Study was to determine the optimum transmission interconnection scheme for dispersal of power from the proposed 50 MW SNPC Combined Cycle Power Plant near Nooribabad in the Sindh Province of Pakistan.

### 10.2 REQUEST FOR LOAD FLOW STUDY

SNPC Phase II has already received an LOI from HESCO and therefore HESCO will be responsible to carry out load flow study. It has all necessary equipment, data experience and expertise for conducting load flow study quite successfully and efficiently.



10 – LOAD FLOW STUDY ..... 1

10.1 Objective..... 1

10.2 Request for Load Flow Study ..... 1

## 11 – ENVIRONMENTAL IMPACT ASSESSMENT

### 11.1 INTRODUCTION

Sindh Nooriabad Power Company Phase II (Pvt.) Limited is a special purpose joint venture company between Government of Sindh and Technomen Kinetics (Pvt.) Limited. SNPC was issued Letter of Intent by HESCO, to undertake detailed studies of the proposed thermal power project based on pipeline quality gas near Nooriabad Industrial Estate and to establish its techno-economic feasibility.

Environmental Impact Assessment (EIA) Report of the project has been prepared. It provides a record of baseline conditions of the project area and delineates project features. With reference to environmental requirements at national/international levels, it analyzes the effect of the plant construction and operation on the baseline conditions. Wherever required, compensatory and mitigation measures have been proposed to make the project environmentally acceptable and to minimize the effects of the project on the human and physical environment of the area.

### 11.2 PROJECT DESCRIPTION

The proposed plant will have one gas turbo-generator with one HRSG each and one Steam Turbine or 3/5 gas engines, HRSGs and one Steam Turbine with an installed capacity of around 50+5% MW. The other main characteristics of the plant will be two/three/five stacks, each 30 m high. The other main plant equipment and systems are the electrical and control systems, HSD storage tanks (in case of dual fuel), water treatment and chlorination systems, fire protection system, cooling towers, and gas station. All these plant systems will be designed and operated in accordance with the applicable regulations and standard international practices and guidelines.

Plant buildings and structures outside of the main power block include:

- ▶ Administration building
- ▶ Workshop and store
- ▶ Chlorination building
- ▶ Water treatment plant
- ▶ Fire fighting pump house
- ▶ Gate house
- ▶ Cooling water pump house
- ▶ Air compressor building

#### Fuel Supply

The plant will be operated on natural gas from SSGC gas field. The gas has been allocated vide ECC of the Federal Cabinet decision for SNPC project. Average calorific value of gas is 900 BTU/SCFT. The site, a few kilometer away from the Super Highway (M9)

### **Water Supply**

The make-up water and other requirements for the plant running in closed cycle have been estimated as 100 cubic meters per hour (i.e. 1.0 cusecs). These requirements will be supplied by the tube wells to be installed and from the pipeline from the nearby lake.

### **Plant Wastes**

The water effluents from different streams (e.g. oily water, cooling tower blowdown, and water treatment) will be collected and treated in an on-site neutralization tank in order to bring the pH range within limits (6-9), as specified in NEQS and the World Bank Guidelines for thermal power plant effluents before discharging into nearby nullah. Alternatively cooling water blow down may be used for arboriculture and plantation in and the around the plant site. Sanitary wastewaters from offices and colony will be treated in septic tanks and led to soakage pits for disposal. For the rain water drainage system, the site will be leveled to ensure discharge into the nearby nullah. Solid wastes estimated at about 100 Kg/day would be collected from the colony, transported and disposed off in landfill sites to be identified at low lying areas in the vicinity of the plant site.

## **11.3 ENVIRONMENTAL REQUIREMENTS**

Pakistan has responded to its environmental problems by introducing laws, establishing environmental protection institutions, and developing human resources and technical capability through local resources and foreign assistance.

### **Pakistan Environmental Protection Act 1997 (PEPA-97)**

Pakistan has responded to its environmental problems by introducing laws, establishing environmental protection institutions and developing human resources and technical capability through local resources and foreign assistance.

The Pakistan Environment Protection Act was promulgated in December 1997. The National Assembly and the Senate unanimously passed the Act, PEPA-97, which is a single comprehensive law that provides for the protection, conservation, rehabilitation and improvement of the environment, for the prevention and control of pollution and promotion of sustainable development. The Act covers air, water, soil and noise pollution, also including hazardous waste disposal and motor vehicular pollution. Under PEPA-97, Pakistan Environmental Protection Council (PEPC) and Pakistan Environmental Protection Agency (Pak. EPA) have been established. As one of Pakistan government's policy responses to the environmental Pollution, Environment Cells have been established in the National Planning Commission and one in each of the four provincial planning and development (P&D) departments. The limits of pollutant and effluent concentrations prescribed by NEQS and World Bank Guidelines 1998 are given below.

## **11.4 NATIONAL ENVIRONMENTAL QUALITY STANDARDS (NEQS)**

National Environmental Quality Standards for gaseous emissions and industrial effluents issued by Pakistan Environmental Protection Agency are discussed below.

Table – 11.1 : National Environmental Quality Standards for Motor Vehicle Exhaust &amp; Noise

Parameter		Standards (Maximum Permissible Limit)	Measuring Method
1	Smoke	40% or 2 on the Ringleman Scale During engine acceleration mode.	To be compared with Ringleman Chart at a distance of 6 meters or more.
2	Carbon Monoxide.	<b>Emission Standards:</b> New Vehicle = 4.5% Used Vehicle = 6%	Under idling conditions non-despersive infrared detection through gas analyzer.
3	Noise	85db(A)	Sound meter at 7.5 meter from the source.

Table – 11.2 : National Quality Standards for Industrial Gaseous Emission (mg/Nm<sup>3</sup>, Unless Otherwise Defined)

Parameter	Source of Emission	Existing Standards	Revised Standards
Smoke	Smoke opacity not to exceed	Scale 40% or 2 Ringlemann	40% or 2 Ringlemann Scale or equivalent smoke number
Particulate matter(1)	(a) Boilers and furnaces.		
	(i) Oil fired	300	300
	(ii) Coal fired	500	500
	(iii) Cement Kilns	200	300
	(b) Grinding, crushing, clinker coolers and related processes, metallurgical processes, converters, blast furnaces and cupolas	500	500
Hydrogen Chloride	Any	400	400
Chlorine	Any	150	150
Hydrogen fluoride	Any	150	150
Hydrogen	Any	10	10

Parameter	Source of Emission	Existing Standards	Revised Standards
sulphide			
Sulphur Oxides (2)(3)	Sulfuric acid/Sulphonic acid plants	400	5000
	Other Plants except power Plants operating on oil and coal	400	1700
Carbon Monoxide	Any	800	800
Lead	Any	50	50
Mercury	Any	10	10
Cadmium	Any	20	20
Arsenic	Any	20	20
Copper	Any	50	50
Antimony	Any	20	20
Zinc	Any	200	200
Oxides of Nitrogen (3)	Nitric acid manufacturing unit	400	3000
	Other plants except power plants operating on oil or coal:		
	Gas fired	400	400
	Oil fired	---	600
	Coal fired	---	1200

**Explanations:**

- 1) Based on the assumption that the size of the particulate is 10 micron or more.
- 2) Based on 1% sulphur content in fuel oil. Higher content of sulphur will cause standards to be pro-rated.
- 3) In respect of emissions of sulphur dioxide and nitrogen oxides, the power plants

operating on oil and coal as fuel shall in addition to National Environmental Quality Standards (NEQS) specified above, comply with the following standards:-

**A) Sulphur Dioxide**

**Sulphur Dioxide Background levels ( $\mu\text{g}/\text{m}^3$ ) Standard**

Background Air Quality( $\text{SO}_2$ Basis)	Annual Average	Max. 24-hours Interval	Criterion I Max. $\text{SO}_2$ Emission (Tons/Day per Plant)	Criterion II Max. allowable ground level increment to ambient ( $\mu\text{g}/\text{m}^3$ ) (One year Average)
Unpolluted	<50	<200	500	50
Moderately Polluted*	50	200	500	50
Low	100	400	100	10
High	>100	>400	100	10
Very Polluted**				

\* For intermediate values between 50 and 100  $\mu\text{g}/\text{m}^3$  linear interpolations should be used.

