



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

Registrar

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No. NEPRA/R/DL/LAG-314/ 12377-82

September 08, 2016

Mr. Khalid Mansoor
Chief Executive Officer,
China Power Hub Generation Company (Private) Limited,
11th Floor, Ocean Tower, Block - 9, Main Clifton Road,
Karachi.

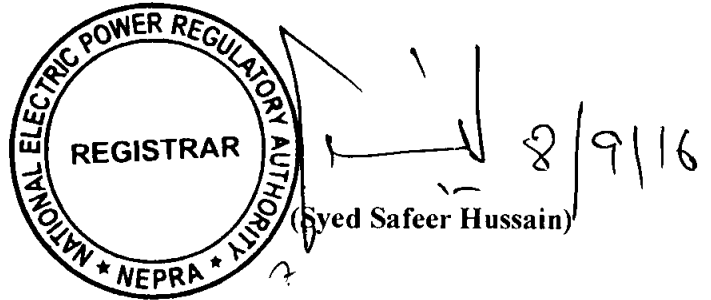
Subject: **Generation Licence No. IGSPL/68/2016**
Licence Application No. LAG-314
China Power Hub Generation Company (Private) Limited (CPHGCPL)

Reference: *Your application vide letter No. Nil, dated 31st July, 2015, received on 18th August, 2015.*

Enclosed please find herewith Generation Licence No. IGSPL/68/2016 granted by National Electric Power Regulatory Authority (NEPRA) to China Power Hub Generation Company (Private) Limited (CPHGCPL), pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 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 (IGSPL/68/2016)**



Copy to:

1. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
2. Chief Operating Officer, CPPA-G, 107-WAPDA House, Lahore
3. Managing Director, Private Power and Infrastructure Board (PPIB), 50-Nazimuddin Road, Sector F-7/4, Islamabad.
4. Director General, Environment Protection Department, Government of Punjab, Zarghoon Road, Quetta.
5. Chief Executive Officer, Quetta Electric Supply Company Limited, 22-A, Zarghoon Road, Quetta.

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Application of China Power Hub Generation
Company (Pvt.) Limited for the Grant of Generation Licence

September 02, 2016
Case No. LAG-314

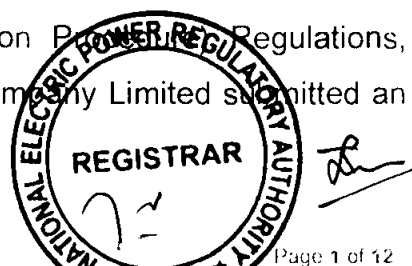
(A). Background

(i). The electric power sector of the country is experiencing a supply-demand gap. In order to bridge the said deficit and improve the energy mix, Government of Pakistan (GoP) has decided to install generation facilities/thermal power plants based on indigenous as well as imported coal. All efforts are being made to set up generation facilities using cheaper resources. The efforts include projects by the federal as well as provincial governments.

(ii). In order to implement the said initiative, GoP has set up Private Power Infrastructure Board (PPIB) as a one window facilitator for the entrepreneurs interested in setting up new generation facilities. PPIB has issued Letter of Intent (LoI) to various local and foreign investors/groups. PPIB also issued LoI in the name of the Hub Power Company Limited on June 29, 2015 for setting up a 2 x 660.00 MW imported coal based power project at Hub, Mouza Kund, Tehsil Gadani, District Lasbella, in the Province of Balochistan. The proposed project is a joint venture of the Hub Power Company Limited, a public limited company under the laws of Islamic Republic of Pakistan) and China Power International Holding Limited-CPIHL, a company incorporated under the laws of People's Republic of China)

(B). Filing of Generation Licence Application

(i). In accordance with section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act) read with NEPRA Licensing (Application and Modification of Generation Licences) Regulations, 1999 (the Licensing Regulations), the Hub Power Company Limited submitted an

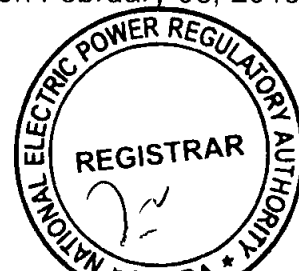


application on August 18, 2015 requesting for the grant of generation licence. At the time of submission of application the Hub Power Company Limited clarified that a special purpose vehicle to implement the project is still under incorporation and once it is established, the generation licence will be novated/assigned to the special purpose vehicle.

(ii). The Authority considered the matter in its Regulatory Meeting (RM-15-683), held on September 29, 2015 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 for consideration of the grant of the generation licence as stipulated in Regulation-7 of the Licensing Regulations. The Authority approved the advertisement containing (a). the prospectus; (b). a notice to the general public about the admission of the application of the Hub Power Company Limited, to invite the general public for submitting their comments in the matter as stipulated in Regulation-8 of the Licensing Regulations. The Authority also approved the list of the persons for providing their comments or otherwise to assist the Authority in the consideration of the above mentioned application of the Hub Power Company Limited. Accordingly, the advertisement was published in one Urdu and one English national newspaper on October 02 & 04, 2015 respectively.

(iii). Apart from the above, separate letters were also sent to government ministries, their attached departments, representative organizations and individual experts etc. on October 06, 2015. The said stakeholders were directed to submit their views/comments for the assistance of the Authority.

(iv). Meanwhile, the sponsors of the project informed that in order to implement the project, special purpose vehicle has been incorporated in the name of China Power Hub Generation Company (Pvt.) Limited (CPHGCPL). The Authority considered the matter in its Regulatory Meeting (RM-16-11), held on January 14, 2016 and directed to publish a new advertisement in terms of Regulation-8 of the Licensing Regulations. Accordingly an addendum to the earlier notice of admission was published in press on February 02, 2016. In this regard, notices were also sent to the relevant stakeholders on February 08, 2016.



(C). Comments of Stakeholders

(i). The Authority received comments from eleven (11) stakeholders including Board of Investment, Ministry of Petroleum and Natural Resources, Directorate General of Mines & Minerals, Govt. of Balochistan, Punjab Mineral Development Corporation, PPIB, National Transmission and Despatch Company Limited (NTDC), Central Power Purchasing Agency (Guarantee) Limited (CPPA-G), Ministry of Ports and Shipping, Port Qasim Authority, Anwar Karnal Law Associates, and Energy Department, Govt. of Sindh.

