



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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Registrar

No. NEPRA/R/DL/LAG-405/12730-37

August 8, 2018

Mr. Muhammad Abdul Wakil,
Chief Executive Officer,
Siddiqsons Energy Limited,
27th Floor, Ocean Tower, G – 3, Block – 9,
Scheme # 5, Main Clifton Road,
Karachi.

Subject: Grant of Generation Licence No. IGSP/101/2018
Licence Application No. LAG-405
Siddiqsons Energy Limited (SEL)

Reference: SEL's application vide letter dated June 07, 2017 (received on June 23, 2017)

Enclosed please find herewith Generation Licence No. IGSP/101/2018 granted by National Electric Power Regulatory Authority (NEPRA) to Siddiqsons Energy Limited (SEL) for its 330.0MW Indigenous / Thar Coal based Generation Facility located at Energy park Thar Coal Block-II, District Tharparkar, in the province of Sindh, pursuant to Section 14(B) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997. Further, the determination of the Authority in the subject matter is also attached.

2. Please quote above mentioned Generation Licence No. for future correspondence.

Enclosure: Generation Licence
(IGSP/101/2018)



08 08 18
(Syed Safer Hussain)

Copy to:

1. Secretary, Ministry of Energy (Power Division), A-Block, Pak Secretariat, Islamabad.
2. Managing Director, Private Power and Infrastructure Board (PPIB), 50-Nazimuddin Road, Sector F-7/4, Islamabad.
3. Managing Director, NTDC, 405-WAPDA House, Lahore.
4. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
5. Chief Executive Officer, Hyderabad Electric Supply Company Limited (HESCO), Old State Bank Building, G.O.R Colony, Hyderabad.
6. Chief Executive Officer, Sukkur Electric Power Company Limited (SEPCO), Old Thermal Power Station, Sukkur
7. Director General, Environment Protection Department, Government of Sindh, Complex Plot No. ST-2/1, Korangi Industrial Area, Karachi.

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Application of Siddiqsons Energy Limited
for Grant of the Generation Licence

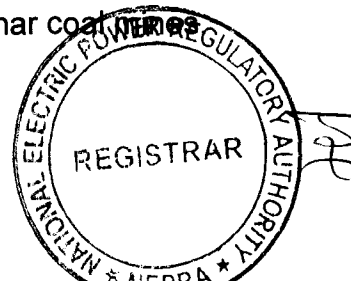
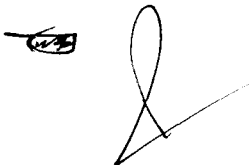
August 08, 2018
Case No. LAG-405

(A). Background

(i). The Private Power and Infrastructure Board (PPIB) issued a Letter of Intent (LoI) to Siddiqsons Energy Limited (hereinafter referred to as "SEL") for setting up a 350.0 MW imported coal based power plant proposed to be located at Port Qasim, Karachi, in the Province of Sindh. The Authority granted a generation licence (No. IGSPL/65/2015 dated September 14, 2015) to the SEL for the said project.

(ii). Later on, the PPIB Board in its meeting held on May 03, 2016 decided to implement the above project of the SEL based on indigenous coal of Thar instead of imported coal. In consideration of the said, the SEL decided to relocate the project from Port Qasim to Block-II of the Thar Coal mines for developing it as a mine mouth project. Accordingly, the SEL communicated a Licensee proposed modification (LPM) to the Authority inter alia seeking changes in (a). location of the project; (b). capacity of the project; (c). primary fuel of the project; and (d). Interconnection arrangement of the project.

(iii). The Authority observed that shifting of location of the project has resulted major changes in the main parameters/fundamentals of the project, therefore the generation licence (No. IGSPL/65/2015 dated September 14, 2015) of the SEL is no more valid. Accordingly, the Authority rejected the LPM and required the SEL to file a fresh application for generation licence for its generation facility/thermal power plant at new location of Thar coal mines.

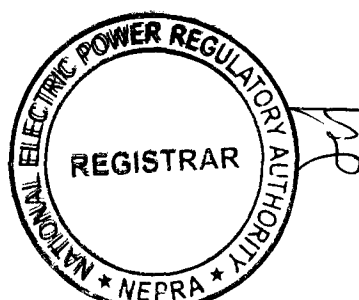


(B). Filing of Fresh Generation Licence Application

(i). In consideration of the above, the SEL submitted a new application on June 23, 2017 under Section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") read with the relevant provisions of the NEPRA Licensing Application and Modification Procedure Regulations, 1999 (the "Licensing Regulations") for grant of the generation licence for its 330.00 MW indigenous coal based thermal power plant, proposed to be located at Block-II of Thar coalfields, district Tharparker, in the province of Sindh.

(ii). The Registrar examined the submitted application to confirm its compliance with the Licensing Regulations and observed that the application lacked some of the required information/documentation. Accordingly, the SEL was directed to submit the missing information/ documentation and the same was received on July 10, 2017. Accordingly, the case was submitted for consideration of the Authority for admitting the application of the SEL for further processing or otherwise. The Authority considered the matter and found the form and content of the application in substantial compliance with Regulation-3 of the Licensing Regulations. Accordingly, the Authority admitted the application on August 02, 2017 for consideration of the grant of generation licence as stipulated in Regulation-7 of the Licensing Regulations. The Authority also approved an advertisement to invite comments of general public, interested and affected persons in the matter as stipulated in Regulation-8 of the Licensing Regulations. Accordingly, notices were published in one (01) Urdu and one (01) English newspapers on August 05, 2017.

(iii). In addition to the above, the Authority also approved a list of stakeholders for seeking their comments for its assistance in the matter in terms of Regulation-9(2) of the Licensing Regulations. Accordingly, letters were sent to different stakeholders as per the approved list on August 08, 2017.



(C). Filing of Addendum to the Application

(i). During processing of the above application, the Authority through its determination No. NEPRA/TRF-TCUT-2017/13031-13033 dated July 27, 2017 announced an upfront tariff for future projects to be based on Thar coal. In the said determination the Authority specified certain bench marks for the future projects based on the indigenous coal of Thar.

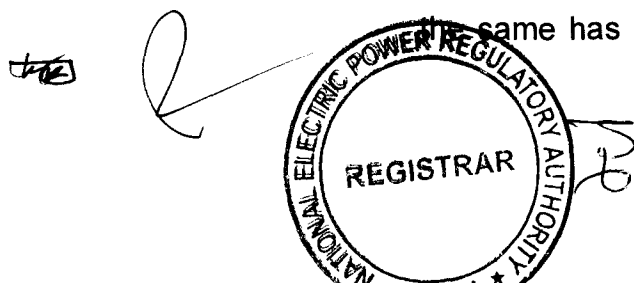
(ii). In this regard, the SEL which had planned to avail the above tariff, decided to modify its submitted application to make it consistent with the above mention tariff. Accordingly, the SEL submitted the required clarification/amendment in its application for consideration of the Authority. The Authority considered submissions of the SEL and directed to publish an addendum to the earlier notice of admission in the press to seek comments from stakeholders and general public. Accordingly, an addendum to the notice of admission was published in press on September 22, 2017 and letters were sent relevant stakeholders seeking their comments for assistance of the Authority.

(D). Comments of Stakeholders

(i). In consideration of the above, the Authority received comments from seven (07) stakeholders including PPIB, Punjab Mineral Development Corporation (PbMDC), Petroleum Division Ministry of Energy (PDMoE), Pakistan Mineral Development Corporation (PMDC), Directorate General of Mines & Minerals, Govt. of KPK (DGMKPK), Punjab Power Development Board (PPDB) and Sukkur Electric Power Company Limited (SEPCO).

(ii). The salient points of the comments offered by the above stakeholder are given in the following paragraphs: -

(a). The PPIB in its comments stated that it had issued Letter of Support (LoS) to the project based on imported coal however, the same has now been amended to incorporate the changes



regarding fuel, financial close date, project location and capacity. PPIB supported application of the SEL for grant of the generation licence;

- (b). The PbMDC confirmed that it has no objection to the issuance of the generation licence to SEL for its 330.0 MW indigenous coal based generation facility/thermal power plant to be located at Block-II of Thar coal mines;
- (c). The PDMoE commented that the SEL intends to install coal fired thermal power plant and as such, no gas is required for utilization. Therefore, the it has no objection to the grant of the generation licence to the SEL;
- (d). The PMDC commented that severe energy crises in the country is badly effecting the economic growth therefore, every resource should be utilized to cost effective electricity to overcome this issue. In this regard, the use of indigenous coal may be preferred as it will bring down the circular debt which will not only be beneficial for economic growth, but also attract foreign investment, beside reducing the dependence on imported fuel;
- (e). The DGMKPK submitted that it has no comments to offer in the instant case of grant of generation licence to the SEL for its proposed generation facility/thermal power plant;



- (f). SEPCO submitted that the generation facility/thermal power plant of the SEL falls under the jurisdiction of HESCO, therefore comments may be sought from HESCO.

