



# National Electric Power Regulatory Authority

## Islamic Republic of Pakistan

**Registrar**

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad  
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Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/R/DL/LAG-290/ 2810-2814

March 03, 2016

Mr. Intisar Ul Haq Haqqi,  
Chief Executive Officer,  
Lucky Electric Power Company Limited,  
6-A, A. Aziz Hashim Tabba Street,  
Muhammad Ali Housing Society,  
Karachi.

**Subject: Generation Licence No. IGSPL/66/2016**  
**Licence Application No. LAG-290**  
**Lucky Electric Power Company Limited (LEPCL)**

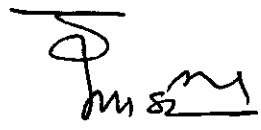
**Reference:** *Your application vide letter No. LEPCL/CEO/660-009, dated 20<sup>th</sup> February, 2015, received on 24<sup>th</sup> February, 2015.*

Enclosed please find herewith Generation Licence No. IGSPL/66/2016 granted by National Electric Power Regulatory Authority (NEPRA) to Lucky Electric Power Company Limited (LEPCL), 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/66/2016)**



  
03.03.16  
(Syed Safeer Hussain)

Copy to:

1. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
2. Chief Operating Officer, CPPA-G, 107-WAPDA House, Lahore
3. Director General, Environment and Alternative Energy Department, Government of Sindh, Plot No ST/2/1, Sector 23, Korangi Industrial Area, Karachi.
4. Managing Director, Private Power and Infrastructure Board (PIIB), 50-Nazimuddin Road, Sector F-7/4, Islamabad.

**National Electric Power Regulatory Authority**  
**(NEPRA)**

**Determination of the Authority**  
**in the Matter of Application of Lucky Electric Power Company**  
**Limited for the Grant of Generation Licence**

**March 03, 2016**  
**Case No. LAG-290**

**(A). Background**

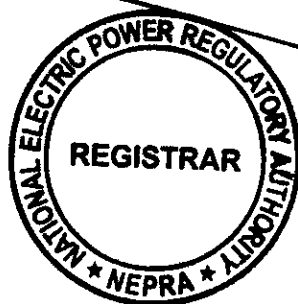
(i). The Government of Pakistan (GoP) has set up Private Power Infrastructure Board (PPIB) as a one window facilitator for the entrepreneurs interested in setting up new generation facilities.

(ii). In order to meet the future electricity/energy needs of the country and to improve the energy mix, the GoP has decided to install Generation Facilities/Thermal Power Plants (TPPs) operating on either imported or indigenous Coal. In order to implement the said initiative, PPIB has issued Letter of Intent (LoI) to various local and foreign investors/groups. PPIB also issued a LoI to Lucky Cement Limited (LCL) for setting up an approximately 660.00 MW Imported Coal based Generation Facility/TPP at Deh Ghangario, Bin Qasim Town, at Karachi, in the Province of Sindh.

(iii). In order to implement the project, the sponsors of the project incorporated a Special Purpose Vehicle (SPV) in the name of Lucky Electric Power Company Limited (LEPCL) under the Companies Ordinance 1984.

**(B). Filing of Application**

(i). In accordance with Section-15 of Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act), LEPCL submitted an application on February 24, 2015 requesting for the grant of Generation Licence.

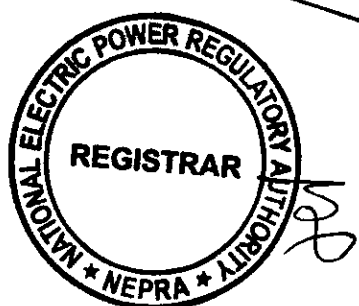


(ii). The Registrar examined the submitted application and found the same compliant with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 ("the Regulations"). The Authority considered the matter in its Regulatory Meeting (RM-15-221), held on March 19, 2015 and found the form and content of the application in substantial compliance with Regulation-3 of the Regulations. Accordingly, the Authority admitted the application for consideration of the grant of the Generation Licence as stipulated in Regulation-7 of the Regulations. The Authority approved the advertisement [containing (a). the prospectus of the company; and (b). a notice to the general public about the admission of the application of LEPCCL], inviting the general public for submitting their comments in the matter as stipulated in Regulation-8 of the 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 LEPCCL. Accordingly, the advertisement was published in one Urdu and one English National Newspaper on March 29, 2015.