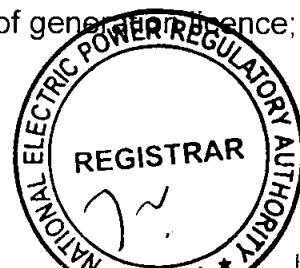
(ii). The salient points of the comments offered by the above stakeholder are summarized in the following paragraphs: -

(a). Board of Investment submitted that energy sector is the priority sector of the government to cater the short fall in the country. Uninterrupted and affordable supply of energy is the backbone for industrial growth as well as attracting foreign direct investment in the country. In view thereof, Board of Investment supports the grant of generation licence subject to the tariff being consumer friendly and competitive with neighboring countries;

(b). Ministry of Petroleum and Natural Resources commented that the company intends to install super critical coal fired thermal power plant and as such, no gas is required for utilization. Therefore, Ministry of Petroleum and Natural Resources has no objection for the grant of generation licence;

(c). Directorate General of Mines & Minerals, Govt. of Balochistan appreciated the establishment of 1320.00 MW thermal power plant at Hub and proposed that coal resources of the province may be used in these power plants to promote the coal industry of Balochistan;

(d). Punjab Mineral Development Corporation in its comments expressed no objection to the grant of generation licence;



- (e). PPIB in its comment supported the issuance of generation licence and stated that it has issued Lol to the project company and the project is well on track to achieve commercial operation in 2018. PPIB further apprised that the project is included as 'actively promoted projects' in China Pakistan Economic Corridor (CPEC) framework;
- (f). NTDC commented that a 500 KV double circuit transmission line from the Hub Power Company Limited to Matiari has been proposed for interconnection of the project with national grid and PC-I has been sent to planning commission for approval of the competent authority. Further, grid interconnection study Report-1(Load Flow) for evacuation of power from the project has been sent to the sponsors. Grid interconnection study Report-2 (Short circuit and system stability study) will be sent later after receipt of some parameters of the power plant. NTDC further clarified that generally the interconnection scheme is proposed initially on the basis of Report-1 for evacuation of power to national grid and it remains the same after Report-2 in which the plant interconnection scheme is finalized. However, in some cases final interconnection scheme in Report-2 may be modified with respect to the proposals in Report-1;
- (g). CPPA-G commented that generation licence may be granted for development of the project. However, while approving the tariff the cost of land may be adjusted as the new coal fired plant is being developed on the existing site of 1200 MW RFO based power plant of the Hub Power Company Limited as the cost of land was already included in the Hub Power Company Limited 's RFO based plant;
- (h). Ministry of Ports and Shipping communicated no objection to the grant of generation licence to the applicant. Ministry of Ports and Shipping further submitted that it does not guarantee provision of coal for the plant which will be the responsibility of the developer



itself. However in case of import of coal the concerned port authorities can facilitate handling at port;

(i). Port Qasim Authority submitted that in view of the shortage of energy in the country, the project is supported;

(j). Anwar Kamal Law Associates provided detailed comments and opposed the grant of generation licence to the applicant on "take or pay" basis. Anwar Kamal Law Associates in its comments made serious reservation regarding performance of the Authority stating that the regulator has failed to remove the inefficiencies of the power sector. Further, Anwar Kamal Law Associates has highlighted different issues including issues of energy mix, poor performance of generation & distribution companies, high price of electricity, increased load shedding, long term power purchase agreements on take or pay basis, installation of imported coal based power plants in mid-country, coal transportation and logistics issues, surplus capacity, under utilization of power plants, induction of new plants on take or pay basis, economic merit order and market rules developed by NEPRA etc.

✓
(k). Energy Department, Govt. of Sindh submitted that the establishment of the 1320.00 MW thermal power plant may be considered as per government policy guidelines. The guidelines of environmental protection agency should strictly be followed and new technology should be used to reduce the risk of emission of CO2. Energy Department, Govt. of Sindh further added that detail/specification of machinery/technology of combustion should be furnished for detail technical comments.

BT
(iii). The Authority examined above comments of stakeholders and observed that some of the stakeholders (i.e. Directorate General of Mines & Minerals, Govt. of Balochistan, CPPA-G and Anwar Kamal Law Associates had raised certain objections to the grant of generation licence to CPHGCPL. Therefore, it was considered appropriate seeking perspective of the applicant on

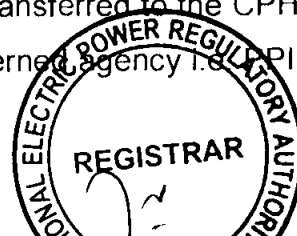


the comments/observations of Directorate General of Mines & Minerals, Govt. of Balochistan, CPPA-G and Anwar Kamal Law Associates.

(iv). On the observation of Directorate General of Mines & Minerals, Govt. of Balochistan that coal resources of the Balochistan may be used in the power plant, the CPHGCPL submitted that it has positively considered the proposal of utilizing coal resources of Balochistan and has started examining technical possibilities of utilizing reasonable percentage of local coal in the coal blend subject to the approval of the Authority.

(v). Regarding the observations of CPPA-G that while approving the tariff the cost of land may be adjusted as the new coal fired plant is being developed on the existing site of the Hub Power Company Limited, CPHGCPL has submitted that land acquired by it and the land transferred by the Hub Power Company Limited must be addressed separately. The project shall be developed by China Power Hub Generation Company- a joint venture between the Hub Power Company Limited and CPIHL. The applicant/CPHGCPL is an independent legal entity that shall acquire the land, and shall develop the project pursuant to upfront tariff-2014 and under the said upfront tariff, CAPEX (which includes cost of land) is fixed and is not an item for true-up. The Authority has not adjusted the land price for any coal based projects under the upfront tariff regime irrespective of the fact if they are being developed on some port authority's discounted leased land located at coast or highly exorbitant fertile agriculture land in mid country. Limited true up is allowed in upfront tariff for certain projects on the basis of unforeseen or special costs. Cost of land has never been the basis of seeking an "adjustment" in the upfront tariff. Therefore, to the extent of the CPHGCPL, any reference of adjustment for the 'paid land' is irrelevant.

(vi). As regards transfer of land by the Hub Power Company Limited to the CPHGCPL, it is worth noting that the Hub Power Company Limited project is a Built Own Operate (BOO) IPP. As such, the Hub Power Company Limited is the ultimate owner of the land until a situation arises where the project is terminated before the expiry of 'Term' and the assets be transferred to GoP after settlement of agreed compensation amounts. For settling a HUBCO-termination scenario and the transfer of assets to GoP (including the land transferred to the CPHGCPL), we have initiated a process of dialogue with the concerned agency i.e. PIB. Had the



Hub Power Company Limited project been a BOOT (Built, Own, Operate and Transfer) IPP only then, the concerns of CPPA-G could have any basis for arguing adjustment of 'paid land'. It is very important to note here that even with transferring of some piece of land to the applicant/CPHGCPL, the Hub Power Company Limited would continue providing the contracted capacity to the power purchaser for which it has been paid in past, and will be paid in future through the capacity purchase price.

(vii). In its rejoinder to the observations of Anwar Kamal Law Associates, the applicant/CPHGCPL has submitted that the comments are related to GoP Policies and working of NEPRA and nothing directly pertains to the grant of generation licence. Further, the issue of "take or pay" relates to tariff rather than generation licence.

(viii). The Authority considered the rejoinder and the other submissions of CPHGCPL and found the same plausible. Accordingly, the Authority considered it appropriate to process the application of CPHGCPL for the consideration of the grant of Generation Licence as stipulated in the Licensing Regulations and NEPRA Licensing (Generation) Rules, 2000 ("the Generation Rules").

(D). Grant of Generation Licence

(i). Sustainable and affordable electric power is a key and lifeline for the socio-economic development of any country. In fact, the economic growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of electricity. The electricity consumption per capita has a strong correlation to the Social Development Indices (Human Development Index-HDI, life expectancy at birth, infant mortality rate, and maternal mortality) and Economic Indices (such as GDP per capita etc.).