- (g). The PPDB submitted that salient feature of the plant are not in line with the latest upfront tariff guidelines determined by the

Authority for Thar coal projects. The PPDB suggested that the SEL may be advised to indicate latest upfront tariff guidelines so as to bring latest state of the art technology and to take the advantage of upfront tariff for meeting regulatory proceeding swiftly. Further, keeping in view the significance of utilization of indigenous coal, the PPDB supported the project; and

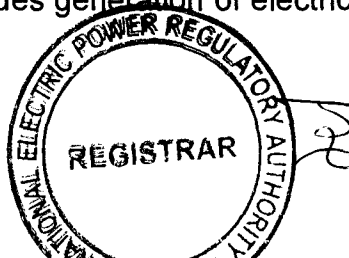
(iii). The Authority reviewed the above comments of the stakeholders examined and found the same in support of the grant of generation licence to the SEL except some observations/queries raised by PPDB regarding compliance with latest upfront tariff. In this regard, the Authority observed that the SEL has already submitted amendments in its application to comply with the requirements of the new upfront tariff, as explained at Para C(ii) above.

(iv). In view of the above, the Authority considered it appropriate to proceed further with the application of SEL for consideration of grant of the generation licence as stipulated in the Licensing Regulations and NEPRA Licensing (Generation) Rules, 2000 (the "Generation Rules").

(E). Evaluation/Findings

(i). The Authority has examined the submissions of SEL including the information provided in its application for grant of the generation licence. The Authority also considered the feasibility study of the project, Grid Interconnection Study (GIS), provisions of the Power Generation Policy 2015 and the relevant rules & regulations.

(ii). The Authority has observed that the project company (i.e. the SEL) is a company limited by shares (having Universal Incorporation No. 0088316, dated May 15, 2014) under Section-32 of the Companies Ordinance, 1984. The registered/business office of the company is at 27th Floor, Ocean Tower, Plot G-3, Block-9, Clifton, Karachi, in the province of Sindh. The memorandum of association of the company, *inter alia*, includes generation of electric power and supply thereof.

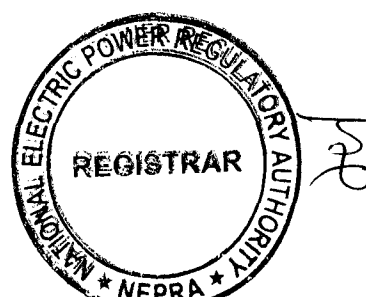


According to the submitted information the SEL shares are owned by six (06) individuals. The main sponsor of SEL is Siddiqsons Group which was established in 1959 and is engaged in diverse portfolio including textile, real estate, banking, theme parks and dairy.

(iii). The Authority has observed that the sponsor(s) of the project have carried out a detailed study to investigate in principle the feasibility of 330.00 MW lignite coal fired power plant based on Thar coal at Thar Block-II. The feasibility study consider the requirements, considerations & limitations required for a mine mouth coal fired power project. In this regard, the feasibility study covers inter alia (a). Project site conditions; (b). Description of plant size and technology selection; (c). Technical description of the proposed plant and equipment; (d). Review of available infrastructure, resources and its utilization; (e). Plant mechanical/electrical/instrumentation and control system; (f). Civil scope of the project; (g). Assessment of Environmental Impact; (h). Financial and economic feasibility; (i). Cost estimates and financial analysis (j). Project implementation & scheduling and (k). Risk analysis.

(iv). According to the feasibility study, the 330.00 MW coal based generation facility/thermal power plant of the SEL will be located at around 7.0 KM from the Thar Coal Mines Block-II, in the province of Sindh. In this regard, Sindh Engro Coal Mining Company Limited (SECMCL), mandated with large scale mining of the Thar coal deposits located in Block-II of the Thar coalfield has allocated 140 acre of land for construction of the project.

(v). The PPIB has endorsed the feasibility study and has amended the already granted Letter of Support (LOS). The LOS has been amended from time to time, after approval of PPIB Board for incorporating the changes regarding financial closing date, project location/site, capacity and fuel. According to latest amendment in the LOS dated August 11, 2017, the SEL is required to achieve financial close by August 31, 2018 and Commercial Operation Date (COD) no later than September 30, 2021.

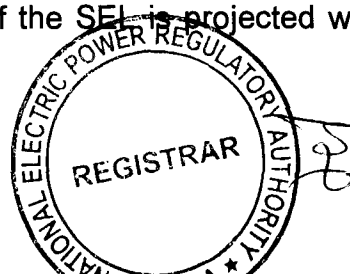


(vi). The Authority has observed that the proposed generation facility/thermal power plant will be consisting of 1x330 MW generating unit and boiler with Circulating Fluidized Bed (CFB) technology using supercritical steam parameters. The selected technology is very mature with many units in commercial operation for many years with good records. CFB technology is most suitable for high ash, variable quality, high moisture and high sulphur fuels, which makes it ideal for Thar lignite coal based power plant. The Authority considers that the selected technology will be providing more flexibility of operation for the proposed generation facility/thermal power plant due to its ability to provide improved thermal efficiency and its excellent ability to burn a wide range of coal.

(vii). The Authority has observed that the gross efficiency of the proposed generation facility/thermal power plant will be 42.39% (wet cooled) and 40.21% (air cooled) whereas the net efficiency (LHV) of the proposed generation will be 39.00% (wet cooled) and 37.00% (air cooled). The Authority considers that high efficiency of the selected system and the low cost of coal fuel will result in economically viable power generation.

(viii). The Authority considers that availability of sufficient water is very important for a conventional steam turbine based generation facility like that of the SEL. In this regard, the Authority has observed that for cooling and other purposes, the primary source of water for the proposed generation facility/thermal power plant will be from Left Bank Outfall Drain (LBOD). Further, there is an option to utilize the ground water (aquifers), to be pumped out of the mining area. The available amount of ground water is sufficient for the water requirements of the project. Further, water supply from Makhi Farash canal is also an option to meet with the water requirements. In view of the said, the Authority considers that reasonable quantity of water will be available for the proposed project for its smooth operation.

(ix). About the GIS, the Authority observes that same has been carried out by POWER-tech (Pvt.) Limited. According to the GIS, the dispersal of power from the generation facility/thermal power plant of the SEL is projected with (a). 500kV

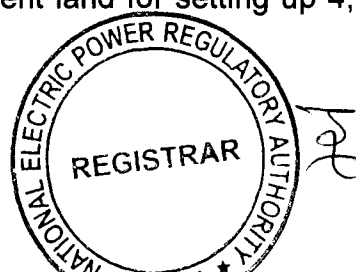


double circuit transmission line, approximately 10-km long, from the SEL plant for looping in/out on one of the 500kV circuit of the Thal Nova-Matiari transmission line and (b). 500 kV double circuit transmission line, approximately 35-km long, from Shanghai Electric CFPP (Thar Coal Block-I) for looping in/out on the SEL-Thal Nova 500 kV transmission line. The Authority has observed that the NTDC through its letter dated June 26, 2018 has already approved the GIS.

(x). The Authority observes that the project will have a total cost of about U.S. \$ 420.70 million which will be funded through a debt to equity ratio of 75:25. The SEL has submitted that debt part for the project (which makes the major part of the project total) is planned to be raised from local banks. In this regard, United Bank Limited has provided expression of interest to finance the project.

(xi). Regarding compliance with environmental standards, the sponsors of the project have confirmed that the proposed generation facility/thermal power plant will comply with the environmental standards of the country. The sponsors have submitted that the Thar coal field is located in a sparsely populated area with no industries present. For this reason the guidelines of the emissions are less stringent in this reason and dispersion of the emissions is less likely to have an impact on the population. The main environmental impacts of the power plant will be due to the NO_x and SO_x emissions. In this regard, Low NO_x burners will be installed to ensure that the emissions follow local and international guidelines for such a power plant. Further, the CFB technology selected by the SEL has the ability to effectively control gaseous emission without the need to install additional SO₂ treatment system. Further, the SEL has provided a copy of the NOC issued by Environmental Protection Agency, Govt. of Sindh (EPAGoS). In view of environmental impact, a separate article (i.e. Article-10) has also been included in the generation licence along with other terms and conditions that the licensee will comply with relevant standards on environment.

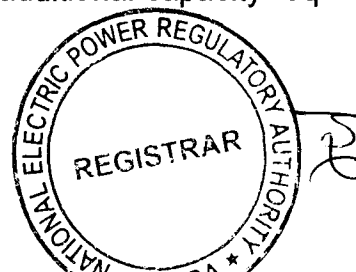

(xii). Regarding land of the project, the Authority has observed that the SECMCL has been allocated sufficient land for setting up 4,000 MW Energy Park.