(iii). Apart from the above, separate letters were also sent to Government Ministries, their Attached Departments, Representative Organizations and Individual Experts etc. on March 31, 2015. The said stakeholders were directed for submitting their views/comments for the assistance of the Authority.

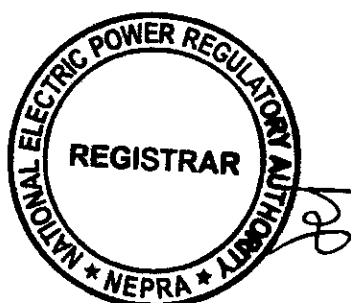
### **(C). Comments of Stakeholders**

(i). In reply to the above, the Authority received comments from eight (08) stakeholders. These included Ch. Mazhar Ali Chief Warden Civil Defence (Rtd.), Mr. Abubaker Usman Director Public Issues Committee, Pakistan Mineral Development Corporation (Pvt.) Limited (PMDCL), Mr. Raja Muhammad Nadeem of Jhelum, Port Qasim Authority (PQA), Ministry of Petroleum and Natural Resources (MoP&NR), Ministry of Ports & Shipping (MoP&S) and K-Electric Limited (KEL). The salient points of the comments offered by the above stakeholder are summarized in the following paragraphs:



(a). Mr. Mazhar commented that coal projects (like that of LEPCL) cause huge emission of coal dust and poisonous gases in the atmosphere. Being located in the highly populated and industry-congested city of Karachi, the project will be a major environmental concern. The disposal of huge amount of Ash from such plants is a serious problem. Such plants should preferably be located near the coal mines. This will minimize high transportation costs which will ultimately lower the cost of electricity. In view of the said, setting up coal plants near populated cities like Karachi should be avoided. Therefore, the Authority may decline the grant of Generation Licence to LEPCL;

(b). Mr. Abubaker Usman remarked that the coal projects are not suitable to be located near big cities like Karachi as they produce large quantity of ashes and other effluents. Mr. Usman submitted that already KEL is in the process of converting its fuel based units for operation on coal. Further, KEL plans setting up another 650.00 MW coal based TPP in the same vicinity. All these projects will be injurious to the residents of Karachi and its adjoining areas. The project is being set up in Karachi whereas the electric power from it will be supplied to National Transmission and Grid Company Limited (NTDC). The hazards of the projects will be borne by the residents of Karachi whereas the benefits will be enjoyed by rest of the country which is not fair. Mr. Usman suggested that instead of coal projects other cleaner resources should be adopted for electric power generation;



- (c). PMDCPL appreciated the proposal of LEPCL as this will help to overcome the energy crisis in the country. However, PMDCPL suggested that instead of importing, the indigenous coal may be used;
- (d). Mr. Raja Muhammad Nadeem contested that LEPCL had submitted incomplete information as the sponsors had not purchased land at that time. Therefore, the Authority admitted an incomplete application and made a wrong publication. LEPCL in connivance with officials of Karachi Metropolitan Corporation (KMC) have managed to bid in open auction of cattle colony plots on April 08, 2015. These plots are for the purpose of cattle bara and not for power plant or industry. The auction of plots is in violation of the land Rules 1975. The Authority must annul the admitted application and take appropriate legal remedy against the sponsors.
- (e). PQA informed that it has signed an Implementation Agreement with Pakistan International Bulk Terminal (Pvt.) Limited (PIBT) for the establishment of Coal and clinker/cement Terminal on BOT basis. PIBT has envisaged capacity for coal handling to be 12.00 million Tons and 4.00 Million Tons for Clinker/Cement. The expected completion date of the project is December 20, 2016. The coal requirement of the proposed project can be handled at PITB for which sponsors may enter into Coal Handling Agreement;
- (f). MoP&NR expressed its no objection for the proposed coal power project as it will not be requiring any allocation of Natural Gas;



**(g).** MoP&S stated that PQA has informed that the company has not been allotted/leased out the land in its Industrial Zone;

**(h).** KEL in its comments enquired about (a). status of acquisition of land; (b). scheme of power acquisition including responsibility of construction of Transmission Line, its capacity and route; (c). status of approval of Environmental and Social Impact Assessment (ESIA). Further, KEL stressed that laying of any Transmission Line inside its territory should only be done after reaching an agreement with it. KEL urged that its consent is necessary as a number of its future projects will be located within Port Qasim.