(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 electric power generation resources including coal, hydro, wind, solar and other

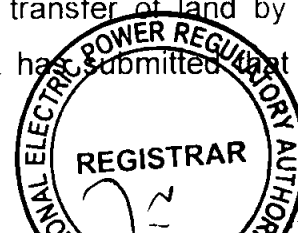


Renewable Energy (RE) resources must be tapped and developed on priority basis both in Public and Private Sectors.

(iii). The current energy mix of the country is skewed towards the costlier thermal generation facilities/power plants operating on Furnace Oil. The Import of relatively expensive furnace oil results in depletion of the precious foreign exchange reserves of the country affecting the macro and micro stability of the country. In view of the said, an increase in the consumer end tariff is experienced which 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 towards cheaper fuels. With the depleting natural gas reserves in the country and relatively longer lead time for the construction of hydro electric power projects, the coal power plants are considered to be 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 coal projects are given priority for power generation and their development is encouraged. In view of the said, the Council 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 CPHGCPL is consistent with the provisions of Power Policy 2015.

(iv). The Authority has examined the details submitted by CPHGCPL about the proposed generation facility/power plant with reference to its location, the type of technology being deployed, interconnection arrangements for dispersal of electric power and other relevant details.

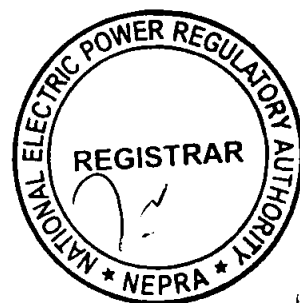
(v). The power plant is to be located at about 20 KM from the center of Hub city, Mouza Kund, Tehsil Gadani, District Lasbela, in the Province of Balochistan. The Authority has observed that the proposed project is joint venture of the Hub Power Company Limited and China Power International Holding Limited. In this regard CPHGCPL has submitted it is a separate legal entity and that land acquired by it and the land transferred by the Hub Power Company Limited must be addressed separately. Regarding transfer of land by the Hub Power Company Limited to the project, CPHGCPL has submitted that the Hub



Power Company Limited project is a Built Own Operate (BOO) IPP. As such, the Hub Power Company Limited is the ultimate owner of the land until a situation arises where the project is terminated before the expiry of 'Term' and the assets be transferred to GoP after settlement of agreed compensation amounts. For settling a HUBCO-termination scenario and the transfer of assets to GoP (including the land transferred to the CPHGCPL, we have initiated a process of dialogue with the concerned agency i.e. PPIB. Regarding land of the of the project, the Authority has observed that CPHGCPL has been allocated about 333 acres land in Hub city, Mouza Kund, Tehsil Gadani, District Lasbella, in the Province of Balochistan as shown in schedule-I of the licence. In this regard, the Authority directs CPHGCPL that the aforementioned land shall be exclusively used for the proposed coal power project and CPHGCPL cannot carry out any other generation activity on this land except with prior approval of the Authority.

(vi). Regarding the issue of adjustment of cost of land of the project in the tariff, the Authority has observed that upfront tariff for coal dated June 26, 2014 is based on generic capital expenditure (CAPEX). Neither individual CAPEX line items, including cost of land have been identified nor any adjustment provided on actual basis, other than those adjustments that have been specifically identified in the tariff determination. In principle, upfront tariff is a package deal. Companies opting for upfront tariff have to commercially evaluate the approved numbers keeping in view its available resources, strength and weaknesses. Therefore, individual CAPEX item such as land cost cannot be adjusted on case to case basis.

(vii). The Authority has observed that the proposed generation facility will be consisting of 2 x 660MW super-critical units each with one boiler, steam turbine and generator. The boiler will be fueled by imported coal with the capability to burn local coal of the same quality in future. Design coal for this project will be South African RB-3 and check coal will be blend of 50% Indonesian NAR4700 and 50% South African RB-3. Proposed coal supplier would be Mercuria and Uniper. The coal will be transported through marine shipment. The Authority considers that the supercritical technology is very mature with many units in operation worldwide for many years with good track records.



(viii). Regarding technical parameters, CPHGCPL has confirmed that the selected main parameters of the steam turbine and boiler of the project (571°C and 25.40MPa) are at the high end of the supercritical class and produce high thermal efficiency that results in less emission per unit of electricity generated. Guaranteed efficiency of boiler is about 93.3% (low heating value). The modern emission control system will make the technology environmentally friendly. The high efficiency of the selected system and the low cost of coal fuel will generate the lowest cost power and make an economically feasible solution to relieve power shortages in Pakistan. The gross efficiency of the proposed generation facility/thermal power plant will be more than 41% (i.e. 42.11%) whereas the net efficiency of same will be greater than 38.00%. The Authority considers that the higher efficiency of the proposed generation facility and the low cost of fuel (i.e. imported coal) will provide an economically feasible solution to relieve power shortages in the country.

(ix). NTDC has confirmed about carrying out the load flow studies pertaining to the dispersal of electric power from the proposed generation facility. In this regard, on the basis of load flow study results, it has been confirmed that the electric power from the Imported Coal based generation facility of CPHGCPL can be dispersed to the National Grid in a reliable manner during normal and N-1 contingency conditions without any transmission constraints. In this regard, the Authority has observed that Report-2 (short circuit and system stability study) has not been provided. In view of the said, the Authority directs CPHGCPL to submit the remaining parts of the grid interconnection study (i.e. short circuit and transient & stability study) duly approved by NTDC within 08 weeks of grant of generation licence.

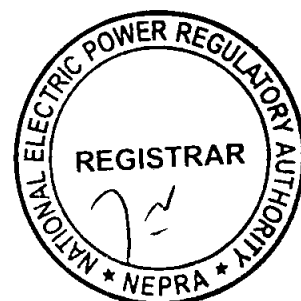
(x). The term of a Generation Licence under the Rule-5 (1) of the Generation Rules, is to be commensurate with the maximum expected useful life of the units comprised in a generating facility. As explained above, the proposed generation facility of CPHGCPL will be consisting of two (02) steam turbine units of 660.00 MW each. According to the International benchmarks available, the useful life of a steam turbine is normally taken at least thirty (30) years from its Commercial Operation Date (COD). Further, CPHGCPL has also confirmed that it will be negotiating a Power Purchase Agreement (PPA) with the Power Purchaser having a term of thirty (30) years. In view of the said, the Authority hereby sets the



term of the proposed Generation Licence of CPHGCPL to be thirty (30) years from its COD.

(xi). Regarding the tariff of generation company (i.e. CPHGCPL), the Authority through its determination No. NEPRA/TRF-342/CPHGCPL-2016/2043-2045, dated February 12, 2016 has granted CPHGCPL an up-front tariff for its project. The Authority directs CPHGCPL to follow the terms and conditions of the granted up-front tariff in letter and spirit and charge the power purchaser only such tariff which has been determined, approved or specified by the Authority.