The Govt. of Sindh has physically handed over the required land to the SECMCL which is being further sub-leased to various developers. In this regard, the SECMCL has allotted around 140 acres of land to the SEL in Thar Energy Park, District Tharparker. The land has been allocated for setting up indigenous coal based thermal power plant and its ash yard.

(xiii). In terms of Rule-3 of the Generation Rules, the Authority may grant a generation licence to any person to engage in the generation business. The said rule stipulates various conditions pertaining to grant of the generation licence as explained in Rule-3(2) to Rule-3(6). In the particular case under consideration, the Authority has observed that the SEL has provided details of location, technology, size, net capacity/energy yield, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facilities/power plants stratifying provisions of Rule-3(2) and Rule-3(3) of the Generation Rules.

(xiv). Further, Rule-3(5) of the Generation Rules stipulates that the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility/thermal power plant proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the least cost option criteria. In this regard, the Rule-3(5) of the Generation Rules stipulates the conditions pertaining to Least Cost Option Criteria which includes (a). sustainable development or optimum utilization of the RE or non-RE resources proposed for generation of electric power; (b). the availability of indigenous fuel and other resources; (c). the comparative costs of the construction, operation and maintenance of the proposed generation facility/thermal power plant against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility/thermal power plant and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term forecasts for additional capacity requirements; (g). the tariff



resulting or likely to result from the construction or operation of the proposed generation facility/thermal power plant; and (h). the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole.

(xv). In consideration of the above, the Authority observes that the proposed project is being developed in terms of the up-front tariff determination whereby the Authority has already fixed various parameters of the project including efficiency (net), cost of the construction/EPC cost, operation and maintenance costs etc. According to the GIS, the project will be connected to the 500 kV D/C transmission line of NTDC constructed for evacuation of power from the Thar coal power projects and will not face any constraints in transmission system. Further, being located at reasonable distance from the thick population, the project will not result in cost and right-of-way issues for the provision of transmission and interconnection facilities. The Authority has duly considered the fact that NTDC has included the project in its medium-term and the long-term forecasts for additional capacity requirements. In view of above, the Authority is of the considered opinion that the project fulfils the eligibility criteria for grant of the generation licence as stipulated in the NEPRA Act, rules and regulations and other applicable documents.

(F). Grant of Generation Licence

(i). Electricity is a key infrastructural indicator for economic growth. The electricity consumption per capita has a strong correlation to the Social Development indices (HDI, life expectancy at birth, infant mortality rate, and maternal mortality) and Economic Indices (such as GDP per capita).

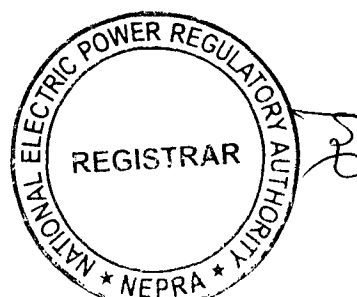
(ii). Increasing electricity consumption per capita can directly stimulate faster economic growth and indirectly achieve enhanced social development. In short, the economic growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of electricity. In view of the said, the Authority is of the considered opinion that for sustainable development all types of indigenous power generation resources including coal, hydel, wind, solar and other



RE resources must be tapped and developed on priority basis both in public and private sectors.

(iii). The existing energy mix of the country is heavily skewed towards the costlier thermal generation facilities/power plants, operating on imported fuel/oil. The import of furnace oil not only creates pressure on the precious foreign exchange reserves of the country but also causes an increase in the consumer end tariff. The increase in the consumer end tariff not only results in higher inflation but it also affects the competitiveness of the local Industry with its foreign peers. In order to address the said issues, the Authority considers it imperative that efforts must be made to change the energy mix based on relatively cheaper fuels. With the depleting natural gas reserves in the country and relatively longer lead time for the construction of hydroelectric power projects, the coal power plants are considered the best option in the short and medium term planning. Therefore, to reduce the demand-supply gap and to achieve sustainable development, it is vital that indigenous as well as imported coal projects are given priority for power generation and their development is encouraged. In view of the said, the Counsel of Common Interests (CCI) approved the Power Policy, 2015 which envisages rationalizing the energy mix and reducing the demand-supply gap through Imported and Indigenous coal based power generation. In consideration of the said, the Authority is of the view that the proposed project of the SEL is consistent with the provisions of Power Policy 2015.

(iv). As explained above, the SEL has provided the details of location, technology, size, net capacity, interconnection arrangements, technical details and other related information for the proposed generation facility/thermal power plant. Regarding land of the project, the Authority has observed that the SECMCL has allocated 140 of land at Thar Coal Block-II to the SEL for setting up the generation facility/thermal power plant. The details of the land coordinates have been incorporated in Schedule-I of the proposed generation licence. Accordingly, the Authority directs the SEL to utilize the allocated land exclusively for the proposed

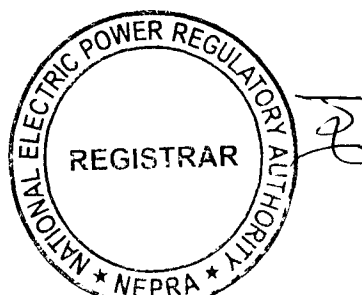


generation facility/thermal power plant and not to carry out any other activity on the said land except with its prior approval.

(v). The term of a generation licence under the Rule-5 of the Generation Rules is to be commensurate with the maximum expected useful life of the units comprised in a generating facility. It is considered that as per the international benchmarks available, the useful life of a steam turbine is normally taken as thirty (30) years from its Commercial Operation Date (COD). In view of the said, the Authority fixes the term of the generation licence to thirty (30) years from COD of the project, subject to the provisions of Section-14B of the NEPRA Act.

(vi). Regarding tariff, it is hereby clarified that under Section-7(3)(a) of the NEPRA Act, determination of tariff, rate and charges etc. is the sole prerogative of the Authority. In the particular case, the Authority through its Determination No. NEPRA/TRF-418/SEL-2018/1122-1124 January 23, 2018 has already granted an up-front tariff to the SEL. Notwithstanding the aforementioned, the Authority directs the SEL to charge the power purchaser only such tariff which has been determined, approved or specified by the Authority. In this regard, the Authority has included a separate article pertaining to tariff in the generation licence. The Authority directs the SEL to adhere to the provision of the said article of the generation licence in letter and spirit without any exception.

(vii). Regarding compliance with the environmental standards, as stated in the preceding paragraphs, the SEL has provided the NOC from EPAGoS and has confirmed that project will comply with the required standards during the term of the generation licence. In view of the importance of the issue, the Authority has included a separate article (i.e. Article-10) in the generation licence along with other terms and conditions making it obligatory for the SEL to comply with relevant environmental standards at all times. Further, the Authority directs the SEL to submit a report on a bi-annual basis, confirming that construction and operation of its generation facility/thermal power plant is in compliance with the required



environmental standards as prescribed by the concerned environmental protection agency.

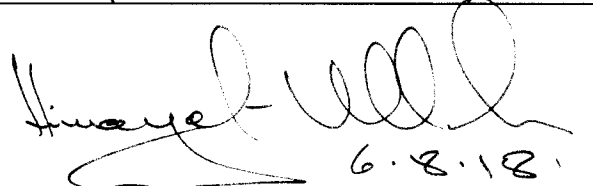
(viii). The Authority observes that the SEL applied for the grant of generation licence in terms of Section-15 of the NEPRA Act. However, NEPRA Act has been amended through Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act, 2018 and Section-15 has been replaced with a new section i.e. Section 14B to provide for the grant of generation licences, therefore this generation licence is being granted under Section-14B of the amended NEPRA Act.

(ix). In view of the above, the Authority hereby approves the grant of generation licence to the SEL on the terms and conditions set out in the generation licence annexed to this determination. The grant of generation licence will be subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed thereunder and other applicable documents.