\*\* No projects with Sulphur dioxide emissions will be recommended.

**B) Nitrogen Oxide**

Ambient air concentrations of nitrogen oxides, expressed as  $\text{NO}_2$ , should not exceed the following:

Annual Arithmetic Mean 100  $\mu\text{g}/\text{m}^3$   
(0.05 ppm)

Emission levels for stationary source discharges, before mixing with the atmosphere, should be maintained as follows:

For fuel fired steam generators, as Nanogram (10<sup>-9</sup> gram) per joule of heat input:

Liquid fossil fuel	130
Solid fossil fuel	300
Lignite fossil fuel	260

**Note:** Dilution of gaseous emissions to bring them to the NEQS limiting value is not permissible through excess air mixing/blowing before emitting into the environment.



**Table – 11.3 : National Environmental Quality Standards for Municipal and Liquid Industrial Effluents (mg/l, unless otherwise defined)**

Parameter	Existing Standards	Revised Standards		
		Into Inland Waters	Into Sewage Treatment(5)	Into Sea(6) Waters
Temperature or Temperature Increase*	40°C	≤3°C	≤3°C	≤3°C
pH value	6 to 10	6 to 9	6 to 9	6 to 9
Biochemical Oxygen Demand (BOD <sub>5</sub> ) at 20°C(1)	80	80	250	80**
Chemical Oxygen Demand (COD) (1)	150	150	400	400
Total suspended solids (TSS)	150	200	400	200
Total dissolved solids (TDS)	3500	3500	3500	3500
Grease and oil	10	10	10	10
Phenolic compounds (as phenol)	0.1	0.1	0.3	0.3
Chloride (as Cl?)	1000	1000	1000	SC***
Fluoride (as F?)	20	10	10	10
Cyanide (as CN?) total	2	1	1	1
An-ionic detergents (as MBAs) (2)	20	20	20	20
Sulphate (SO <sub>4</sub> ) <sup>2-</sup>	600	600	1000	SC***
Sulphide (S <sup>2-</sup> )	1	1	1	1
Ammonia (NH <sub>3</sub> )	40	40	40	40
Pesticides (3)	0.15	0.15	0.15	0.15
Cadmium (4)	0.1	0.1	0.1	0.1
Chromium (trivalent and hexavalent) (4)	1	1	1	1
Copper (4)	1	1	1	1
Lead (4)	0.5	0.5	0.5	0.5
Mercury (4)	0.01	0.01	0.01	0.01
Selenium (4)	0.5	0.5	0.5	0.5
Nickel (4)	1	1	1	1
Silver (4)	1	1	1	1
Total Toxic metals	2	2	2	2
Zinc	5	5	5	5
Arsenic (4)	1	1	1	1
Barium (4)	1.5	1.5	1.5	1.5
Iron	2	8	8	8
Manganese	1.5	1.5	1.5	1.5
Boron (4)	6	6	6	6
Chlorine	1	1	1	1





**Explanations:**

- 1) Assuming minimum dilution 1:10 on discharge, lower ratio would attract progressively stringent standards to be determined by the Federal Environmental Protection Agency. By 1:10 dilution means, for example that for each one cubic meter of treated effluent, the recipient water body should have 10 cubic meter of water for dilution of this effluent.
- 2) Modified Benzene Alkyl Sulphate; assuming surfactant as biodegradable.
- 3) Pesticides include herbicides, fungicides, and insecticides.
- 4) Subject to total toxic metals discharge should not exceed level given at Sr. # 25.
- 5) Applicable only when and where sewage treatment is operational and  $BOD_5=80$  mg/l is achieved by the sewage treatment system.
- 6) Provided discharge is not at shore and not within 10 miles of mangrove or other important estuaries.
- \* The effluent should not result in temperature increase of more than  $3^{\circ}\text{C}$  at the edge of the zone where initial mixing and dilution take place in the receiving body. In case zone is not defined, use 100 meters from the point of discharge.
- \*\* The value for industry is 200 mg/l
- \*\*\* Discharge concentration at or below sea concentration (SC)

**Note:**

- 1) Dilution of liquid effluents to bring them to the NEQS limiting values is not permissible through fresh water mixing with the effluent before discharging into the environment.
- 2) The concentration of pollutants in water being used will be subtracted from the effluent for calculating the NEQS limits.

**11.5 WORLD BANK PROJECT GUIDELINES 1998**

The World Bank project guidelines 1998 for Bank funded projects, unless the environmental standards of the host country are more stringent. EIA should also include air dispersion modelling to assess project impacts on ambient air quality.

**Table – 11.4 : Effluents from Thermal Power Plants**

Parameter	Maximum Value
pH	6-9
TSS	50
Oil and grease	10
Total residual chlorine	0.2
Chromium (total)	0.5

Copper	0.5
Iron	1.0
Zinc	1.0
Temperature increase	$\leq 3^{\circ}\text{C}$

**Table – 11.5 : Ambient Air Quality in Thermal Power Plants  
(micrograms per cubic meter)**

Pollutant	24 – Hour Average	Annual Average
pM <sub>10</sub>	150	50
TSPa	230	80
Nitrogen dioxide	150	100
Sulphur dioxide	150	80

#### **Ambient Noise:**

Noise abatement measures should achieve either the levels given below or a maximum increase in background levels of 3 decibels (measured on the A scale) [dB(A)]. Measurements are to be taken at noise receptors located outside the project property boundary.

**Table – 11.6 : Maximum allowable log equivalent (hourly measurements) in dB(A)**

Receptor	Day (07:00 – 22:00)	Night (22:00 – 07:00)
Residential, institutional, educational	55	45
Industrial, commercial	70	70

## **11.6 BASELINE CONDITIONS**

The project baseline conditions have been established on the basis of field visits, scoping sessions with the representative sample of population from the villages in the vicinity of the project site and published material and information relating to the area. The main findings are recorded as under.

#### **Project Site**

SNPC (Phase II) project is located near Nooriabad, Sindh province. A reconnaissance survey was conducted in and around the dedicated area of power plant to select a site for the proposed power plant. Keeping in view the factors relating to accessibility, availability of reliable water supply, economy in the purchase of land and nearness of the gas supply source, the present site was selected. The site is situated six kilometres from Super Highway (M9). The site is accessible from Karachi by means of major highway.



Other salient features of project site are as follows:

Location	Longitude 67° 47' 31.5"
	Latitude 25° 10' 33.51"
Topography	Flat,
	Approximately 180 m. above mean sea level
Soil	Not known, Soil yet to be done

#### i) Settlements

The following settlements are located in the vicinity of the proposed site of the power plant.

Name of Settlement	Population 2004
District : Jamshoro	120,000
Nooriabad town	1,000
Settlements	
Kalo Kohar	less than 200
Other goths	500

#### ii) Habitation on Project Site and Resettlement Issues

There are no human habitations on the project site and in and around the area proposed to be used for construction of the power plant. Therefore, no problems/issues exist for resettlement of displaced population.

#### iii) Existing Ambient Air Quality

The air quality analysis of samples collected from the project site in March 2013 showed characteristics of clean air. The concentrations of sulphur dioxide and nitrogen oxides were virtually zero.

#### iv) Climate

The climate of proposed site is moderate hot and arid with high rate of evaporation. Rainfall is scarce which mainly occurs in May, June and July.

At the project site dusty winds and sometimes dust storms occur particularly during summer season.

##### Average Rainfall

Mean monthly rainfall	6 mm
Heaviest rainfall (24 hrs)	26 mm

##### Temperature



Mean Maximum Air Temperature	32.7 °C
Mean Minimum Air Temperature	23.8 °C
Extreme Maximum Air Temperature	42.0 °C
Extreme Minimum Air Temperature	8.0 °C
<b>Relative Humidity</b>	
Maximum relative humidity	82.5%
Minimum relative humidity	11.28%
<b>Design Wind Speed</b>	
Maximum Wind Speed	44 knots
Average Max Wind Speed	16 knots
<b>Barometric Pressure</b>	
Average barometric pressure	1001.0 mb

v) **Seismicity**

No seismic Risk Zoning of the area has so far been conducted. We are therefore providing Seismic parameters for Karachi, which is nearest major city.