(xii). As explained above, the proposed generation facility for which generation licence has been sought is based on imported coal. The coal based generation facility may be harmful to environment because of emission of green house gases and production of ash and other effluents. In this regard, CPHGCPL confirmed that proposed generation facility will have air emission control equipment, including an electrostatic precipitator and a flue gas desulfurization system to lower green house gases emissions. Effluents from the plant will be treated and monitored for compliance with National Environmental Quality Standards (NEQS) before being discharged into the sea. All other industrial effluents such as those from the boiler makeup water treatment system, oily waste and sanitary waste will be treated to comply with NEQS and re-used as far as possible. Water will also be used to mix with ash to form ash-slurry and for washing coal. Here too water will be retreated and re-used. In this regard, CPHGCPL has also provided a copy of the necessary NOC issued by Environmental Protection Agency, Govt. of Balochistan confirming that NEQS will be followed. Apart from the above, the Authority directs CPHGCPL to ensure that the generation facility conforms to the environment standards during the term of the generation licence. In view of the said, the Authority has included a separate article along with other terms and conditions that the Licensee will comply with relevant environmental standards. Further, the Authority directs CPHGCPL to submit a report on a bi-annual basis, confirming that operation of its proposed generation facility is compliant with required Environmental Standards as prescribed by Environmental Protection Agency, Govt. of Balochistan.



In view of the above, the Authority hereby approves the grant of generation licence to CPHGCPL 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 there under and the other applicable documents.

Authority

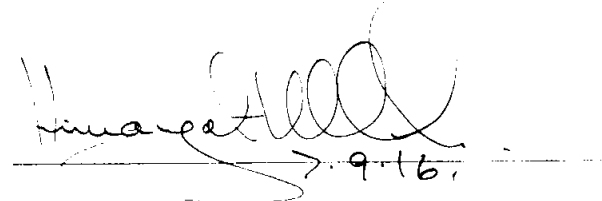
Maj. (R) Haroon Rashid
(Member)

 5/9/16

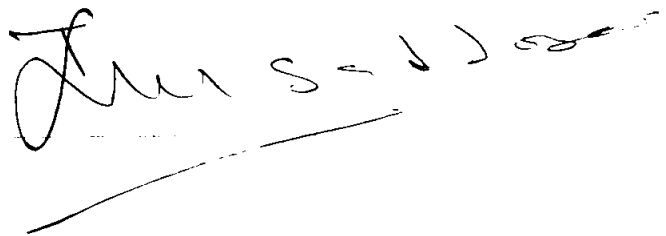
Syed Masood-ul-Hassan Naqvi
(Member)

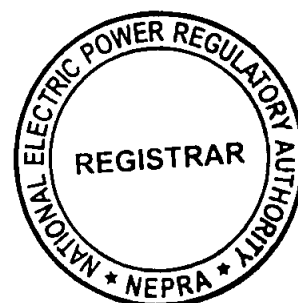
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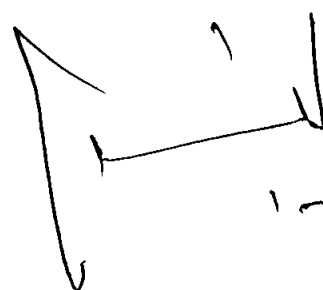
Himayat Ullah Khan
(Member/Vice Chairman)

 5-9-16

Brig. (R) Tariq Saddozai
(Chairman)







8-9-16

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

GENERATION LICENCE

No. IGSPL/68/2016

In exercise of the Powers conferred upon the National Electric Power Regulatory Authority (NEPRA) under Section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby grants a Generation Licence to:

CHINA POWER HUB GENERATION COMPANY (PVT.) LIMITED

Incorporated under the Companies Ordinance, 1984
Under Corporate Universal Identification No. 0095052
Dated September 03, 2015

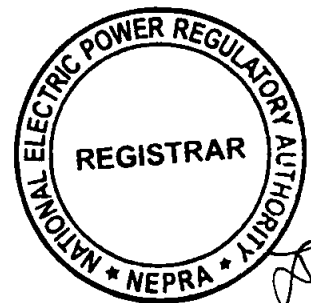
for its Imported Coal based Thermal Generation Facility
Located at Hub, Mouza Kund, Tehsil Gadani, District Lasbella,
in the Province of Balochistan

(Installed Capacity: 1320.00 MW Gross)

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

Given under my hand on 8th day of September Two Thousand & Sixteen and expires on 30th day of August Two Thousand & Forty Eight.


Registrar



Article-1
Definitions

1.1 In this Licence

- (a). "Act" means "the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997";
- (b). "Applicable Documents" have the same meaning as defined in the Rules;
- (c). "Authority" means "the National Electric Power Regulatory Authority constituted under Section-3 of the Act";
- (d). "Bus Bar" means a system of conductors in the generation facility of the Licensee on which the electric power of all the generators is collected for supplying to the Power Purchaser;
- (e). "Commercial Operations Date (COD)" means the Day immediately following the date on which the generation facility of the Licensee is Commissioned;
- (f). "CPPA-G" means "the Central Power Purchasing Agency (Guarantee) Limited" or any other entity created for the like purpose;
- (g). "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 any necessary approval by the Authority;
- (h). "Grid System" means the transmission facilities owned by the Power Purchaser, other than the Interconnector Facilities of the Licensee through which the net electric power output will be



received and distributed by the Power Purchaser;

- (i). "IEC" means International Electrotechnical Commission or any other entity created for the like purpose and its successors or permitted assigns;
- (j). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;
- (k). "Interconnection Point" the physical point or points where the generation facility and the Grid System are to be connected;
- (l). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;
- (m). "Licensee" means "**China Power Hub Generation Company (Pvt.) Limited**" and its successors or permitted assigns;
- (n). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;
- (o). "Power Purchase Agreement" means the power purchase agreement, entered or to be entered into by and between the Power Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility, as may be amended by the parties thereto from time to time;
- (p). "Power Purchaser" means the CPPA-G purchasing power on behalf of XW-DISCOs from the Licensee, pursuant to Power Purchase Agreement;
- (q). "Regulations" mean "the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time";



- (r). "Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";
- (s). "XW DISCO" means "an Ex-WAPDA distribution company engaged in the distribution of electric power".

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 Law, as amended from time to time.

Article-3 **Generation Facilities**

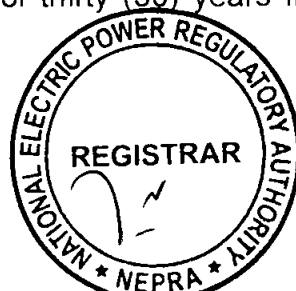
3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical and functional specifications and other details specific to the generation facility of the Licensee are set out in Schedule-I of this Licence.

3.2 The net capacity of the generation facility of the Licensee is set out in Schedule-II hereto.

3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility before its COD.

Article-4 **Term of Licence**

4.1 The Licence is granted for a term of thirty (30) years from the COD of the generation facility.



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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 the Regulations.

Article-5
Licence fee

After the grant of the Generation Licence, the Licensee shall pay to the Authority the Licence fee, in the amount and manner and at the time set out in the National Electric Power Regulatory Authority (Fees) Rules, 2002.

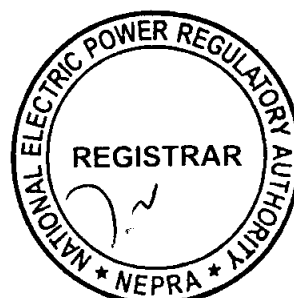
Article-6
Tariff

The Licensee shall charge only 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 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 from time to time.