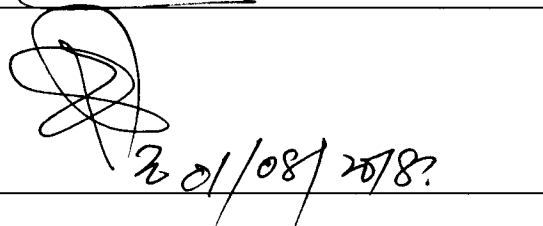
Authority:

Saif Ullah Chattha
(Member)

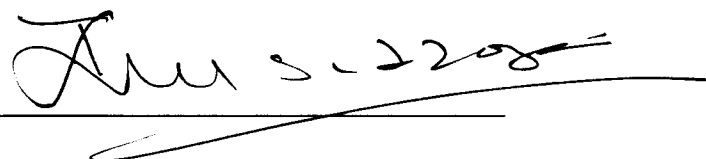
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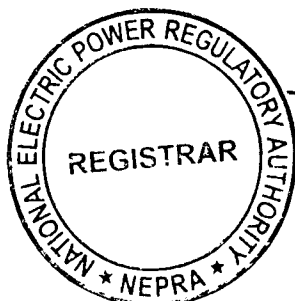
Himayat Ullah Khan
(Member)

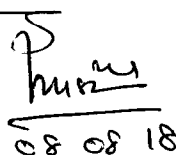

20/08/2018

Rehmatullah
(Member/Vice Chairman)



Tariq Saddozai
(Chairman)




08 08 18

**National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan**

GENERATION LICENCE

No. IGSP/101/2018

In exercise of the Powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section-14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997/Amendment Act, 2018, the Authority hereby grants Generation Licence to:

SIDDIQSONS ENERGY LIMITED

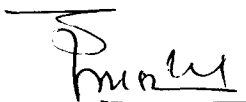
Incorporated Under Section-32
of the Companies Ordinance, 1984 (XL VII of 1984) Having Corporate
Universal Identification No.0088316, Dated May 15, 2014

**for its Indigenous/Thar Coal Based Generation Facility/Thermal Power
Plant Located at Energy Park Thar Coal Block-II, District Tharparker,
in the Province of Sindh**

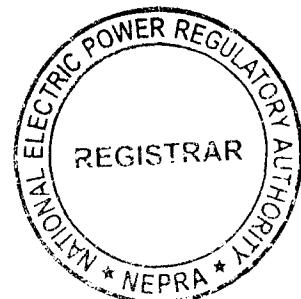
(Installed Capacity: 330.00 MW Gross)

to engage in generation business subject to and in accordance with
the Articles of this Licence.

Given under my hand on 08th day of August Two
Thousand & Eighteen and expires on 31st day of May Two
Thousand & Fifty One.


08 08 18
Registrar

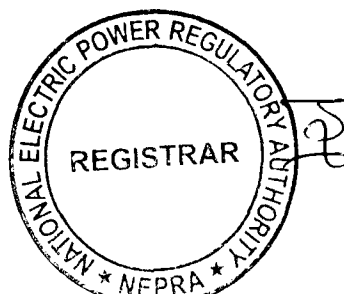




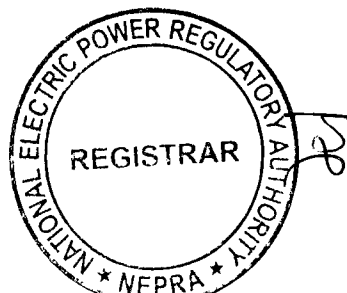
Article-1
Definitions

1.1 In this Licence

- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, if any, or the documents or instruments made by the Licensee pursuant to its generation licence, in each case of a binding nature applicable to the Licensee or, where applicable, to its affiliates and to which the Licensee or any of its affiliates may be subject;
- (c). "Applicable Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;
- (d). "Authority" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;
- (e). "Bus Bar" means a system of conductors in the generation facility/thermal power plant of the Licensee on which the electric power of all the generators is collected for supplying to the Power Purchaser;

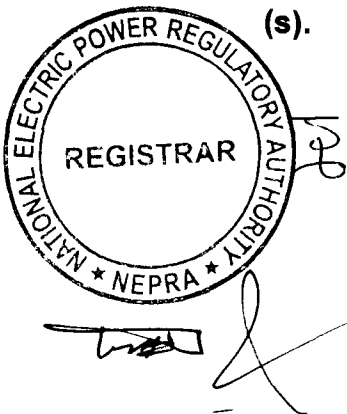


- (f). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility of the Licensee is Commissioned;
- (g). "CPPA-G" means Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose for functioning as a market operator;
- (h). "Distribution Code" means the distribution code prepared by the concerned distribution company and approved by the Authority, as it may be revised from time to time with necessary approval of the Authority;
- (i). "Generation Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (j). "Grid Code" means the grid code prepared by NTDC and approved by the Authority, as it may be revised from time to time by NTDC with necessary approval by the Authority;
- (k). "GoP" means the Government of Pakistan acting through the PPIB which has issued or will be issuing to the Licensee a LoS for the design, engineering, construction, insuring, commissioning, operation and maintenance of the generation facility/thermal power plant and has signed or will be signing an IA with the Licensee;
- (l). "IEC" means the International Electrotechnical Commission or its



successors or permitted assigns;

- (m). "IEEE" means the Institute of Electrical and Electronics Engineers or its successors or permitted assigns;
- (n). "Implementation Agreement (IA)" means the implementation agreement signed or to be signed between the GoP and the Licensee in relation to this particular generation facility/thermal power plant, as may be amended from time to time;
- (o). "Letter of Support (LoS)" means the letter of support issued or to be issued by the GoP through the PPIB to the Licensee;
- (p). "Licensee" means "Siddiqsons Energy Limited" and its successors or permitted assigns;
- (q). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;
- (r). "Power Purchaser" means any person or registered entity or licence holder which will be purchasing electric power from the Licensee, pursuant to a PPA for procurement of electric power;
- (s). "Power Purchase Agreement (PPA)" means the power purchase agreement, entered or to be entered into by and between the Power Purchaser and the Licensee, for the purchase of electric power generated by the generation facility/thermal power plant of the Licensee, as may be amended by the parties thereto from



time to time;

1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or rules and regulations issued under the Act.

Article-2
Applicability of Law

This Licence is issued subject to the provisions of the Applicable Law, as amended or replaced from time to time.

Article-3
Generation Facilities

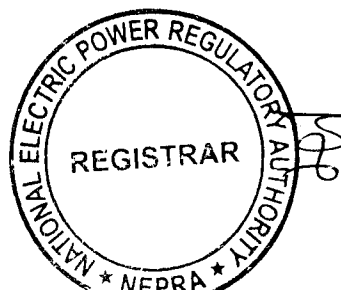
3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facility/thermal power plant of the Licensee are set out in Schedule-I of this licence.

3.2 The net capacity of the generation facility/thermal power plant of the Licensee is set out in Schedule-II hereto. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/thermal power plant before its COD.

Article-4
Term of Licence

4.1 This licence shall become effective from the date of its issuance and will have a term of thirty (30) years from the COD of the generation facility/thermal power plant of the Licensee, subject to the provisions of Section-14(B) of the Act.





4.2 Unless suspended or revoked earlier the Licensee may apply for renewal of this licence ninety (90) days prior to the expiry of the above term as stipulated in Generation Rules read with the Licensing Regulations.

Article-5
Licence fee

The Licensee shall pay to the Authority the licence fee as stipulated in the National Electric Power Regulatory Authority (Fees) Rules, 2002 as amended or replaced from time to time.

Article-6
Tariff

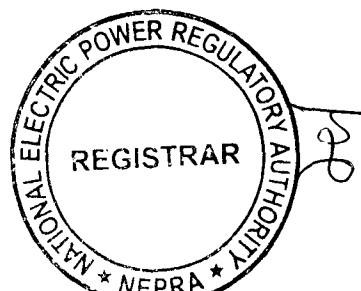
The Licensee is allowed to charge the Power Purchaser(s) such tariff which has been determined, approved or specified by the Authority.

Article-7
Competitive Trading Arrangement

7.1 The Licensee shall participate in such manner as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement. The Licensee shall in good faith work towards implementation and operation of the aforesaid Competitive Trading Arrangement in the manner and time period specified by the Authority. Provided that any such participation shall be subject to any contract entered into between the Licensee and another party with the approval of the Authority.

7.2 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.





Article-8
Maintenance of Records

For the purpose of sub-rule (1) of Rule 19 of the Generation Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9
Compliance with Performance Standards

The Licensee shall comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Generation) Rules 2009 as amended or replaced from time to time.

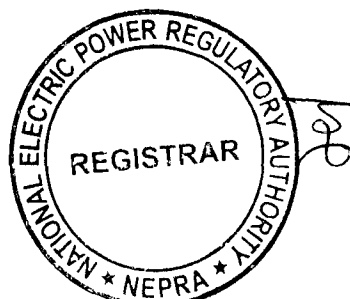
Article-10
Compliance with Environmental & Safety Standards

10.1 The generation facility/thermal power plant of the Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority from time to time.

10.2 The Licensee shall provide a certificate on a bi-annual basis, confirming that the operation of its generation facility/thermal power plant is in line with environmental standards as prescribed by the relevant competent authority.

Article-11
Provision of Information

In accordance with provisions of Section-44 of the Act, the Licensee shall be obligated to provide the required information in any form as desired by the Authority without any exception.