**Seismic Parameters of Karachi**

S.No.	Seismic Parameters	Values
1	U.B.C. Zone	2B
2	Maximum Peak Ground Acceleration.	16% to 24% of g (g = Ground) Acceleration 9.8 m/sec <sup>2</sup>
3	Seismic Hazard	Upper Moderate
4	Magnitude (Richter Scale)	5.5 to 6.5
5	Intensity (MM Scale)	VI – VIII

vi) **Biological Environment**

The project area comprises micro examples of the agricultural, riverain and sandy desert ecosystems. The project site itself is un-cultivated agricultural land.

**Flora**

The trees in the project area include tali (dalbergia sisso), kandi (prosopis specigera) and bubul (acacia arabica), the last of the three being in abundance. On

the right of the project site a few shrubs (calligonum polygnoids) are seen.

#### **Fauna**

The wild doga and jackal are more common animals in the region along with the seasonal wintering migrants of game birds.

### **vii) Socio-Economic Aspects**

#### **Population**

There are about 12 settlements or villages in the vicinity of the plant site with population varying between 100 and 250 in each village. Average size of household is 5 persons.

#### **Education**

The literacy rates are estimated to be low, varying between 5 to 27% for age group of 10 years and above.

#### **Civic Amenities**

The civic amenities of public health like availability of drinking water, sewerage, medical dispensary, access road etc. are poor in the project area. Electricity from HESCO is scarcely available.

#### **Economy**

The district has some large industrial plants but the economy in the region is largely based on agriculture. Most of the households possess land holding which is less than 5 acres. This limit of 5 acres is considered self-sufficient. Un-employment is, therefore, not uncommon.

## **11.7 ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS**

Potential impacts associated with the construction and operation of 50 MW SNPC Combined Cycle Power Plant are discussed below and tables 1, 2 and 3 summarize the same. A majority of these impacts, however, will not be significant because of their site-specific nature, short-term duration or planned mitigating measures.

### **i) Physical Impacts**

The physical impacts resulting from construction and operation of the power plant are presented in Table 11.7. For thermal power projects the impact of stack emissions on existing ambient air quality is significant. The plant operation will give rise to stack emissions impacting on existing ambient air quality. For assessment purposes existing concentrations of pollutants in the ambient air plus estimated concentrations of pollutants in the stack emissions have been compared with NEQS and the World Bank Guidelines 1995. In the presence of clean air at plant site the plant emissions are well below the NEQS and World Bank Guidelines, obviating the need for dispersion modeling which aims at establishing ground level concentrations of plant emissions. As such the operation of SNPC Combined Cycle Plant will not



violate standards prescribed by NEQS and the World Bank Guidelines.

ii) **Biological Impacts**

Impact to vegetation and wildlife will be site-specific. The areas affected are localized and the impacts are not considered significant in view of population densities and distribution of affected flora or fauna in the region and the relatively small areas affected. No unique ecosystems are involved and no widespread population density changes are anticipated. The impacts from air emissions, including atmospheric deposition, on vegetation and wildlife are not expected to affect significantly local and regional wildlife and native vegetation.

iii) **Socio-Economic Impacts**

Both beneficial and adverse socioeconomic impacts will occur with the construction and operation the project. The peak onsite labour force for construction is estimated at 200 workers. During operation, a peak staff of 50 plus dependents is anticipated. The increased population will result in an increased demand for facilities and services, including housing, health care facilities, school, police protection, transportation and communications. Development of infrastructure for secondary population will mitigate a majority of the impacts as will the provision of a workers colony with adequate infrastructure facilities for workers and their dependants.

This disruption of cultural patterns and values is not considered a significant adverse impact. A public information program to relate project information to the locals would help mitigate negative attitudes and would inform the population of the drop in employment and the local economy at the end of the construction period.

Impacts on transportation are site-specific, long-term and moderately significant. They can be mitigated through staggered workshifts, the use of buses for transporting workers and creation of onsite residential colony.

**Table – 11.7 : Environmental Impacts from Construction and Operation – Physical Impacts**

Sr.#	Impacts	Extent/Duration/Significance of Impacts
<b>Construction</b>		
1	Air Emissions	Site specific/short-term/moderately significant near source, not significant at distance
2	Change in Land Use	Site specific/short-term/not significant
3	Noise and Vibration	Site specific/long-term/not significant
4	Accidental Spills of Toxic Materials	Site specific/short-term/easily mitigated by prevention
5	Change in Drainage	Site specific/long-term/not significant

Sr.#	Impacts	Extent/Duration/Significance of Impacts
6	Change in Surface Water Quality	Site specific/short-term/not significant
<b>Operation</b>		
1	Change in water Discharge Quantity and Quality	Site specific/long-term/not significant
2	Change in Ground-water Quality	Site specific/long-term/minor effects; pond leachate may degrade groundwater quality; mitigated by proper pond lining
3	Consumptive Water Use	Site specific/long-term/minor impact; small amount consumed (0.741 cusec)
4	Accidental Spills of Chemicals/Toxic material	Site specific/short-term/little or no impact; easily mitigated by prevention
5	Generation of Sanitary and Operational Wastewater Streams	Site specific/long-term/minor impacts
6	Air Emission	Regional/long-term/Air pollutant emissions are below World Bank Guidelines except for particulate matter. However, power plant emission contribution to ambient TSP levels is zero.
7	Noise and Vibration	Site specific/long-term/not significant and can be mitigated

**Table – 11.8 : Environmental Impacts from Construction and Operation– Biological Resources**

Sr.#	Impacts	Extent/Duration/Significance of Impacts
<b>Construction</b>		
1	Removal of Vegetation	Site specific (50 acres at site plus for pipeline)/long-term/insignificant because of surrounding unaffected areas and lack of uniqueness of affected ecological communities.
2	Damage to Vegetation/Wildlife from Dust and Toxic Materials	Site specific/short-term/not significant; exposures will affect only a localized segment of any species.



Sr.#	Impacts	Extent/Duration/Significance of Impacts
3	Loss of Wildlife from Dust and Toxic Materials	Site specific/short-term/not significant; exposures will affect only a localized segment of any species.
4	Loss of Wildlife Habitat	Site specific/long-term/insignificant; only localized area affected
5	Loss of Future Biological Productivity	Site specific/long-term/not significant; small area
6	Road Traffic and Road Kills	Regional/short-term/not significant given low population densities occurring in region
<b>Operation</b>		
1	Avian Hazards from Stacks, Transmissions Lines	Site specific/long-term/not significant relative to the sizes of regional bird population
2	Loss of Future Biological Productivity	Site specific/long-term/not significant; small area

**Table – 11.9 : Environmental Impacts from Construction and Operation – Socioeconomic Impacts**

Sr.#	Impacts	Extent/Duration/Significance of Impacts
<b>Construction &amp; Operation</b>		
1	Change in Employment Pattern	Regional/short-term/insignificant; peak onsite construction labour force is approximately 200 workers dependents; peak operational staff is 50 plus dependents.
2	Increased Demand for Facilities and Services	Regional/long-term/insignificant; if demand is made on area facilities and services; induced development in surrounding area; workers colony with infrastructure facilities and services can mitigate impacts.
3	Disruption of Cultural Values and Patterns	Site specific/long-term/insignificant due to changes in local economy; public information programme required to mitigate negative attitudes.
4	Loss of Cultural Resources	Site specific/long term/insignificant
5	Occupational Safety	Site specific/long-term/not significant and can be

	and Health Hazards	mitigated by properly designed and maintained facilities plus worker training programmes.
6	Transportation	Site specific/long-term/moderately significant traffic increase; can be mitigated somewhat by staggered workshifts, use of buses for workers, on site residential colony, etc.

## 11.8 MITIGATION AND MONITORING

This section briefly addresses the monitoring and mitigation activities required for the project. Monitoring and mitigation are activities that need to be undertaken or project design features that require implementation to avoid, reduce or otherwise mitigate adverse environmental impacts associated with the project. In order to produce evidence on a regular basis that stack emissions meet the prescribed limits of NEQS and World Bank Guidelines, it would be necessary to install emission monitoring equipment or hand-held equipment/portable instrumentation, the latter being less expensive and also in vogue on other IPPs. The proposed mitigation and monitoring activities are summarized in Table 11.10 on the following page.