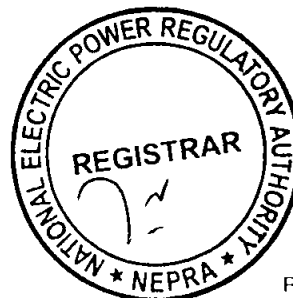
Article-10
Compliance with Environmental Standards

10.1 The Licensee at all times shall comply with the environmental standards as may be prescribed by the relevant competent authority as amended 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 is in line with environmental standards as prescribed by the relevant competent authority.

Article-11
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.



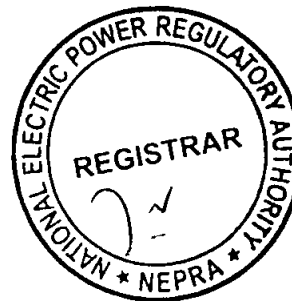
Article-12
Provision of Information

12.1 The obligation of the Licensee to provide information to the Authority shall be in accordance with Section-44 of the Act.

12.2 The Licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required from time to time by the Authority and which is or ought to be or has been in the control or possession of the Licensee.

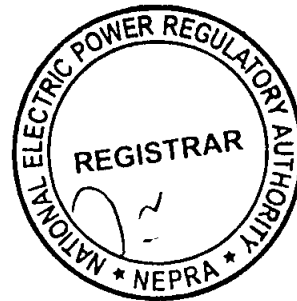
Article-13
Design & Manufacturing Standards

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



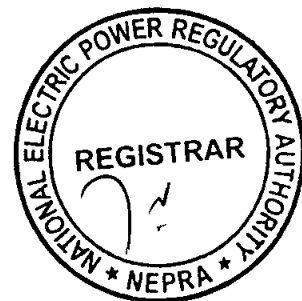
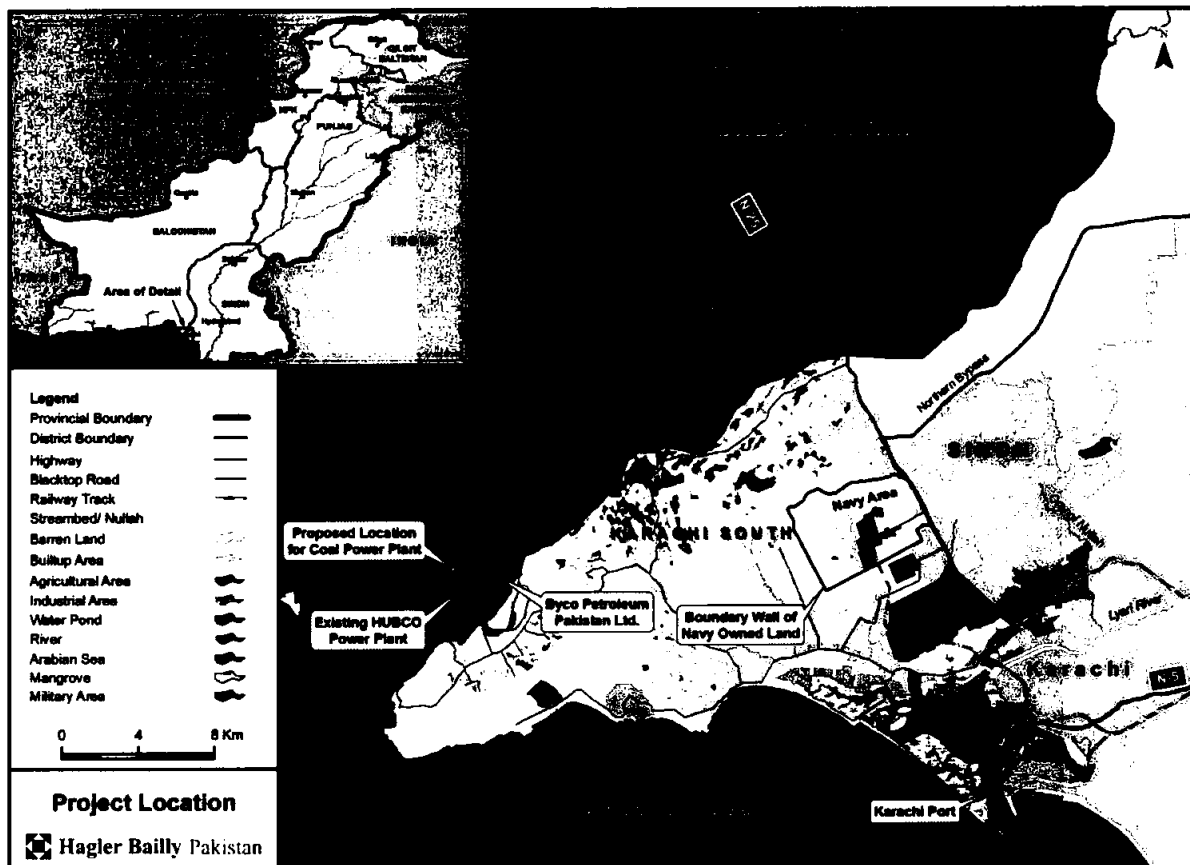
SCHEDULE-I

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



Generation Licence
China Power Hub Generation Company (Pvt.) Limited
at Hub, Mouza Kund, Tehsil Gadani, District Lasbella,
in the Province of Balochistan

Site Location of the
Generation Facility/Thermal Power Plant of
China Power Hub Generation Company (Pvt.) Limited
(CPHGCPL)