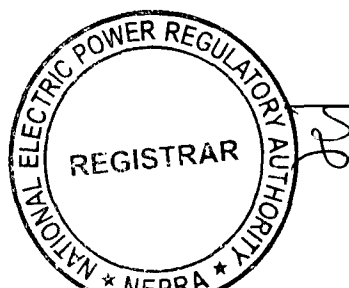


Article-12
Power off take Point and Voltage

The Licensee shall deliver power to the Power Purchaser at the outgoing Bus Bar of its grid station. The up-gradation (step up) of generation voltage up to the required voltage level for interconnection point will be the responsibility of the Licensee.

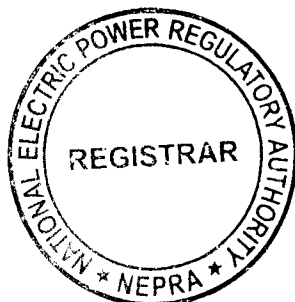
Article-13
Design & Manufacturing Standards

The generation facility/thermal power plant of the Licensee shall be designed, manufactured and tested according to the latest IEC, IEEE or other equivalent standards. All the plant and equipment of the generation facility/thermal power plant shall be unused and brand new.

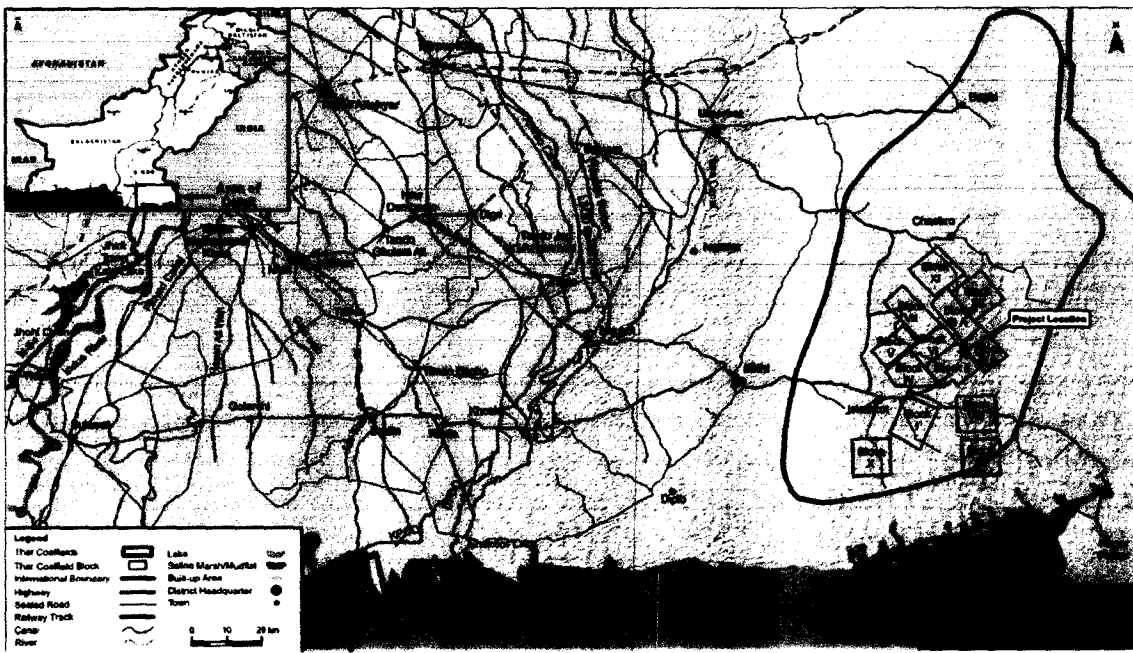
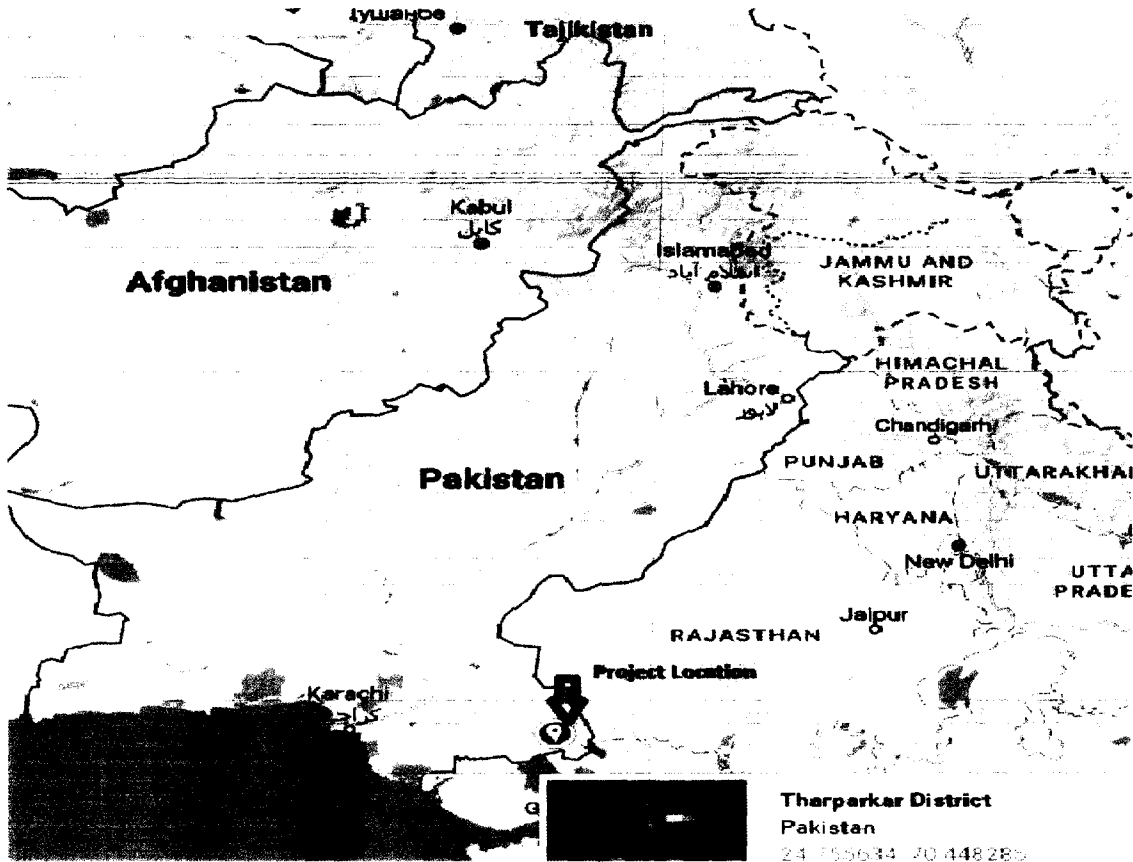


SCHEDULE-I

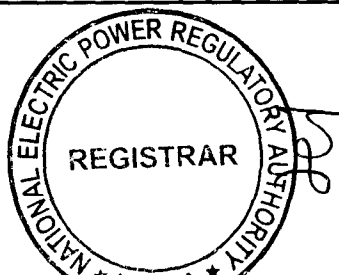
The Location, Size (i.e. Capacity in MW), Type of Technology,
Interconnection Arrangements, Technical Limits,
Technical/Functional Specifications and other details specific to
the Generation Facilities of the Licensee are described in this
Schedule



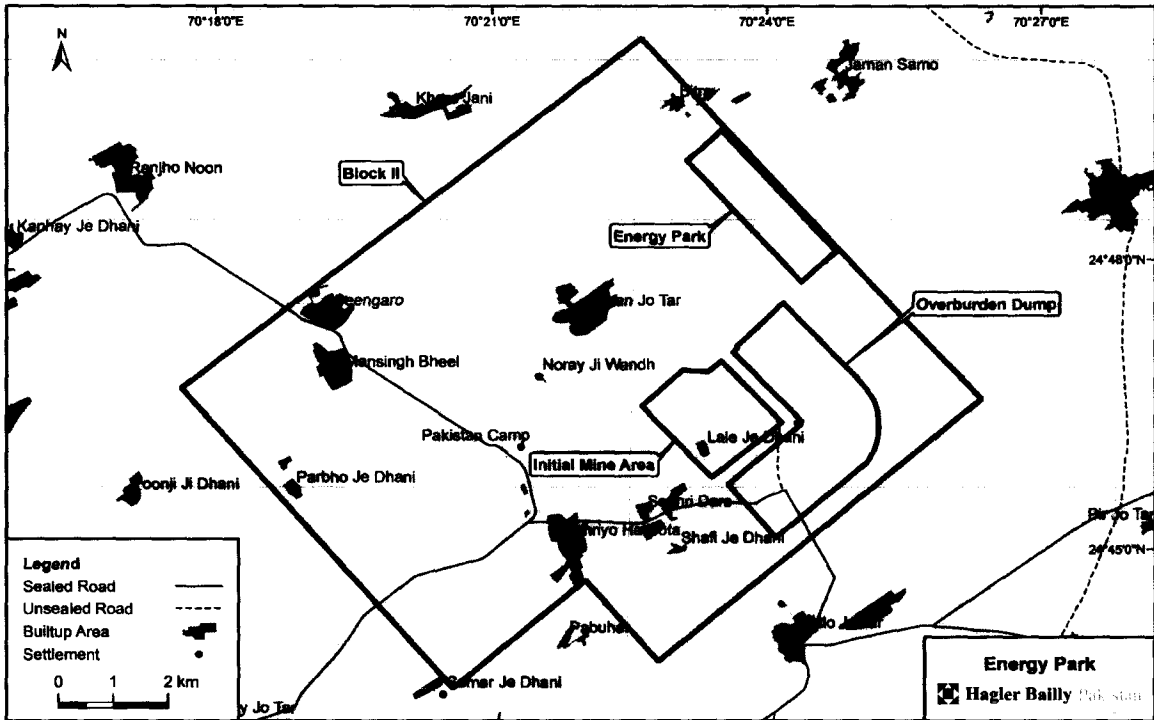
**Location
 of the Generation Facility/Thermal Power Plant**