**Table – 11.10 : Proposed Mitigation and Monitoring Activities**

Sr.#	Impacts	Extent/Duration/Significance of Impacts
1	Removal of and Damage to Vegetation	Minimize ROQ (Right of Way) width; direct routing of pipeline; utilize existing infrastructure; contain liquid effluents
2	Loss of Wildlife and Habitat	Contain liquid effluents; use erosion control measures
3	Land Use	Select final pipeline route and plan construction activities to minimize amount of land disturbed; allow vegetation to return and recover disturbed areas; develop and implement adequate land use plans.
4	Surface and Groundwater Quality	Monitor key wastewater streams, influent and effluent; wastewater management and reuse; lined ponds to minimize seepage; properly treat and dispose effluent streams including runoffs.
5	Air Quality	Develop and implement air quality and meteorological monitoring programme to assure emissions and ambient air pollutant concentrations comply with NEQS and World Bank Guidelines.
6	Social and Institutional	Develop public information programme; hire and train local workforce; provide adequate community services and infrastructure; provide workers colony



Sr.#	Impacts	Extent/Duration/Significance of Impacts
		during operation; establish programme for overall management for the power plant.
7	Transportation	Stagger work schedules; develop onsite residential colony for operational workers; use truck convoys at night; improve site road; establish driver training programme; promote good driving and vehicle maintenance practices.
8	Economic Impact	Develop a programme to hire and train local workforce; plan for economic recession at the end of construction and operation, develop a programme for overall management in order to stagger workforce requirements.
9	Public/Occupational Health and Safety	Properly handle and dispose of solid and hazardous wastes; prevent possible contamination of surface and groundwater used by the population; use fences and warning signs around transmission lines and towers; ground high voltage towers; develop a comprehensive worker accident prevention programme; routinely monitor health hazards for a number of chemical and physical hazards.
10	Cultural Resources	Cease work and contact GoS Director of Archaeology when significant cultural resources are encountered during ground disturbing activities; recover data or relocate ground disturbing activity.





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## 12 – MANPOWER REQUIREMENT

### 12.1 GENERAL

Appropriate structure and suitable staff is needed for efficient and economic operation, maintenance and management of the proposed 50 MW SNPC Combined Cycle Power Plant.

Considering the essential requirement for staffing, an Organogram of regular staff has been developed and produced in Fig. 12.1 and Table 12.2 show details of regular as well as Contract staff. As shown on the Organogram the total regular staff is proposed to be 50 which will provide services in three major sections i.e. Operation Section, Maintenance Section and Administration & Accounts Section.

The plant organization will be headed by the Plant Manager.

### 12.2 PLANT MANAGER

The Plant Manager will be overall in charge of the Plant. He will be responsible for smooth and efficient operation, timely and effective maintenance, general administration and financial discipline.

The Plant Manager will be a professional Mechanical or Electrical Engineer with at least 15 years of experience in operation and maintenance of thermal power plants including CCPP and having at least 5 years managerial exposure.

### 12.3 OPERATION SECTION

This section comprising of 16 Engineers and Technicians will be responsible for smooth and efficient operation of the Plant. The staff in this section will be divided in four rotating shifts of 8 hours each. In this way, on any day of the year, three shifts will perform duty in morning, evening and night, while the fourth shift will be on rest. Each shift staff will be headed and supervised by a competent Shift Engineer, having appropriate experience and qualification.

#### 12.3.1 Operation Manager

The Operation Section will be headed by **Operation Manager**. He will be a qualified engineer in Electrical or Mechanical discipline with a minimum experience of 10 years in operation of thermal power plants including the Combined Cycle Power Stations. He will manage shift duties and exercise supervisory control.

Duties of **Operation Manager** will be as under:

- ▶ Developing Shift Duty Chart or Schedule on Annual/Monthly basis and ensuring smooth implementation.
- ▶ Managing make-up, if required, for any short fall resulting from planned, forced or emergency leave/absence of any worker under his administrative control.
- ▶ Ensuring overall supervision and control of operation staff and plant operation.



- ▶ Planning and arranging training of the operation staff. For this purpose, there will be one Training Engineer under his administrative control. **The Training Engineer** will be well qualified and experienced who will coordinate and conduct the well defined training program under the guidance of the Operation Manager.
- ▶ Looking after the Chemical Section headed by **Chemist**.
- ▶ Coordinating closely with the Maintenance Manager for all maintenance works.
- ▶ Reporting to the Plant Manager about important operational activities of the plant, discussing and sorting out any pending problem of the plant.
- ▶ Assisting the Plant Manager in carrying out any assignment, relating to the proposed Combined Cycle Power Plant.

#### 12.4 MAINTENANCE SECTION

The Maintenance Section, consisting of 12 Engineers and Technicians, will be responsible for timely and effective maintenance of the plant with due consideration to the safety precautions. This section will carryout the maintenance works according to the standard engineering practice in the following forms:

- a) Periodic inspections and overhauling of the equipments and machines keeping in view the manufacture's instructions, past experience and site conditions. Preparing schedules of inspections and overhauling in advance.
- b) Daily trouble shootings in close co-ordination with the Shift Engineers on duty and the Plant Operation Manager.
- c) Emergency repairs and maintenance as and when warranted so as to ensure optimum availability of the plant.
- d) Maintenance Records will be prepared and updated for developing history of the plant.
- e) Advance planning for arrangement of required spare parts, equipment, tools and safety aids.

The Maintenance Section has been divided in three sub-sections:

- ▶ Mechanical
- ▶ Electrical
- ▶ Instrument & Control (I&C)

These sub-sections will be headed by competent Mechanical Maintenance Engineer, Electrical Maintenance Engineer and I&C Maintenance Engineer respectively. They will be qualified in respective disciplines and shall have appropriate experience in related fields. These maintenance Engineers will be supported by the technicians as shown in the Organogram.

#### 12.4.1 Maintenance Manager

All the sub-sections of the Maintenance Section will be under the control of the Maintenance Manager, who will be a qualified engineer in Mechanical, Electrical with a minimum ten years experience in the maintenance works of thermal power plants including combined cycle power stations.

**Responsibilities of the Maintenance Manager** are summarized as under:

- i) He will be responsible for overall supervision ensuring:
  - ▶ Quality of all types of maintenance works such as scheduled, routine and emergency works performed by the three sub-sections.
  - ▶ Timely and effective completion of all types of maintenance works.
  - ▶ Execution of maintenance works according to the relevant safety codes.
  - ▶ Maintenance of record of all types of works as per standard engineering practice.
  - ▶ Suitable advance planning for timely procurement of spare parts, equipments, tools and plant safety aids.
  - ▶ Appropriate co-ordination among the three sub-sections of the maintenance as well as with the Operation Section for timely completion of individual and co-coordinated maintenance works.
  - ▶ Improvement and innovation in the maintenance management system.
- ii) He will report all important matters relating to the maintenance works to the Plant Manager, discuss and sort-out if any problem is involved.
- iii) He will also assist the Plant Manager for accomplishing any assignment in the interest of the proposed power plant.

#### 12.5 ADMINISTRATION AND FINANCE SECTION

Staff under this section will be required to perform administrative as well as financial control. There will be 12 personnel including the Manager Administration who will be the head of this section. Comprising of the following groups:

- ▶ Administration (Admin.) Group
- ▶ Finance Group
- ▶ Colony Management Group
- ▶ Medical Group

##### 12.5.1 Manager (Admin) & Accounts

He will be suitably qualified in the related field of Management and will have relevant experience of at least 10 years in the trade.

He will be responsible for the following functions:-

- ▶ Maintenance of personal files of all employees.
- ▶ Establishing and maintaining record of all accounts and financial matters.
- ▶ Timely disbursement of salaries, dues and bills etc.
- ▶ Preparation of annual budget and monthly accounts.
- ▶ Billing of energy sale to HESCO and receipt of payments thereof.
- ▶ Internal audit of all accounts and financial records.
- ▶ Arranging external audit of the company accounts.
- ▶ Coordination with Operation and Maintenance Sections for dealing related procurements and liabilities.
- ▶ Report to the Plant Manager, apprising him about all functions and financial plans and discuss and sort any pending management.