**(ii).** The Authority examined above comments of the stakeholders and observed that the stakeholders had raised certain objections. In view of the said, the Authority considered it appropriate seeking perspective of LEPCL on the observations of all the above stakeholders except MoP&NR which had expressed its support for the grant of Generation Licence in explicit terms.

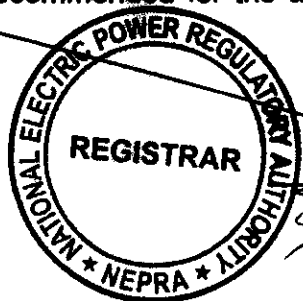
**(iii).** In its rejoinder to the observation of Ch, Mazhar Ali, LEPCL submitted that its Project will be based on a supercritical technology to realize the benefit of higher efficiencies (reduced fuel costs) and low emission. Further, to comply with Standards on Environment, the sponsors have carried out an Environmental Impact Assessment (EIA) for the project. In this regard, LEPCL confirmed that the air dispersion modeling study for the proposed Project was carried out using the US EPA ISCST3 - Industrial Source Complex – Short Term Model. The results of the EIA confirm that the Generation Facility/TPP will comply with the National Environmental Quality Standards-NEQS.

**(iv).** On the comments of Mr. Abubakar Usman, the company-LEPCL reiterated its position that the proposed project will comply with the NEQs. Further, LEPCL also submitted that the project will not cause any environmental hazards. Whereas, on the observations of PMDCPL, it was submitted that the Generation



Licence application submitted explicitly contains endeavor of the company to use local coal in a specified proportion. However, the extent and source of local coal shall be determined after taking into account the quality specifically with regard to chemical composition of coal. The project consultant i.e. FICHTNER of Germany has already been assigned to carry out detailed technical feasibility and this particular aspect relating to usage of indigenous coal is under study. The sponsors of the project will be exploring all feasible local sources including the ones mentioned by PMDC in their letter under reference nonetheless procurement of local coal by an IPP, established under GoP power policy, has to be based on commercial viability which does not factor in profitability of a particular entity.

(v). Regarding the allegations of Mr. Nadeem, it was submitted that the land is being acquired through a transparent manner of open auction carried out by KMC. The company submitted the proof of the documentation submitted to KMC and details of the 25% down payment made to KMC amounting to Rs. 168.843 Million. It was also submitted that the process of making balance of payment to KMC, land possession and execution of lease are being processed and upon completion of the same will be shared with the Authority. Later on, LEPCCL submitted that through a subsequent development the comments made by Mr. Nadeem have become infructuous and irrelevant. It was submitted that initially the land for the project was being procured from KMC through an open bidding competitive process duly advertised in national daily. However, the process was aborted since the relevant entity mandated to grant the land on long term lease was determined to be Sindh Land Utilization Department in pursuance of Colonization of Government Lands (Sindh) Act, 1912. In pursuance of the aforesaid, the office of the Mukhtiarkar, Taluka Ibrahim Hyderi, District Malir Karachi, confirmed to the competent authority that the land is lying vacant and is available for disposal. It was further stated that the proposed land comes under "B" category of the Deh. The Deputy Commissioner district Malir, confirmed the receipt of the report. A working paper was presented by the Additional Secretary Lands by Land Utilization Department in the meeting of Scrutiny Committee dated June 18, 2015 where the case for allocation of land in the name of LEPCCL was recommended for the approval of the competent authority. Upon approval of the