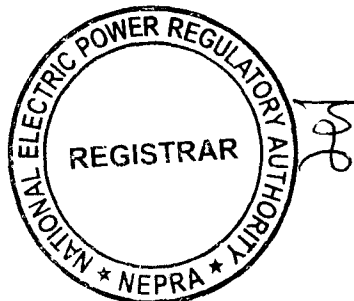
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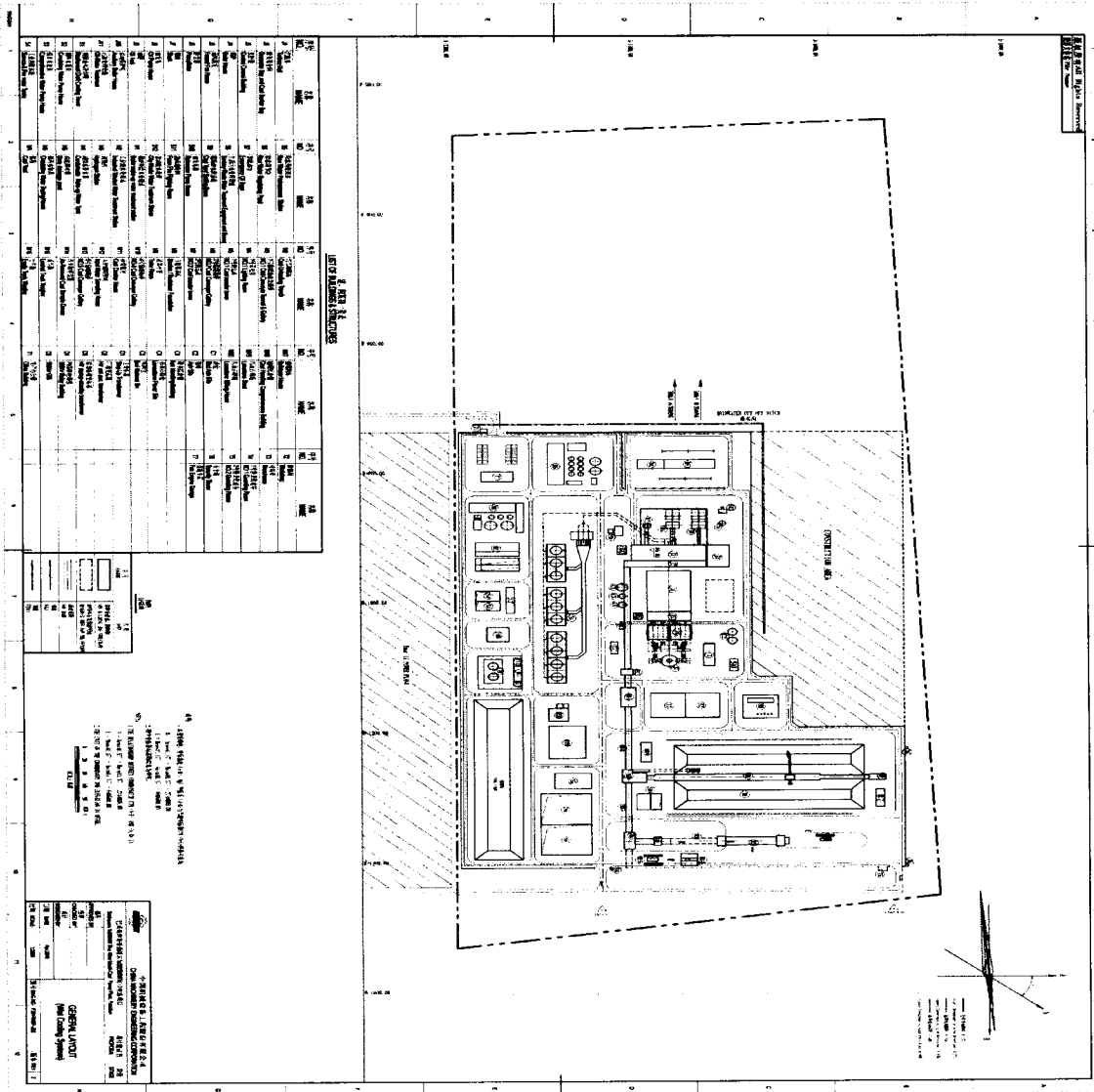
Location
of the Generation Facility/Thermal Power Plant



A handwritten signature or mark, possibly a name, written in black ink.

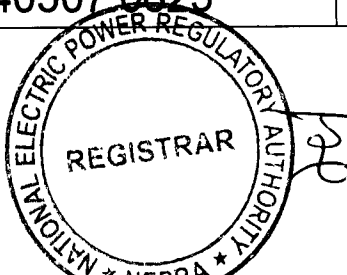


Layout and Land Coordinates of the Generation Facility/Thermal Power Plant

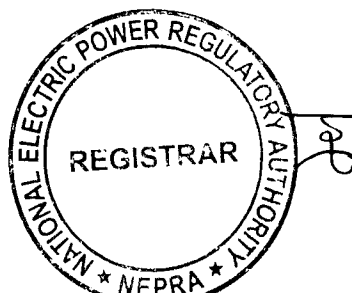
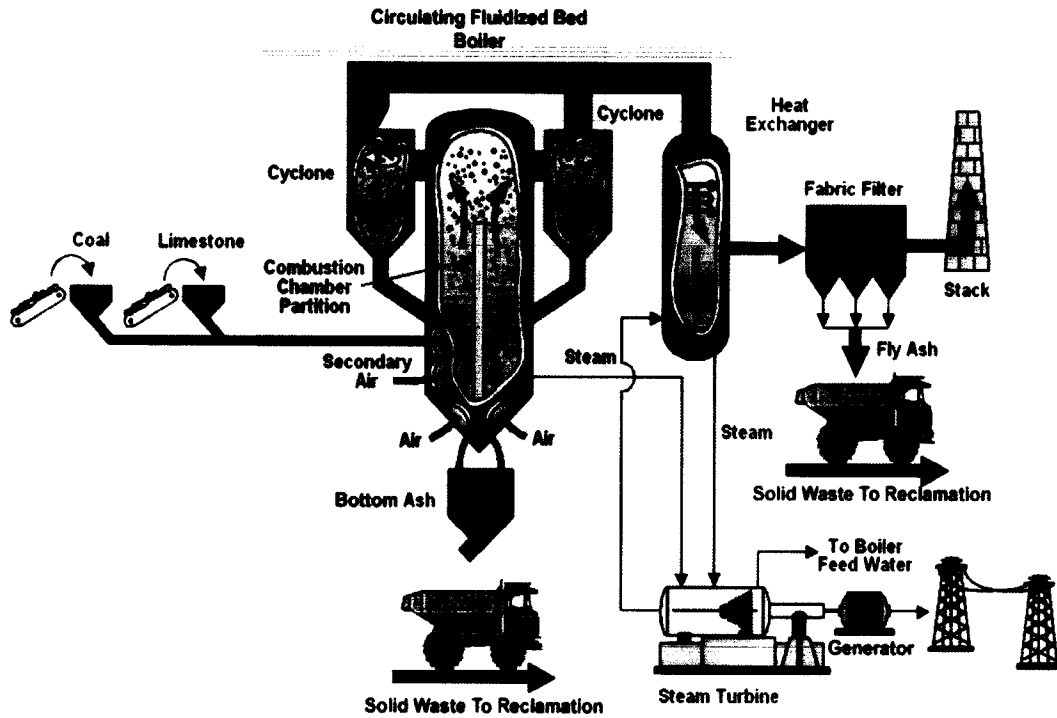