#### 12.6 OUTSOURCED SERVICES

For administrative and economic reasons following functions will be assigned to one or more contractors:

- 1) Security
- 2) Fire Fighting
- 3) Arboriculture
- 4) Janitorial Services

The contractor's staff relating to the above activities will not reside in the Residential Colony of the proposed Combined Cycle Power Plant.

#### 12.7 ACCOMMODATION AND AMENITIES

The regular staff will be provided living bachelor accommodation in the Residential Colony, to be constructed just beside the proposed C.C Power Plant.

In addition to the living accommodation some of the staff will commute from Karachi as well, some daily and some on weekly holidays.

Moreover, there will be **5 bed Guest House** with kitchen facilities, Drawing & Dining Rooms for official guests, who need to stay at the plant site.

<b>12 – MANPOWER REQUIREMENT .....</b>	<b>1</b>
12.1 General .....	1
12.2 Plant Manager .....	1
12.3 Operation Section .....	1
12.3.1 Operation Manager .....	1
12.4 Maintenance Section.....	2
12.4.1 Maintenance Manager.....	3
12.5 Administration and Finance Section .....	3
12.5.1 Manager (Admin) & Accounts.....	3
12.6 Outsourced Services .....	4
12.7 Accommodation and Amenities .....	4

## 13 – CONSTRUCTION SCHEDULE

### 13.1 GENERAL

SNPC Phase II Combined Cycle Power Project is the first project developed by GoS on Public-Private-Partnership basis.

In order to carry out the planning of the project implementation, a construction schedule has been prepared having the following major activities as shown in Fig. 13.1:

- ▶ Preliminary Works
- ▶ Civil Works
- ▶ Erection of Equipments
- ▶ Commissioning of Equipments
- ▶ Pre-Complex Test
- ▶ Guarantee Test

### 13.2 PERIOD OF COMPLETION

The total construction period this project is about 18 months from the date of establishment of letter of credit.

The Sponsors, will enter into agreement with EPC-Contractor in June 2013. The commencement of project works is reckoned from the effective date of the said contract. The details of different activities are described in following paragraphs.

### 13.3 PRELIMINARY WORKS

The preliminary works will be started immediately after the effective date of the EPC-Contract agreement and all the jobs are to be completed in three months.

Mainly these works include:

- 1) Documentation to Site License Procedure
- 2) Basic Design
- 3) Site Construction License Procedure
- 4) Detailed Design (to be continued in parallel with construction activities)
- 5) Mobilization for civil works
- 6) Mobilization for Erection works

### 13.4 CIVIL WORKS

The civil works will be started in the 3<sup>rd</sup> month of the schedule and all the main and auxiliary civil works will be completed in 8 months. These works are as under:

- 1) Landscaping and Excavation Works
- 2) Civil Structure works for foundations



- 3) Civil Structure Works for plant room
- 4) Civil Structure Works on Steam Turbine Hall
- 5) Civil Structure Works for Steam Turbine
- 6) Civil Structure Works for Auxiliary Systems
- 7) Remaining Civil Structure Works and Finishing Works

### 13.5 ERECTION WORKS

The erection of electromechanical works depends upon the completion of the concerned civil structures. Therefore, the schedule of erection works has been prepared in such a way that immediately after completion of the civil jobs, the installation of equipments will take place.

The schedule of all activities of civil, mechanical and electrical works is planned in sequence and well-coordinated. One activity will not affect the other.

### 13.6 COMMISSIONING

#### 13.6.1 Gas Turbine / Gas Engine

The commissioning of Gas Turbines / Gas Engines will start from the middle of 8<sup>th</sup> month and will be completed in the 11<sup>th</sup> month.

#### 13.6.2 HRSGs

The pressure test of HRSGs will be completed in the 14<sup>th</sup> month and these will be commissioned by the end of 16<sup>th</sup> month, as gas turbines / gas engines will already be producing the electric power, hence, the flue gases could be diverted to the HRSGs.

#### 13.6.3 Electrical Equipment and I&C System

Commissioning of Electrical and I & C system will be completed in the middle of the 11<sup>th</sup> month.

#### 13.6.4 Steam Turbine

All the testing jobs of the steam turbine will be completed upto the 16<sup>th</sup> month and it will be ready to function with the gas turbine units as combined cycle power complex.

#### 13.6.5 Complex Test

The pre-complex test of the whole combined cycle will take place from the end of the 17<sup>th</sup> month to the 18<sup>th</sup> month. After the successful test, the Complex Test will start in the beginning of 18<sup>th</sup> month.

As the combined cycle power plant will start commercial operation by the beginning of the 18<sup>th</sup> month, therefore, the Guarantee Test of the power plant will also be conducted by that time and will end in 19<sup>th</sup> month.

<b>13 – CONSTRUCTION SCHEDULE.....</b>	<b>1</b>
13.1 General .....	1
13.2 Period of Completion.....	1
13.3 Preliminary Works .....	1
13.4 Civil Works.....	1
13.5 Erection Works .....	2
13.6 Commissioning .....	2
13.6.1 Gas Turbine/Gas Engines .....	2
13.6.2 HRSGs .....	2
13.6.3 Electrical Equipment and I&C System .....	2
13.6.4 Steam Turbine.....	2
13.6.5 Complex Test.....	2

## 14 – PROJECT COST ESTIMATES

### 14.1 GENERAL

The Sindh Energy Department invited prequalification applications from prospective bidders to form a Joint Venture with the Government of Sindh for the execution and completion of a project involving the design, financing, construction, operation and maintenance of specified 50 MW Gas Based Power Plant at Nooriabad, Sindh. Subsequent to the submission and evaluation three bidders were qualified. The Request for Proposals was issued in respect of the subject Project by the Energy Department of Government of Sindh on August 27, 2012 (as amended, supplemented and modified by the Government of Sindh from time to time). The Technical and Financial bids for the Project were submitted on September 18, 2012. The meeting of the Technical & Financial Evaluation Committee (the "TFEC") of the Government of Sindh held from time to time on the said Project and the approval of the project by Sindh Public Private Partnership Policy Board, headed by the Chief Minister, Sindh was accorded on November 27, 2012.

The Energy Department, Government of Sindh, the agency as per Section 9 (I) of Sindh Public Private Partnership Act 2010, therefore issued an LO1 to M/s Technomen Kinetics (Private) Limited was issued on November 29, 2012.

The Energy Department of the Government of Sindh is the agency responsible for execution and implementation of the Project. The Government of Sindh decided to bid out Build-Own-Operate-Transfer (BOOT), Power Project at an industrial estate in the province of Sindh. For this endeavour it envisaged building a landmark Gas Based Power Plant of 50 MW which shall be developed at SITE, Nooriabad to cater to power shortage at Nooriabad, and adjoining areas. The Project is an important part of the Government's strategy towards developing indigenous power in Sindh to cater to the needs of the province through promotion of industrialization and to increase the well-being of the residents of the province. Adequate Natural gas of 10 MMCFD at Nooriabad has been arranged for the project.

The GoS' key objectives for the Project include:

- (i) Catering to a shortfall of electricity in the region;
- (ii) Supporting Industrial productivity by meeting the needs of Industry in Interior Sindh
- (iii) Encouraging greater private sector investment in the Power Sector

The Project is structured as Build-Own-Operate (BOO) for a period of 25 years.

#### 14.1 GAS SUPPLY

The Economic Coordination Committee (ECC) of the Cabinet while considering a summary on the subject of gas allocation to GoS vide case No, ECC46/05/2013 dated February 26, 2013 took following decisions in partial modification of its earlier decisions vide Case No ECC-153/19/2009 dated October 6, 2009 and ECC-1 07/11/2012 dated August 16, 2012:

- i. Around 10.5 MMCFD gas from Nur and Bagla has been allocated to SNGPL and SSGC on equal sharing basis;
- ii. Up to 15 MMCFD gas from Jhal Magsi south field has been allocated to SNGPL and SSGC on equal sharing basis;
- iii. Out of 50% share of SSGC from production / allocation of KPD (120 MMCFD x 50% = 60 MMCFD);
- iv. Around 38 MMCFD gas from Rehman field has been allocated to SSGC subject to award of Development & Production Lease.
- v. Any other new gas field which or gas from other sources including imports which may be allocated to SSGC/SNGPL by ECC or any other competent authority in future;
- vi. Out of all of above (i), (ii), (iii), (iv) and (v) allocated to SSGC, the first 20 MMCFD gas would be placed for 100 MW power plant at Nooriabad Industrial Estate for a period of twenty five (25) years as per the request of Government of Sindh.