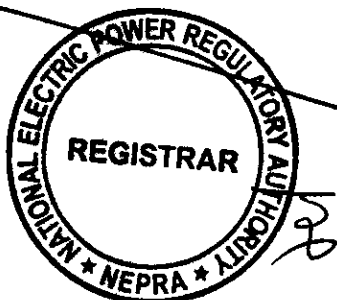


competent authority, a challan number 138 dated August 31, 2015 was issued to the company by Land Utilization Department for depositing the lease money of Pak. Rs. 300 million in respect of 250 acre of land on 99 years lease from N.C. No. 46 of Deh Ghangario Taluka Ibrahim Hyderi, District Malir Karachi. Upon payment of the challan of Rs. 300 million allotment letter No: 01-378-15/SO-VII/179/15 has been issued by Secretary Land Utilization Department, Government of Sindh. In light of the aforesaid the matter relating to the title of the land stands conclusively settled.

(vi). About the comments of PQA, the company expressed that it will be exploring the indicated possibility taking into account the technical and commercial viability of the coal handling. Once the viability of the proposal is established by the experts then further course of action can be discussed.

(vii). On the remarks of KEL, the company submitted that it planning to setup 1 x 660 MW Coal Fired Power Plant at Bin Qasim Town. The project is being developed pursuant to Government of Pakistan Policy for Power Generation Projects, 2002 read with Power Policy of 2015. The entire electric output would be sold to NTDC. The company submitted that NTDC will be responsible for the construction of the infrastructure and transmission line and will seek and obtain all related approvals pertaining to the construction of transmission line and power evacuation. The power evacuation/load flow study for the project is currently being carried out by Power Planning Department of NTDC. The capacity and the proposed route of the Transmission Line will be determined accordingly based on the results of the load flow study. LEPCL is in the process of carrying out the EIA, and will get necessary approvals from EPA Sind prior to the construction activities.

(viii). Later on, LEPCL provided a copy of the No Objection Certificate (NOC) issued by EPA, Sindh confirming that the project would be compliant with NEQs. Apart from the said, LEPCL also provided a copy of the Interconnection Study carried out by Power Planning Department of NTDC confirming about the dispersal arrangement of the project. The Authority considered the rejoinder and the other submissions of LEPCL and found the same plausible. Accordingly, the





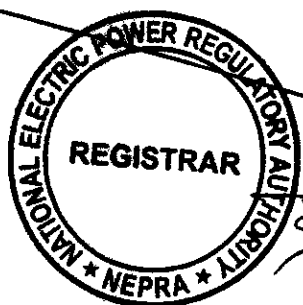
Authority considered it appropriate to process the application of LEPCL for the consideration of the grant of Generation Licence as stipulated in the Regulations and NEPRA Licensing (Generation) Rules, 2000 ("the Rules").

**(D). Grant of Generation Licence**

(i). Electricity is a fundamental element for the economic growth of any country. 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 (Imported/Indigenous), Hydel, Wind, Solar and other Renewable Energy (RE) resources must be tapped and developed on priority basis both in Public and Private Sectors.

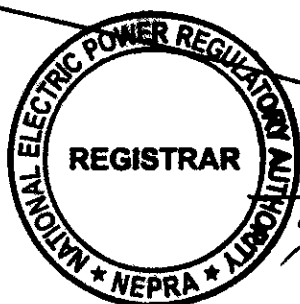
(iii). The existing energy mix of the country is heavily skewed towards the costlier thermal Generation Facilities/TPPs, operating on Furnace Oil. The Import of relatively expensive Furnace Oil results in depletion of the precious foreign exchange reserves of the country affecting the macro and micro 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 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 Council of Common Interests (CCI) approved the Power Policy 2013 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 LEPCL is consistent with the provisions of Power Policy 2013.

(iv). The Authority has examined the details submitted by the sponsors about the proposed Generation Facility/TPP of LEPCL with reference to its location, the type of technology being deployed, interconnection arrangements for dispersal of electric power and other relevant details. The Project will be located in the Deh Ghangario Bin Qasim Town, Karachi, in the Province of Sindh. The Company has acquired land measuring about 250 acres. The Land Coordinates are (a)N-2745891.1890, E-326025.7736(b). N-2745829.9842, E-325040.2446(c). N-2744695.2274, E-325018.1098 and (d). N-2744749.2894, E-326004.0064.