Point	Total Area = 140 Acres	
	Easting	Northing
1	639599.9696	2745389.2140
2	639918.1153	2745034.1812
3	640248.3411	2745320.5864
4	640822.1741	2745818.3306
5	640507.0625	2746169.8511

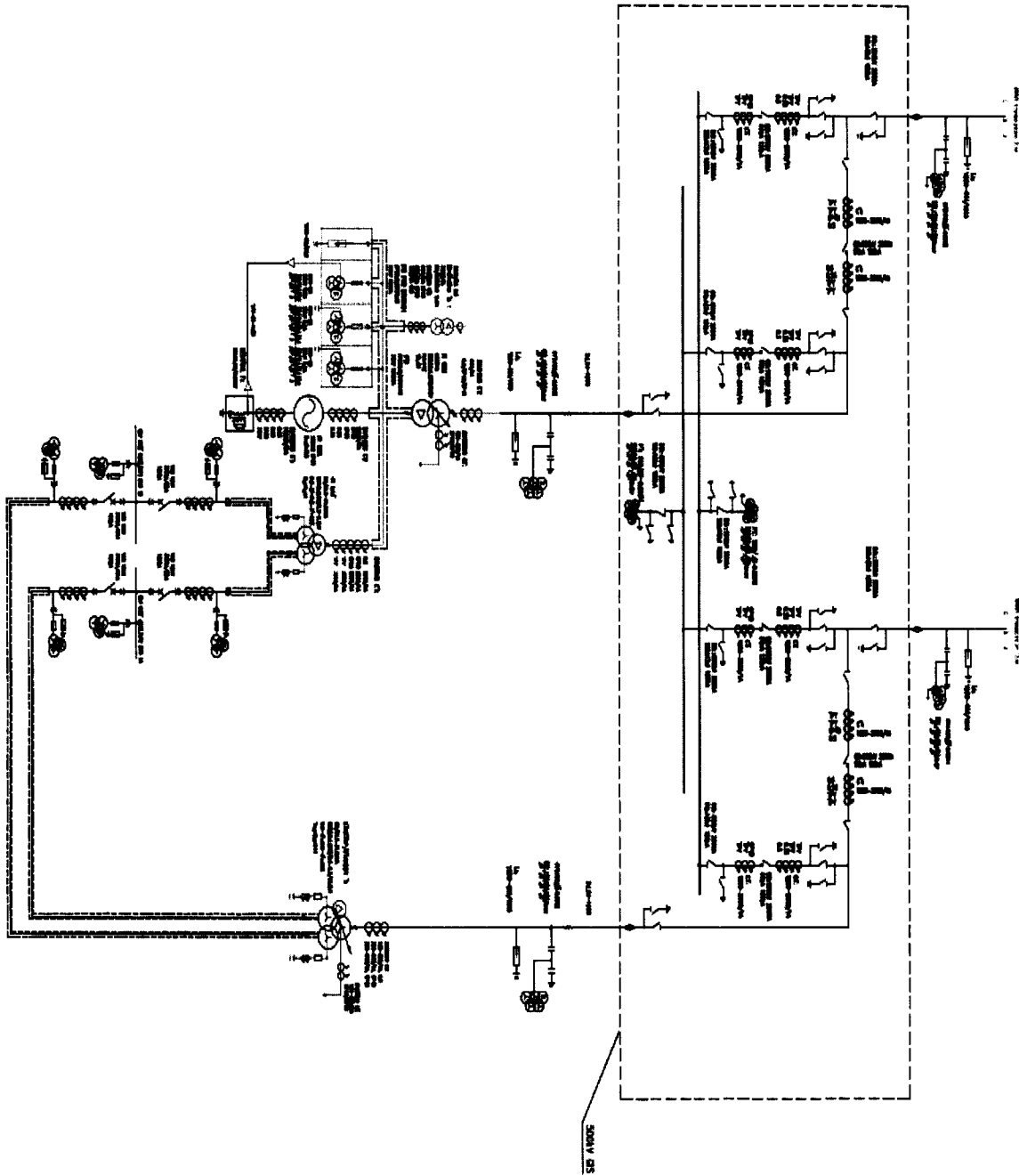
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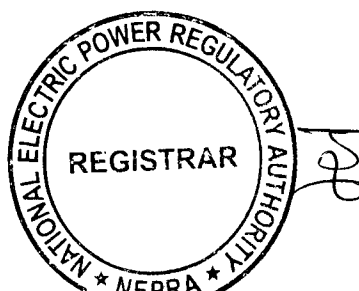
Schematic Diagram of the CFB Technology based Power Plant



Single Line Diagram of the Generation Facility/Thermal Power Plant



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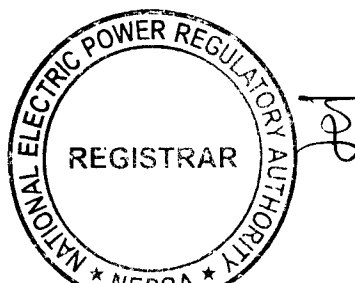


**Interconnection Facilities/
Transmission Arrangements for Dispersal of Power from the
Generation Facility/ Thermal Power Plant**

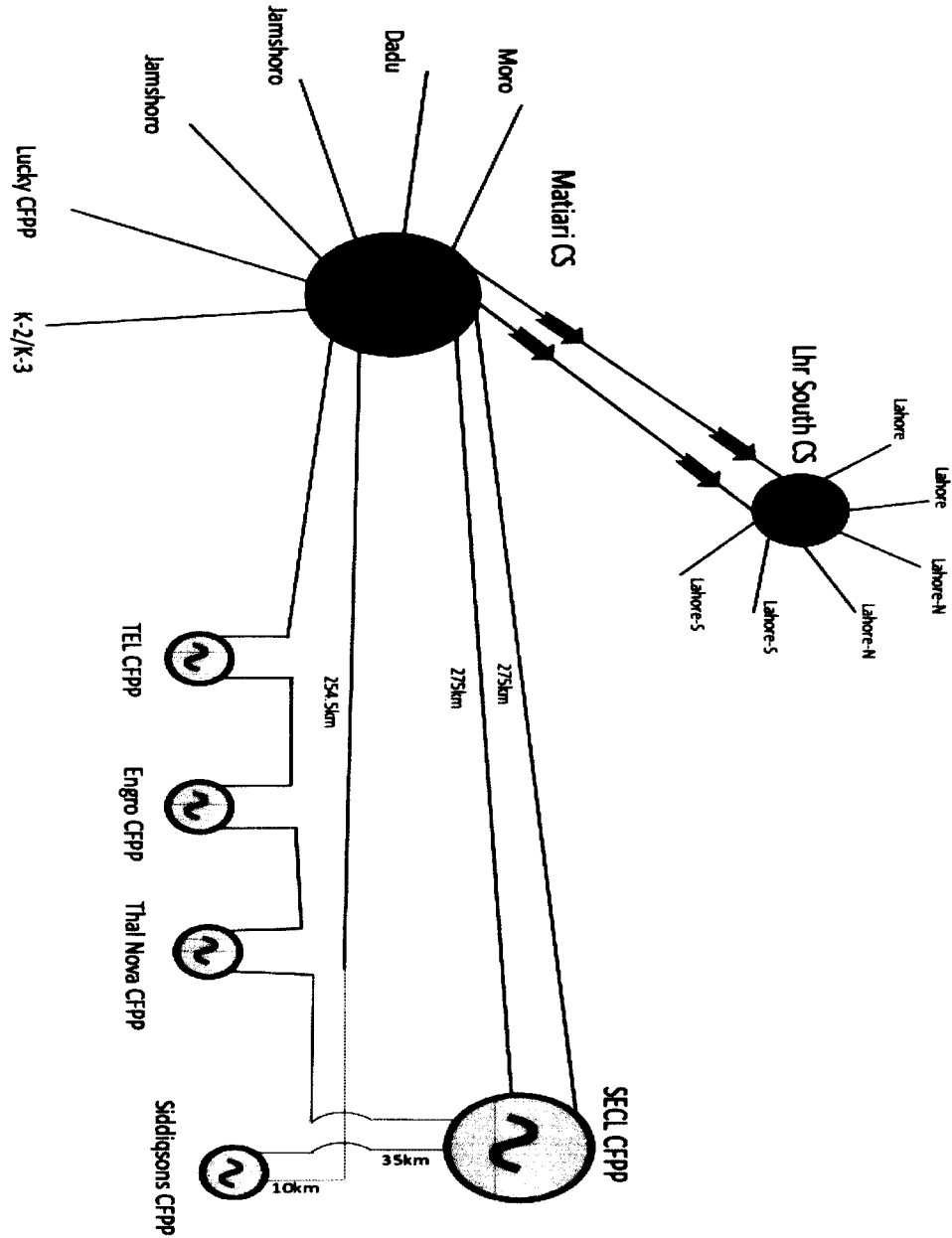
The electric power from the indigenous coal based generation facility/thermal power plant of Siddiqsons Energy Limited (SEL) will be dispersed to the National Grid.