In the light of the ECC decision a Gas Supply Agreement (GSA) has been negotiated and agreed with SSGC. The GSA was initialled on March 27, 2013. The GSA has now been forwarded to Oil & Gas Regulatory Authority (OGRA) for formal approval.

#### 14.3 POWER PURCHASE

It is envisaged that a Power Purchase Agreement (PPA) of 50 MW will be signed with HESCO which is the Distribution Company tasked with the buying of electricity in the region for onward distribution on the Grid and the tariff will be approved by NEPRA either on Net-off basis or payment basis. Net-off being netting with the bills GoS received from HESCO for its own use.

Having a strong commitment towards making the Project a successful Public-Private Partnership, and in order to give to private sector partner comfort on the GoS' ability to meet its financial obligations towards the Operator under the Project, the Government is considering providing a number of supporting mechanisms, which could include:

- (i) Securitization of revenues vis-à-vis Securitizing payments from Industrial Users is envisaged. An Escrow mechanism may be adopted to ensure the same; and
- (ii) Furthermore a Bilateral Agreement is also envisaged that may Net off revenues and payments resulting in Net Distribution Margin being received by the Power Company



Details of possible credit enhancement mechanisms has already been part of the draft Power Purchase Agreement (PPA) forwarded to HESCO for execution.

#### 14.4 DESIGN

A feasibility level design was required to be prepared by the private sector partner for the SNPC 50 MW Combined Cycle Power Plant. The design is presented in earlier sections of this report. The design included arrangement drawings, system descriptions and other design documentation for Electrical, Mechanical and Civil engineering aspects.

The design provided the basis from which the capital costs were developed. A design for the bachelor accommodation adjoining the power generation facilities was prepared and typical plans for various types of buildings were developed.

#### 14.5 CAPITAL COSTS

The bidders were required to submit the capital cost estimates for the project. The successful bidder and private sector partner submitted the following capital cost estimates with preliminary segregation of the costs along with assumptions:

Cost Component	Name of Currency	Amount in Original Currency	Pak Rupee Equivalent	Cost in PKR	Total Cost in PKR	Remarks
		(Million)	(Million)	(Million)	(Million)	
EPC Cost	USD/PKR	30.668	2974.796	873.000	3847.796	
Spare Parts & Tools	USD/PKR	2.000	194.000	0.000	194.000	
Non EPC Onshore costs	PKR	0.000	0.000	739.137	739.137	
Interest During Construction	PKR	0.000	0.000	577.569	577.569	
Insurance During Construction	PKR	0.000	0.000	64.543	64.543	
Duties Financing Fees & Charges	PKR	0.000	0.000	375.103	375.103	
Land Lease & Land Development	PKR	0.000	0.000	38.800	38.800	
Development Costs	PKR	0.000	0.000	97.000	97.000	
Owners' Engineer Motor Vehicles and Office	PKR	0.000	0.000	48.640	48.640	
Administration During Construction	PKR	0.000	0.000	97.371	97.371	
SUB -TOTAL OTHER COST	USD/PKR	0.000	0.000	1299.026	1299.026	



Contingencies	PKR	0.000	0.000	0.000	0.000	
<b>Total Project Costs</b>	<b>USD/PKR</b>	<b>32.668</b>	<b>3168.796</b>	<b>2911.162</b>	<b>6079.958</b>	
<b>Working Capital</b>	<b>USD/PKR</b>	<b>0.000</b>	<b>0.000</b>	<b>446.138</b>	<b>446.138</b>	

#### 14.6 ASSUMPTIONS UNDERLYING CAPITAL COSTS

The following assumptions were presented by the successful bidder:

S. No.	Parameters	Assumption
1	Terms of Financing	
	Local Loan	
	KIBOR	10%
	Margin	3%
2	Financing Fees and Charges including Establishment Fees, Commitment Fees and Bank Success Fees	2.5%
3.	Contingencies percentage	0%
4	Basis for Working Capital	
	Gas Payment	30 days
	Spare Parts	60 days
	Cash	60 days
	Receivables	60 days
5	Construction Period from Financial Close and First Drawdown	
	Simple Cycle	12 months
	Combined Cycle	18 months
6	3-Months Gas Security Deposit	Not included in the Project Cost and will be funded through a second charge. However SBLC fee is included in the project cost
7	Working Capital Financing	Not included in the Project Cost and will be funded through a second charge. However, interest expense is included in the tariff



8	Technical	One transformer (11 kV / 132 kV) and one switchyard bay
9	Commercial	
	Corporate Tax	0%
	Dividend Tax	7.5%
10	Duties and Taxes on Off-Shore Equipment and Materials	
	Duty	5%
	GST	0%
	Clearance	3%
11	Local Equipment and Services	
	Withholding Tax on Supplies	3.5%
	Withholding Tax on Services	6%
	GST on Supplies and Services	16%
12	Insurance	
	Marine, CAR, Loss of Profit and TPL	1.35%
	Breakdown, Loss of Profit and TPL	1.35%
13	Consumables Costs	
	Lubricating Oil Including GST	PKR 350/litre
	Spare Parts Duty	25%
	Spare Parts Foreign Currency Indexation	Euro Indexation
14	Exchange Rate	
	1 USD	PKR 97
	1 Euro	USD 1.272

#### 14.7 OPERATIONS & MAINTENANCE COSTS

The successful bidder also submitted the Operations & Maintenance Costs as follows:

Cost Component	Name of Currency	Amount in Original Currency	Pak Rupee Equivalent	Cost in PKR	Total Cost in PKR
		(Million)	(Million)	(Million)	(Million)
Variable O & M Costs					



Consumable Parts	USD/PKR	1.785	173.192	0.000	173.192
Lub Oil, greases and other oils	PKR	0.000	0.000	73.607	73.607
Chemicals	PKR	0.000	0.000	21.649	21.649
Provision for Overhauls	USD	1.339	129.894	0.000	129.894
Other Consumables	USD/PKR	0.000	0.000	21.649	21.649
<b>Total Variable &amp; O &amp; M Cost</b>	USD/PKR	3.125	303.086	116.905	419.991
<b>Fixed &amp; O &amp; M Costs</b>					
Staff & Personnel	USD/PKR	1.116	108.245	0.000	108.245
Property Tax	PKR	0.000	0.000	2.425	2.425
Insurance During Operation	PKR	0.000	0.000	64.543	64.543
Office Expenses	PKR	0.000	0.000	19.400	19.400
Travel	PKR	0.000	0.000	4.850	4.850
Consultants	PKR	0.000	0.000	3.880	3.880
Management Costs	PKR	0.100	9.700	12.125	21.825
<b>Total Fixed O &amp; M Cost</b>	PKR	1.216	117.945	107.223	225.168
Contingencies	PKR	0.166	16.129	0.000	16.129
<b>TOTAL</b>	<b>USD/PKR</b>	<b>4.507</b>	<b>437.160</b>	<b>224.127</b>	<b>661.287</b>

#### 14.8 ASSUMPTIONS UNDERLYING O&M COSTS

The following assumptions were presented by the successful bidder:

S. No.	Parameters	Assumption
1	Terms of Working Capital Financing	
	Local Loan	
	KIBOR	10%
	Margin	3%
2	Financing Fees and Charges including Establishment Fees, Commitment Fees and Bank Success Fees	1%
3.	Contingencies percentage	2.5%
4	Basis for Working Capital	
	Gas Payment	30 days
	Spare Parts	60 days
	Cash	60 days



	Receivables	60 days
5	3-Months Gas Security Deposit	SBLC fee of 1% per year is included in the O&M Cost
6	Commercial	
	Corporate Tax	0%
	Dividend Tax	7.5%
7	Duties and Taxes on Off-Shore Equipment and Materials	
	Duty	5%
	GST	0%
	Clearance	3%
8	Local Equipment and Services	
	Withholding Tax on Supplies	3.5%
	Withholding Tax on Services	6%
	GST on Supplies and Services	16%
9	Insurance during Operation	
	Breakdown, Loss of Profit and TPL	1.35%
13	Consumables Costs	
	Lubricating Oil Including GST	PKR 350/litre
	Spare Parts Duty	25%
	Spare Parts Foreign Currency Indexation	Euro Indexation
14	Exchange Rate	
	1 USD	PKR 97
	1 Euro	USD 1.272

#### 14.9 TARIFF AND ASSUMPTIONS

Based on the aforementioned Project Cost and annual Operations and Maintenance Costs and underlying assumptions, the successful bidder quoted a levelized tariff of **PKR 7.929 / kWh (US cent 8.174/kWh)** at a parity of PKR 97/USD over the PPA term of 25 years.