(v). The Authority has observed that the proposed Generation Facility/TPP will be consisting of 1 x 660MW Super-Critical Unit 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. The coal for the Project is expected to be imported from Indonesia and South Africa. The Imported Bituminous/Sub-Bituminous coal will be transported by ship and unloaded at the bulk terminal in Karachi. In this regard, the sponsors have advance level discussion with PITB. The Authority considers that the Supercritical Technology is very mature with many units in operation worldwide for many years with good track records. LEPCL has confirmed that the selected main parameters of the Steam Turbine and Boiler (566°C and 250 bars) of the Generation Facility/TPP are at the higher end of the supercritical class. Further, LEPCL has confirmed that the Gross Efficiency of the proposed Generation Facility/TPP will be more than 42.00% whereas the Net Efficiency of same will be not less than 39.00% and will result in less emission per unit of electricity generated. The Authority considers that the higher efficiency of the proposed Generation Facility/TPP and the low cost of fuel



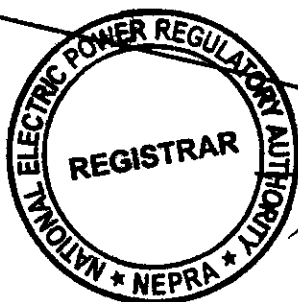
(i.e. Imported Coal) will provide an economically feasible solution to relieve power shortages in the country.

**(vi).** The Authority is satisfied that the NTDC has endorsed the site and parameters of the project. Further, NTDC has also confirmed about carrying out the required studies pertaining to the dispersal of electric power from the proposed Generation Facility/TPP. In this regard, it has been confirmed that the electric power from the Imported Coal based Generation Facility/TPP of LEPCL will be evacuated through 500 KV Transmission Line(s).

**(vii).** The term of a Generation Licence under the Rule-5 (1) of the 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/TPP of LEPCL will be consisting of one (01) Steam Turbine Unit of 660.00 MW. 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, LEPCL 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 LEPCL to be thirty (30) years from its COD.

**(viii).** Regarding the Tariff of Generation Company (i.e. LEPCL) that it will charge the Power Purchaser, the Authority through its Determination No. NEPRA/TRF-305/LEPCL-2015/5052, dated April 6, 2015 has granted LEPCL an Up-front Tariff for its Project. The Authority directs LEPCL 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.

**(ix).** As explained above, the proposed Generation Facility/TPP for which Generation Licence has been sought is based on Imported Coal. The Coal based Generation Facility/TPP may be harmful to environment because of emission of Green House Gases (GHG) and production of ash and other effluents. In this



regard, LEPCCL confirmed that proposed Generation Facility/TPP will meet local regulatory emissions limits. It has been confirmed that dry low NO<sub>x</sub> burners (implemented in an overall low NO<sub>x</sub> combustion system) shall be installed in conformance with the local regulations for emission control. Extractive systems shall be used to monitor NO<sub>x</sub> and SO<sub>2</sub>. Continuous Emission Monitoring System (CEMS) shall be provided to measure emissions and produce all required data logging and reporting. The data logging and reporting system shall store adequate amount of data and automatically produce reports as required. According to the air dispersion modeling, if coal having Sulphur contents in excess of 0.5% is used then the Project may require a Flue Gas Desulphurization (FGD) unit. However, to keep flexibility in coal specifications and sourcing, it is envisaged that a FGD shall be installed to meet the mandatory regulatory environmental requirements. Electrostatic Precipitators (ESP) will be designed and installed which will be capable of being operated such that emissions do not exceed the higher limit when firing design coal. One set of pneumatic fly ash conveyor system will also be provided. There will be a concrete fly ash silos capable of storing the fly ash produced in three (03) days. There will be discharge outlets at the bottom of fly ash silos which will be equipped with humidifying device to discharge wet fly ash which will be transported to ash yard by dump trucks. The bottom ash handling system shall provide for the collection and removal of bottom ash from the steam generator (pulverized coal type) furnaces. A completely dry type bottom ash removal system shall be provided. The LEPCCL has confirmed that the proposed Generation Facility/TPP will comply with the Environmental Standards of the country. Further, LEPCCL has provided a copy of the necessary NoC issued by EPA, Sindh confirming that NEQS will be followed. Apart from the above, the Authority directs LEPCCL to ensure that the Generation Facility/TPP 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 also directs LEPCCL to submit a report on a bi-annual basis, confirming that operation of its proposed Generation Facility/TPP is compliant with required Environmental Standards as prescribed by EPA Sindh.