(2). The Interconnection Facilities (IF)/Transmission Arrangements (TA) for supplying to National Grid from the above mentioned generation facility shall be at 500 kV level. The Interconnection/Dispersal Arrangement will be consist of (a). 500 kV double circuit transmission line, approximately 10-km long, from the SEL plant for looping in/out on one of the 500kV circuit of the Thal Nova-Matiari transmission line and (b). 500 kV double circuit transmission line, approximately 35-km long, from Shanghai Electric CFPP (Thar Coal Block-I) for looping in/out on the SEL-Thal Nova 500 kV transmission line.

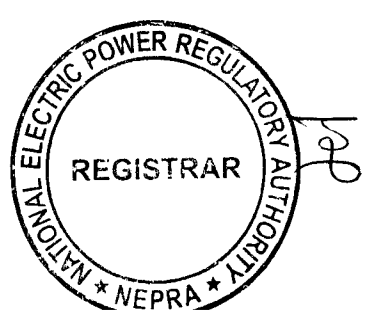
(3). The above IF/TA is based on the approval of NTDC regarding the Grid Interconnection Study. Any change in the above mentioned interconnection facilities /transmission arrangement for dispersal of electric power as agreed by the Licensee and the Power Purchaser shall be communicated to the Authority in due course of time.



Schematic Diagram
of Interconnection Arrangement for Dispersal of Power from the
Generation Facility/ Thermal Power Plant



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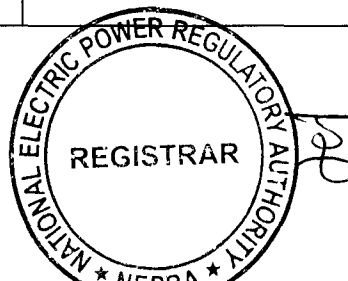
Details
Of the Generation Facility/
Thermal Power Plant

(A). General Information

(i).	Name of Company/Licensee	Siddiqsons Energy Limited
(ii).	Registered /Business Office	27th Floor, Ocean Tower, Plot G-3, Block-9, Clifton, Karachi.
(iii).	Location of the Generation Facility	Energy Park, Thar Coal Block-II, District Tharparker, in the Province of Sindh
(iv).	Type of Generation Facility	Mine Mouth Lignite fired power generation

(B). Plant Configuration

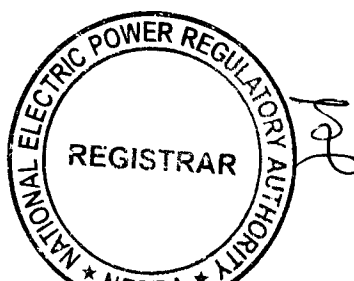
(i).	Installed Capacity/ Plant Size of the Generation Facility	330.00 MW	
(ii).	Type of Technology	Circulating Fluidized Bed (CFB) Boiler Technology with Super-critical steam parameters	
(iii).	Number of Units/Size (MW)	1 x 330.00 MW	
(iv).	Unit Make/Model/Type & Year of Manufacture etc.	Boiler	Shanghai/Dongfang/Harbin/ Siemens CFB Boiler of Chinese origin. Year of manufacture 2018-19
		Steam Turbine	Shanghai/Dongfang/Siemens Tandem compound two cylinders Double flow exhausts to the condenser. Reheat condensing turbine Year of manufacture 2018-19
		Generator	Shanghai/Dongfang/Siemens Three phase, two-pole and cylindrical rotor type synchronous machine, directly coupled with steam turbine
(v).	COD of the Generation Facility (Expected)	Jun 01, 2021	



(vi).	Expected Useful Life of the Generation Facility from COD	30 years
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(C). Fuel/Raw Material Details

(i).	Primary Fuel	Thar Block-II Lignite		
(ii).	Alternative Fuel	Imported Coal (Indonesian/Equivalent)		
(iii).	Start-Up Fuel	High Speed Diesel		
(iv).	Fuel Source f	Primary Fuel	Alternative Fuel	Start-Up
		Lignite Coal from Thar Block-II	To be imported from Indonesia or equivalent	Indigenous
(v).	Fuel Supplier	Primary Fuel	Alternative Fuel	Start-Up
		The main fuel source is indigenous, produced from Thar Block-II lignite mine, owned & operated by Sindh Engro Coal Mining Company (SECMC)	To be imported from Indonesia or equivalent	PSO/ Equivalent
(vi).	Supply Arrangement	Primary Fuel	Alternative Fuel	Start-Up Fuel
		Via Trucks/Conveyer Belt from Thar Block-II mine to Generation Facility	Via trucks from Karachi Port	Via Trucks to Generation Facility



(vii).	No. of Storage Bunkers/Tanks/ Open Yard	Primary Fuel	Alternative Fuel	Start-Up Fuel
		1 x Open stockyards	1 x Open stockyard	Two Oil tanks
	Storage Capacity of each Bunkers/ Tanks/Open Yard	Primary Fuel	Alternative Fuel	Start-Up Fuel
		150,000 Ton	150,000 Ton	300 m ³
(viii).	Gross Storage	Primary Fuel	Alternative Fuel	Start-Up Fuel
		Approx. 150,000 Ton	Approx. 150,000 Ton	600 m ³

(D). Emission Values

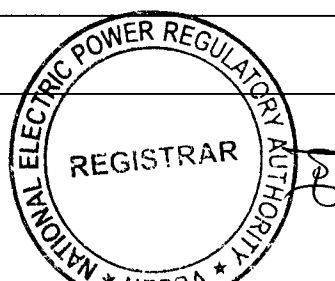
		Primary Fuel	Alternative Fuel	Start-Up Fuel
(i).	SO _x (mg/Nm ³)	<450 (6% of O ₂ , dry flue gas base)	<450 (6% of O ₂ , dry flue gas base)	<450 (6% of O ₂ , dry flue gas base)
(ii).	NO _x (mg/Nm ³)	<400 (6% of O ₂ , dry flue gas base)	<400 (6% of O ₂ , dry flue gas base)	<400 (6% of O ₂ , dry flue gas base)
(iii).	Particulate Matter (mg/Nm ³)	<50 (6% of O ₂ , dry flue gas base)	<50 (6% of O ₂ , dry flue gas base)	<50 (6% of O ₂ , dry flue gas base)

(E). Cooling System

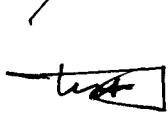

(i).	Cooling Water Source/Cycle	Water from LBOD/Makhi Farash Canal (Primary Source) and ground/well water pumped out of the mining area/other area (Backup Source)/Close cycle cooling system
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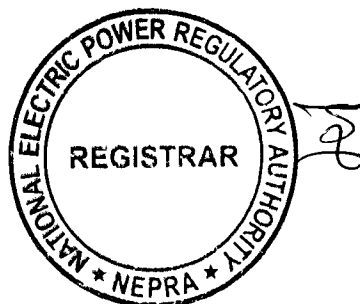
(F). Plant Characteristics

(i).	Generation Voltage	21KV
(ii).	Frequency	50Hz



(iii).	Power Factor	0.8 to 0.85 (lagging) /0.95(leading)
(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	Yes
(v).	Ramping Rate (MW/min)	0.2-1% of rated load depending upon nature of start up and regular operational conditions.
(vi).	Time required to Synchronize to Grid (Hrs.)	1.5-10 Hrs depending upon the nature of startup

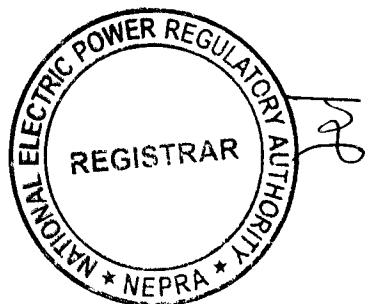





SCHEDULE-II

The Installed/ISO Capacity (MW), De-Rated Capacity at Mean Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity At Mean Site Conditions (MW) of the Generation Facilities of Licensee are given in this Schedule





SCHEDULE-II

(1).	Total Gross Installed Capacity of the Generation Facility	330.00 MW
(2).	De-rated Capacity of Generation Facility at Reference Site Conditions	330.00 MW
(3).	Auxiliary Consumption of the Generation Facility	26.40 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Conditions	303.6 MW

Note

All the above figures are indicative as provided by the Licensee. The net capacity available to Power Purchaser for dispatch will be determined through procedure(s) contained in the Power Purchase Agreement or any other applicable document(s).