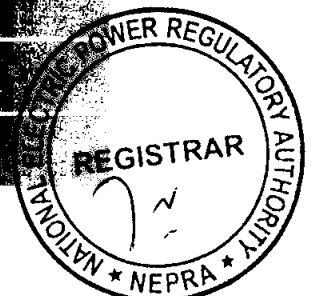


Land Coordinates of the Generation Facility/Thermal Power Plant of CPHGCPL

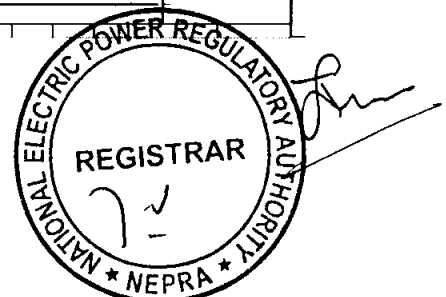
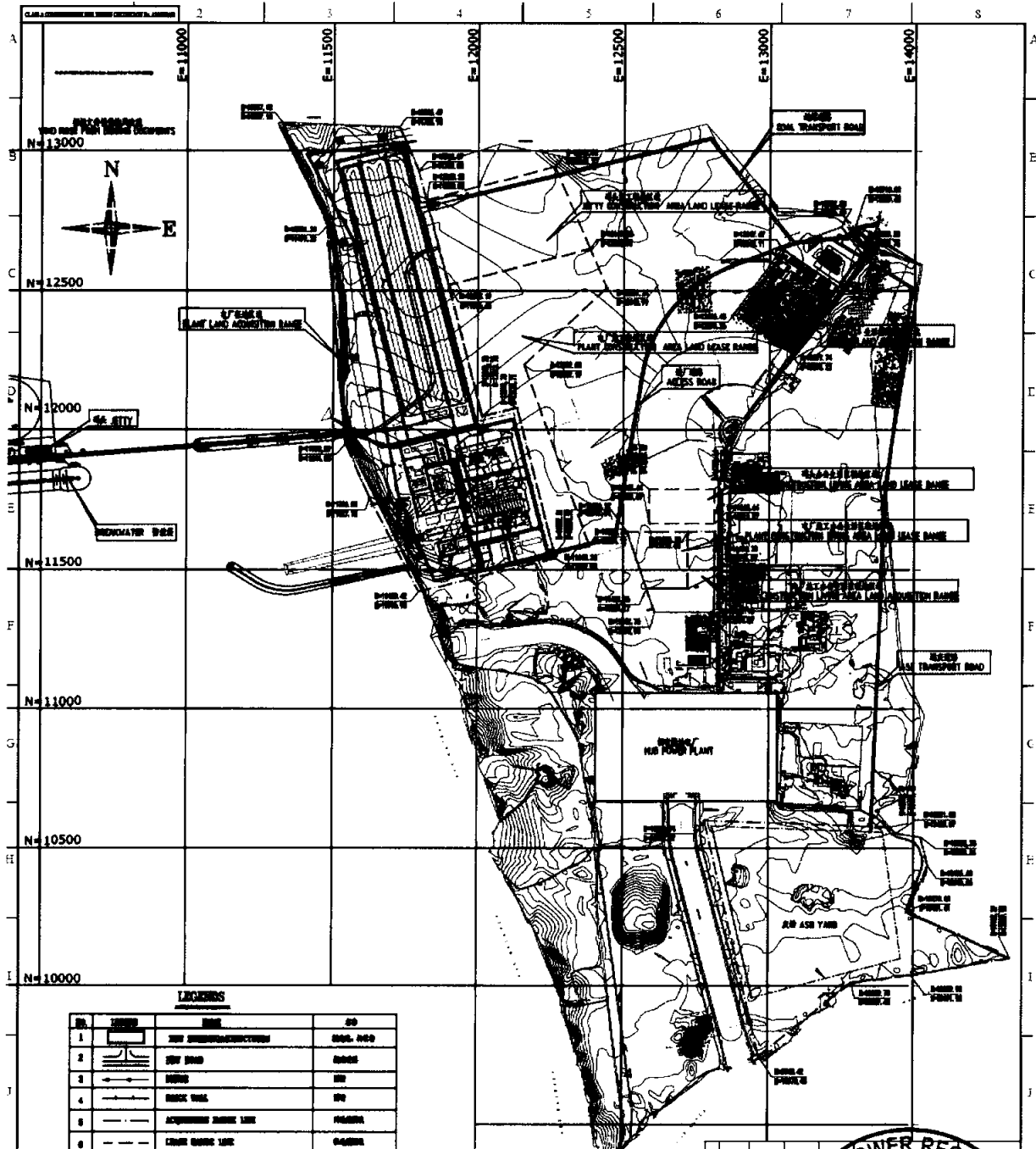


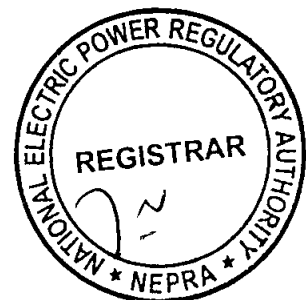
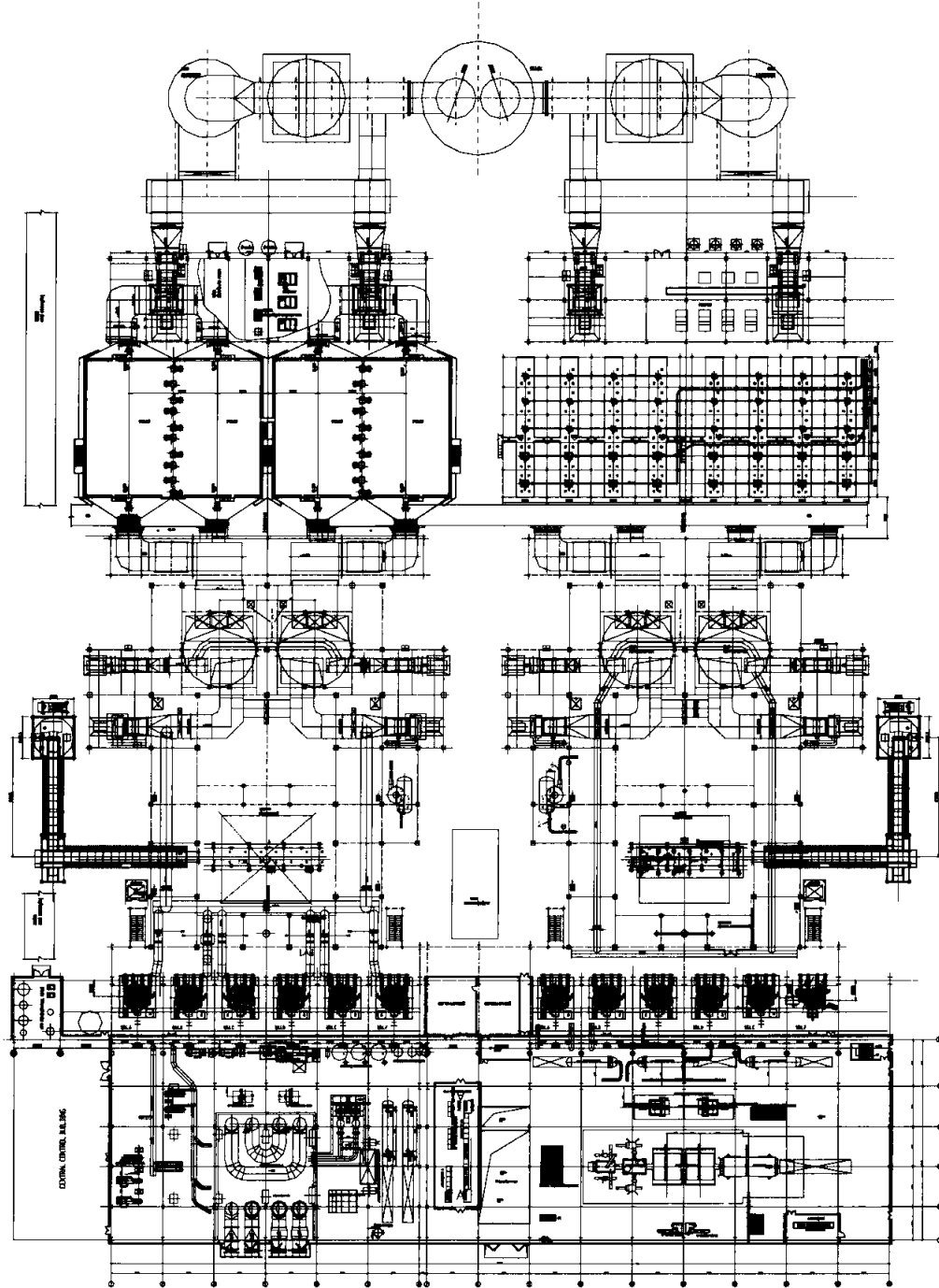
Land Coordinates

Boundary	Latitude	Longitude
North Boundary	24°55'35.72"N	66°40'51.12"E
North Boundary	24°55'35.73"N	66°41'00.00"E
North Boundary	24°55'35.25"N	66°41'00.00"E
South Boundary	24°54'45.19"N	66°41'00.00"E
South West Boundary	24°54'44.45"N	66°41'00.00"E