**Prospectus**

## **Sind Nooriabad Power Company Phase II (Pvt) Ltd**

### **COMPANY PROSPECTUS**

Sind Nooriabad Power Company Phase II (Pvt) Ltd (SNPC) is a special purpose company incorporated to develop, own and operate a 52.094 MW Small Independent Power Producer (SIPP) under Policy for Small Independent Power Producer (SIPP) announced by Pakistan Electric Power Company Limited (PEPCO), Government of Pakistan on October 10<sup>th</sup>, 2011. SNPC was one of the initial sponsors to acquire a Letter of Intent (LOI) from the Hyderabad Electric Supply Company Limited (HESCO) under Policy for SIPP. For the development of the project SNPC has been allocated with 10 MMCFD of gas by Sui Southern Gas Company Limited (SSGC). The plant is proposed to be located in Nooriabad, Sindh. A satellite imagery which highlights key landmarks and roadways is also enclosed.

The company is sponsored by Government of Sindh (GoS) and Technomen Kinetics (Pvt.) Limited (TKL) in consortium with Chint Electric, a company incorporated in the Peoples Republic of China.

The Government of Sindh (GoS) is a strong proponent of public-private-partnership to develop energy and infrastructure projects. The request for gas allocation of 10 MMCFD was filed by GoS to the Federal Government and based on ECC decision (copy enclosed as Exhibit 1) to allocate 10 MMCFD pipeline quality gas for 52.094 MW power project. Gas Supply Agreement (GSA) was initialed (copy enclosed as Exhibit 2). The Oil & Gas Regulatory Authority (OGRA) meantime approved the GSA for execution shortly (copy enclosed as Exhibit 3). The main features of GSA are highlighted below:

- Term 25 years
- Availability 11 months in a given year assured, one month on as-and-when-available basis
- Source/Reservoir Multiple, imported and all future gas finds
- Penalties for non-supply Liquidated Damages

The GoS has selected Technomen Kinetics (Pvt.) Limited (TKL) after a competitive bidding process under the rules of Sindh Public Procurement Regulatory Authority (SPPRA) and confirmed by Public-Private-Partnership (PPP) Policy Board headed by the Chief Minister of Sindh (copy of the PPP Policy Board Minutes of Meeting enclosed as Exhibit 4). GoS and TKL have already executed a Shareholders' Agreement (copy enclosed as Exhibit 5) by virtue of which GoS will assume 49% shareholding and TKL/Chint will subscribe to 51% shareholding. The project debt equity structure is 80% debt and 20% equity.

GoS has allocated 25 acres of land adjacent to SITE, Nooriabad in the name of Energy Department, GoS. Due to the ban imposed by the Supreme Court of Pakistan (a copy is enclosed as Exhibit 6), land could not be transferred to SNPC. However with the recent

order by the Supreme Court of Pakistan land will soon be transferred in the name of the company.

SNPC has selected a combined cycle technology comprising of Wartsila reciprocating engines running on natural gas, Alborg Waste Heat Recovery Boilers and Shin Nippon Steam Turbine to achieve the highest possible efficiency in its size and class. All the major equipment are going to be procured from Finland, Denmark and Japan. The transformers and switchyard will be either from Areva or Chint Electric. The reliability and availability of the plant, therefore will be about 92% which is compatible with all other gas based Independent Power Plants (IPP).

The Power Purchase Agreement (PPA) between HESCO and SNPC has already been initialed pending execution after issuance of LOI by HESCO. The technical schedules appending the PPA will be provided by SNPC in due course of time based on the equipment selected.

The power generated will be dispatched to HESCO via 132 kV transformer and switchyard installed by the companies. HESCO will lay 132 kV line up to the power plant for evacuation of electricity from the power plant. The interconnection and metering will be provided by the two companies. The distance between the power plant site and Nooriabad grid station is about 6.5 km and distance between the power plant site and Kalu Kahar grid station is about 7 km.

SNPC has already prepared Generation License applications to be filed with National Electric Power Regulatory Authority.

### **Benefit to HESCO**

HESCO will be benefitted by the institution of this project:

1. The power plant is based on pipeline quality natural gas, therefore the plant availability will be 92% and above.
2. The power plant is very near to the two grid stations in Nooriabad area, therefore the expenditure on laying the Transmission line of 132 kV will be minimum
3. Since the power plants are located just next to the Sindh Industrial Trading Estate (SITE), Nooriaabd, all the electricity procured will be consumed in the industry located in and around SITE, Nooriabad. Therefore the recovery of bills will be at the highest.
4. The levelized tariff will be substantially lower than the ETR when compared to electricity received from NTDC/CPPA.

The power will be sold under a 25 year Power Purchase Agreement (PPA) which has already been initialed and will be executed upon receiving Generation License and Tariff Approval from NEPRA.



SNPC has hired the services of MEConsult Private Limited to provide broad based consulting services for the project on a turn key basis. MEConsult is an experienced consulting company in developing IPPs in Pakistan and abroad. MEConsult will act as Owners' Engineer and Project Consultant.

SNPC has already acquired the necessary land from its sponsoring company. The location can be accessed by land. The plant is ideally located from the stand point of availability of main gas trunk line from the nearby gas field. The electricity produced will be sold to HESCO and two 132 kV circuits will be built by HESCO.

In addition to the services of MEConsult Pvt. Limited, SNPC has also selected Wartsila Finland to provide basic power generation equipment.

The EPC and O&M contracts, Draft PPA and signed GSA along with company request for funding have been filed with the local banks and an initial EOI is obtained.

The following funding plan for is currently been finalized:

<b>Total Project Cost</b>		<b>USD 67,970,000</b>
<b>Debt</b>	<b>80%</b>	<b>USD 54,376,000</b>
<b>Equity</b>	<b>20%</b>	<b>USD 13,594,000</b>

The plant layout and Single Line Diagram for connectivity to HESCO provided transmission line have been developed and submitted to NEPRA under the application for Generation License.

The management of Omni Group is composed of the following:

Chairman	Dr.Saiyed Asif Mahmood
CEO	Commodore Najamul Hussain
Directors	Dr.Saiyed Asif Mahmood Syed Arif Ali Commodore Najamul Hussain Khurshid Anwar Jamali Syed Shahnawaz Nadir Hassan Raza Abbasi Niaz Ali Sheikh

The management has extensive experience in the development of various industries and infrastructure project in Pakistan.

The EPC contract will be a lump-sum, turnkey contract and will require that the power plant be designed, engineered and constructed to have an expected useful life of at least 25 years or more, equal to the term of PPA. It will be designed and built to comply with the current applicable statutory requirements and environmental regulations in Pakistan.

The EPC contractor will guarantee the scheduled completion and performance (net output, heat rate / efficiency, availability, environmental parameters) of the power plant. In the event the contractor fails, absent the occurrence of a Force Majeure event, to deliver the power plant on time or the power plant fails to meet the guaranteed performance, the contractor is liable to pay the company liquidated damages in levels acceptable to the lender. During construction, the contractor will only receive installment payments from the company upon the certified completion of identified milestones.

SNPC will operate and manage the power plant under a long term Operation and Maintenance Contract.

The selected O&M Company will have wide experience in operating and maintaining large power plants successfully in various countries.

The Operator will be required to train Sponsors' personnel and source necessary products and services domestically, provided such products and services are available and competitive in terms of price and quality.

The Operator shall receive, as compensation, under the Operation & Maintenance Agreement a lump-sum annual allowance, paid in monthly installments, subject to escalation. The Operator will be responsible for providing all the necessary management, supervision, labor and parts and material required to operate, maintain and repair the power plant according to the international utility industry. The Operator will guarantee the net output, heat rate / efficiency and availability of the power plant operation and, in the event there is a deficiency in the guaranteed performance, the Operator will be liable to pay the penalty to the Company. On the other hand, if the performance is better than the guaranteed performance, the company will pay the Operator an incentive bonus.

The key dates related to the project implementation are as follows:

- |   |  |
|---|--|
| 1. Letter of Intent from HESCO Date           | March 25 <sup>th</sup> , 2014            |
| 2. Signing of Power Purchase Agreement        | June 7 <sup>th</sup> , 2013 (Initialled) |
| 3. Signing of GSA                             | June 10, 2014                            |
| 4. Generation License and other Consents      | September 15 <sup>th</sup> , 2014        |
| 5. Establishment of L/C                       | July 15 <sup>th</sup> , 2014             |
| 6. Commercial Operation Date (Simple Cycle)   | July 15 <sup>th</sup> , 2015             |
| 7. Commercial Operation Date (Combined Cycle) | January 15 <sup>th</sup> , 2016          |

SNPC is developing the project diligently and is in the forefront in the implementation of SIPP projects in Pakistan. The sponsors have an inherent interest in shouldering the burden of developing the power plants in Pakistan.

**Sind Nooriabad Power Company Phase II Private Limited**  
**Application for Generation License**  
**Schedule III**

**1. Location Maps, site maps, land**

Provided

**2. Technology, size of plant, number of units**

Provided

**3. Fuel, type, imported/indigenous, supplier, logistics, pipelines, etc.**

Provided

**4. Emission Values**

Parameter	Units	Values
NOx Levels on dry basis	mg/NcuM	200
NMHC	mg/NcuM	100
Particulate Matters	mg/NcuM	10
CO	mg/NcuM	500

Note: The values are based on 15% Oxygen

**5. Cooling Water source: tube wells, sea/river/canal, distance from source, etc.**

Cooling water is required for make up water for cooling towers. The water requirements will be met through existing and new tube wells within the boundary limits of the power plant land.

**6. Interconnection with National Grid Co., distance and name of nearest grid, voltage level (single line diagram)**

Interconnection with the Grid at 132 kV  
Distance to the Nearest Grid less than 10 km  
Name of the Nearest Grid Nooriabad Grid Station  
Single Line Diagram already provided

**7. Infrastructure: roads, rail, and colony, amenities**

**8. Project cost, information regarding sources and amounts of equity and debt**

EOI of bank is enclosed

<b>Total Project Cost (Phase I)</b>		<b>USD 67,955,164</b>
<b>Debt</b>	<b>80%</b>	<b>USD 54,364,131</b>
<b>Equity</b>	<b>20%</b>	<b>USD 13,591,033</b>

**9. Project commencement and completion schedule with milestones**

The key dates related to the project implementation are as follows:

- |  |  |
|--|--|
| 1. Letter of Intent from HESCO Date      | Marh 25, 2013                            |
| 2. Signing of Power Purchase Agreement   | June 7 <sup>th</sup> , 2013 (Initialled) |
| 3. Signing of GSA                        | June 10, 2014                            |
| 4. Generation License and other Consents | July 15 <sup>th</sup> , 2014             |
| 5. Establishment of L/C                  | July 15 <sup>th</sup> , 2014             |
| 6. Commercial Operation Date             | Jan 15 <sup>th</sup> , 2016              |

**10. ESSA (Environmental and Social Soundness Assessment)**

Enclosed

**11. Safety Plans, emergency plans**

Enclosed

**12. System studies, load flow, short circuit, stability, reliability**

HESCO has already consented to connect the proposed power plant on its 132 kV line. Prior to which they have completed the Connectivity Study. The Consent to interconnect the proposed power plant with HESCO provided line is enclosed.

**13. Plant Characteristics; generation voltage, power factor, frequency, automatic generation control, ramping rate, control metering and instrumentation**

Provided

**14. Control metering, instrumentation and protection**

Provided



## **HYDERABAD ELECTRIC SUPPLY COMPANY**

OFFICE OF THE CHIEF EXECUTIVE OFFICER HESCO HYDERABAD

Ph # 022-9260197  
Fax # 022-9260361  
Email: ncppspp@gmail.com

Office of the Chief Engineer (P&E)  
2<sup>nd</sup> Floor, WAPDA Offices Complex  
Hussainabad Hyderabad.

No. CEO/HESCO/CE(P&E)/DM(SPP)/ 1562-69

Dated: 25.03.2014

Sindh Nooriabad Power Company (Pvt) Limited Phase-II  
Baloch Colony Adjacent to City School, PAF Chapter,  
Off Shaheed-e-Millat Road,  
**KARACHI.**

SUBJECT:- LETTER OF INTEREST (LOI) FOR 50 MW POWER PROJECT SINDH NOORIABAD POWER COMPANY (PVT) LIMITED PHASE-II (GAS BASED) AT NOORIABAD.

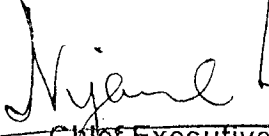
Reference:-

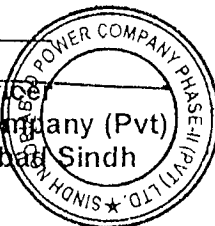
- i. Small Independent Power Project (SIPP) Policy Frame Work issued by Ministry of Water & Power Government of Pakistan letter No. PII.17/23/2010 dated 03.10.2011.
- ii. SIPP Policy endorsed by CPPA Letter No.CPPA/MT-III/F-140/8581-8600 dated 10.10.2011
- iii. Government of Sindh Electric Power Department letter No. PS/S.Power/340/2012 dated 04.07.2012 & letter No. Nil dated 10.10.2012. & dated 20-01-2014.

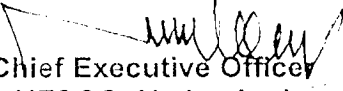
In terms of the provisions of SIPP policy for Power Generation Projects, the Hyderabad Electric Supply Company (HESCO) hereby confirms its interest in your proposal for development/ establishment of a Gas based 50 MW Power Project at Nooriabad on Public-Private partnership basis by Government of Sindh and M/s Technomen Kinetics (Pvt) Limited as per following conditions:

1. This LOI is issued in confirmation to all the terms and conditions of SIPP policy to be followed by the both Sponsors and power purchaser (HESCO).
2. This LOI is issued to Sindh Nooriabad Power Company (Pvt) Limited Phase-II for the purpose of 50 MW Power Supply (Gas Based) to HESCO.
3. You are required to liaise with HESCO and its allied agencies while determining your project layouts, interconnection arrangement, load flow, stability studies etc.

4. The BOD HESCO is not functional since November 2013, therefore, this LOI shall be confirmed in view of submission of evaluation committee report to BOD for final decision.
5. This LOI shall also come into force subject to clearance of demand drafts in view of condition mentioned in clause 7.1 of SIPP Policy Guidelines.
6. This LOI has been issued in duplicate on the date hereof, and it shall come into effect when one copy thereof is received by HESCO after having been duly countersigned by you. Nevertheless, this LOI shall lapse if the countersigned copy is not received at HESCO within 30 days of its issuance.

  
Chief Executive Officer  
Sindh Nooriabad Power Company (Pvt)  
Limited, Phase-II, Nooriabad Sindh



  
Chief Executive Officer  
HESCO, Hyderabad

**C.C To:-**

1. The Secretary, Ministry of Water & Power, Government of Pakistan, Islamabad.
  2. The Secretary, Sindh Electric Power Department, Government of Sindh, 7<sup>th</sup> Floor, Lakson Square Building No. 03, Ghulam Sarwar Shaheed Road, Karachi.
  3. Managing Director PEPCO, WAPDA House, Lahore.
  4. The Registrar, National Electric Power Regulatory Authority (NEPRA), NEPRA Tower, G-5/1(East), Near MNA Hostel, Islamabad
  5. Chief Operating Officer, (CPPA), 107-WAPDA House, Lahore.
  6. Chief Executive Officer, Alternate Energy Development Board (AEDB), M/O Water & Power, GOP, OPF Building, Shahrah-e-Jamhuriat G-5/2, Islamabad.
  7. The Chief Executive Officer, Private Power Infrastructure Board (PPIB), GOP, 50-Nazimuddin Road, F7/4, Islamabad.
- Master File.