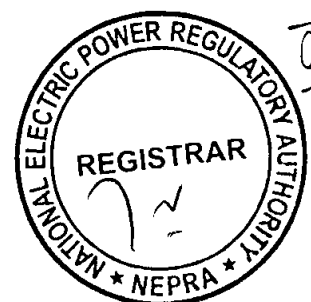
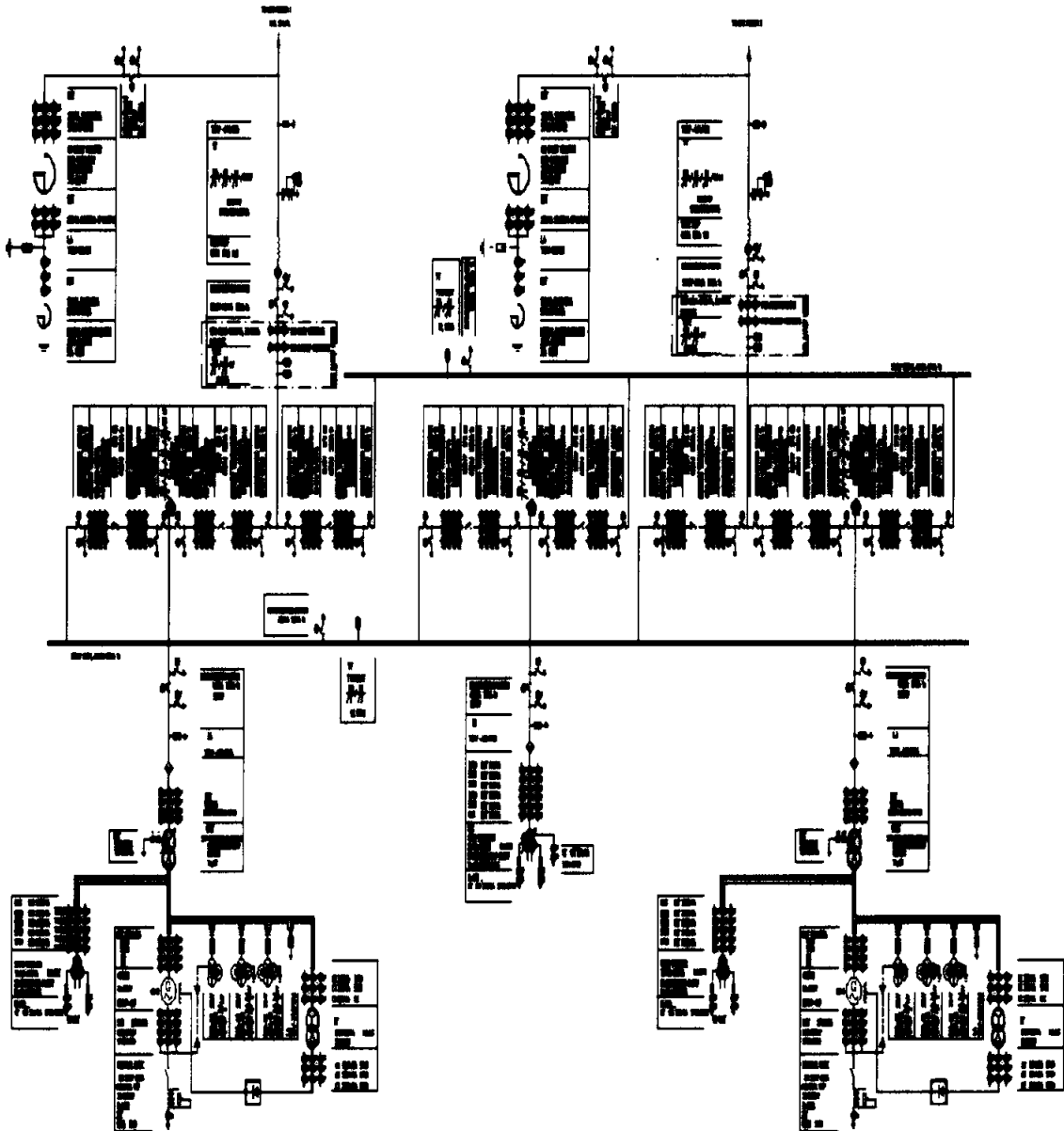


Lay Out of the Generation Facility/Thermal Power Plant of CPHGCPL





Single Line Diagram (Electrical)
of the Generation Facility/Thermal Power Plant of
CPHGCPL

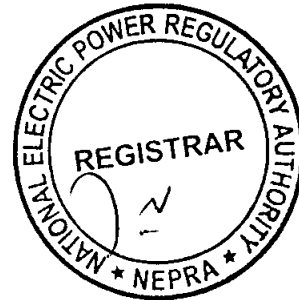


**Interconnection Facilities/
Transmission Arrangements for Dispersal of Power from
the Generation Facility/ Thermal Power Plant of
CPHGCPL**

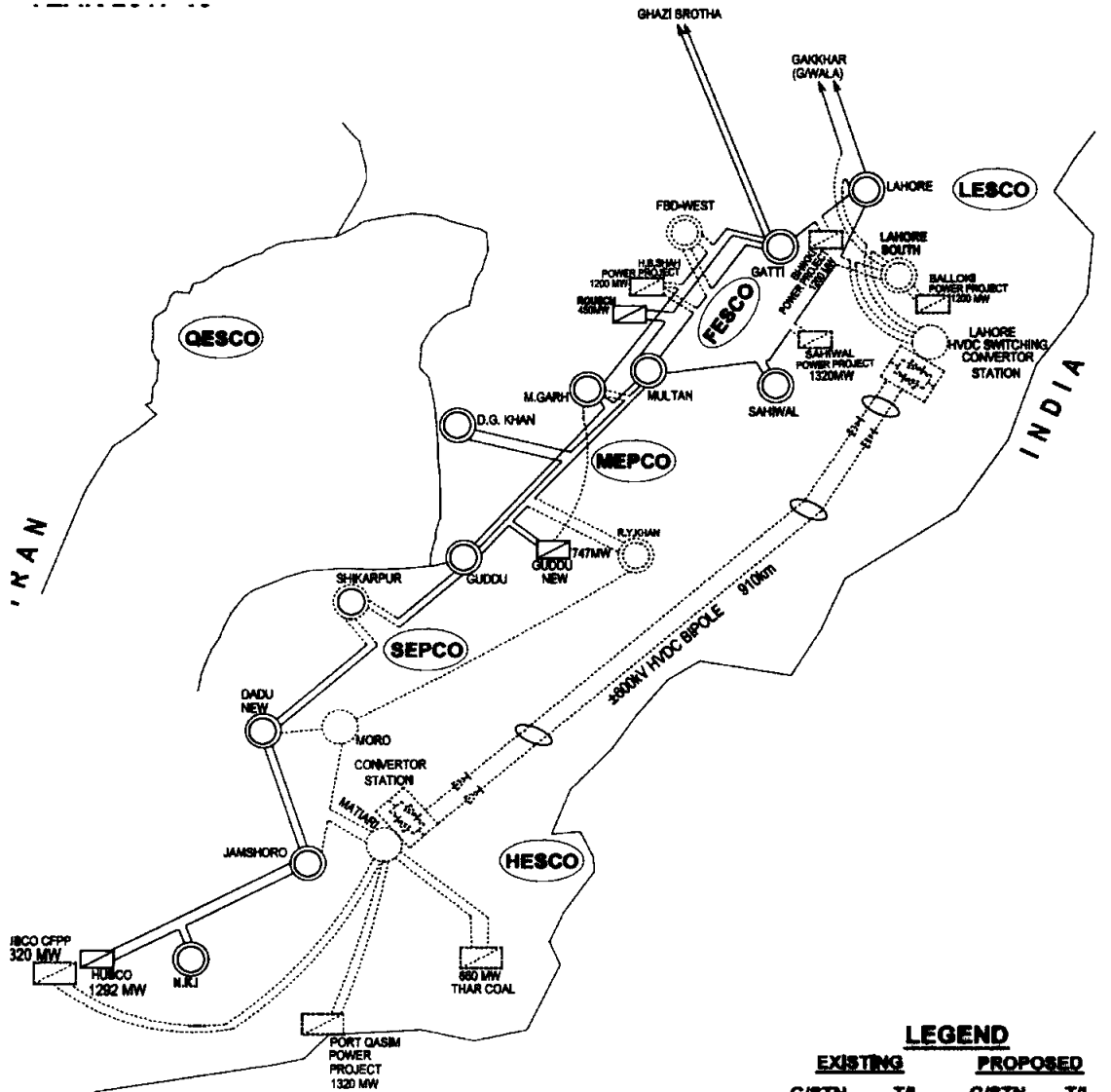
The electric power from the imported coal based generation facility/thermal power plant of CPHGCPL will be dispersed to the national grid.

(2). The interconnection facilities/transmission arrangements for supplying to national grid from the above mentioned generation facility shall be at 500 KV level. The dispersal/interconnection arrangement for supplying to national grid will be by constructing a 500 KV double circuit transmission line from HUBCO to Matiari, connecting the generation facility/thermal power plant with 500 KV Matiari Grid Station.

(3). Any change in the above mentioned interconnection facilities/transmission arrangements 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.



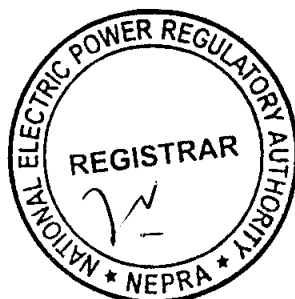
Schematic Diagram of Interconnection Arrangement for Dispersal of Power from the Generation Facility/ Thermal Power Plant of CPHGCPL



ARABIAN SEA

LEGEND

EXISTING		PROPOSED	
G/STN	T/L	G/STN	T/L
500kV			
220kV			
±800kV HVDC			
±800kV HVDC			
500kV HYDEL P/STN			
500kV THERMAL P/STN			



Details of Generation Facility/ Power Plant

(A). General Information

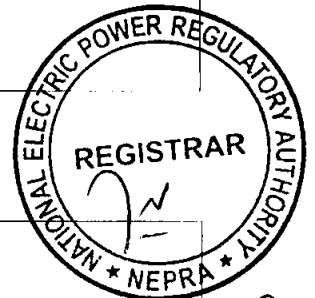
(i).	Name of Company/Licensee	China Power Hub Generation Company (Pvt.) Limited
(ii).	Registered /Business Office	10 th Floor, Ocean Tower, Block-9, Main Clifton Road, Karachi
(iii).	Location of the Generation Facility	Hub, Mouza Kund, Tehsil Gadani, District Lasbella, in the Province of Balochistan
(iv).	Type of Generation Facility	Coal Fired Thermal Power Plant

(B). Plant Configuration

(i).	Installed Capacity/ Plant Size of the Generation Facility	1320.00 MW	
(ii).	Type of Technology	Pulverized Coal Thermal Power Generation Facility with Super Critical Boiler and Steam Turbine	
(iii).	Number of Units/Size (MW)	2 x 660.00 MW	
(iv).	Unit Make/Model/Type & Year of Manufacture Etc.	Boiler	Boiler , with supercritical steam parameters, ALSTOM make, Model: 2031.7/25.52-1
		Steam turbine	Super critical, single-reheat, four cylinder Steam Turbine, ALSTOM make, Model: DKY4-4ND37
(v).	COD of the Generation Facility (Expected)	August 31, 2018	
(vi).	Expected Useful Life of the Generation Facility from COD	30 years	

(C). Fuel/Raw Material Details

(i).	Primary Fuel	Imported Coal
(ii).	Start-Up Fuel	Light Fuel Oil (LFO) or High Speed Diesel (HSD)



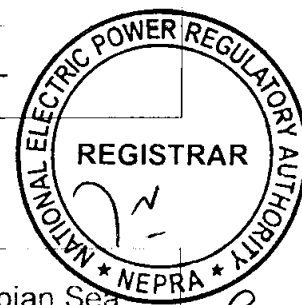
(iii).	Fuel Source for each of the above	Primary Fuel	Start-Up
		Lignite/Sub-Bituminous Coal from Indonesia, South Africa etc.	Indigenous/Imported
(iv).	Fuel Supplier for each of the above	Primary Fuel	Start-Up
		Mercuria and Uniper	PSO/Shell etc.
(v).	Supply Arrangement for each of the above	Primary Fuel	Start-Up Fuel
		Through Ships/Vessel/Barge, Jetty and Trucks etc.	Through Oil Tankers
(vi).	No. of Storage Bunkers/Tanks/Open Yard	Primary Fuel	Start-Up Fuel
		Two (02) coal yards	Two (02) tanks
(vii).	Storage Capacity of each Bunkers/Tanks/Open Yard	Primary Fuel	Start-Up Fuel
		Approx. 70.6×10^4 Tons	360m^3
(viii).	Gross Storage	Primary Fuel	Start-Up Fuel
		Approx. 141.2×10^4 Tons	720m^3

(D). Emission Values

		Primary Fuel	Start-Up Fuel
(i).	SO _x (mg/Nm ³)	<200	<200
(ii).	NO _x (mg/Nm ³)	<398	-
(iii).	Particulate Matter (mg/Nm ³)	<40	-

(E). Cooling System

(i).	Cooling Water Source/Cycle	Open Channel Once-through from Arabian Sea
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(F). Plant Characteristics

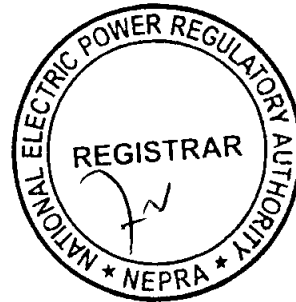
(i).	Generation Voltage	22 KV (Transmission Voltage 500 kV)
(ii).	Frequency	50Hz
(iii).	Power Factor	0.8 (lagging) /0.92(leading)
(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	Yes
(v).	Ramping Rate (MW/min)	To be provided later
(vi).	Time required to Synchronize to Grid (Hrs.)	To be provided later



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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	1320.00 MW
(2).	De-rated Capacity of Generation Facility at Reference Site Conditions	1320.00 MW
(3).	Auxiliary Consumption of the Generation Facility	105.60 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Conditions	1214.40 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).