(x). In view of the above, the Authority hereby decides to approve the grant of Generation Licence to LEPCL 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**

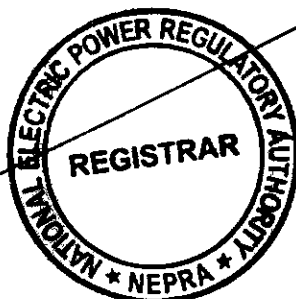
Syed Masood-ul-Hassan Naqvi  
(Member)

Himayat Ullah Khan  
(Member)

Khawaja Muhammad Naeem  
(Member)

Maj. (R) Haroon Rashid  
(Member)/(Vice Chairman)

Brig. (R) Tariq Saddozai  
(Chairman)



03.03.16



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

**GENERATION LICENCE**

**No. IGSPL/66/2016**

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:

**LUCKY ELECTRIC POWER COMPANY LIMITED**

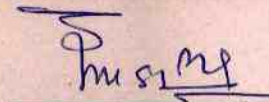
~~Incorporated Under Section-32  
of the Companies Ordinance, 1984 (XL VII of 1984) Having Corporate  
Universal Identification No. 0088809. Dated June 13, 2014~~

for its Imported Coal Based Thermal Generation Facility Located at Deh  
Ghangario Bin Qasim Town Karachi in the Province of Sindh

(Installed Capacity: 660.00 MW Gross)

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

Given under my hand this on 3rd day of March Two  
Thousand & Sixteen and expires on 30<sup>th</sup> day of December  
Two Thousand & Forty Nine.

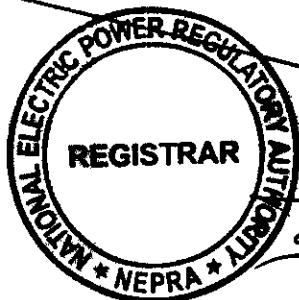
  
Registrar



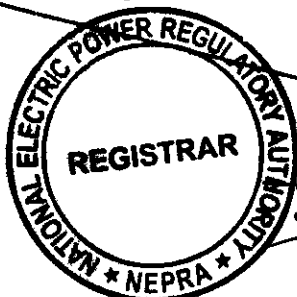
**Article-1**  
**Definitions**

**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 "Central Power Purchasing Agency (Guarantee) Limited" or any other entity created for the like purpose;
- (g). "Distribution Code" means the distribution code prepared by HESCO and approved by the Authority, as it may be revised from time to time by HESCO with necessary approval of the Authority;
- (h). "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 of the Authority;



- (i). "HESCO" means "Hyderabad Electric Supply Company Limited and its successors or permitted assigns;
- (j). "IEC" means International Electrotechnical Commission or any other entity created for the like purpose and its successors or permitted assigns;
- (k). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;
- (l). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;
- (m). "Licensee" means "Lucky Electric Power Company 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 electric power (on behalf of all XW-DISCOs including HESCO) from the Licensee, pursuant to Power Purchase Agreement for procurement of electricity;
- (q). "Regulation" means "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.



4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of the Licence within ninety (90) days prior to the expiry of the term of the Licence, 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 interconnection voltage level 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**

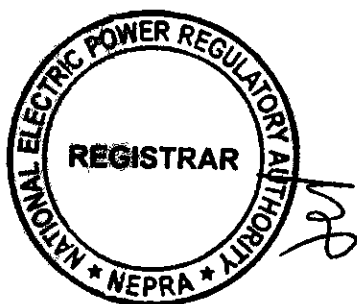
All the components of the generation facility shall be designed, manufactured and tested according to the latest IEC, IEEE or any other equivalent standards. All plant and equipment shall be unused and brand new. *Q*

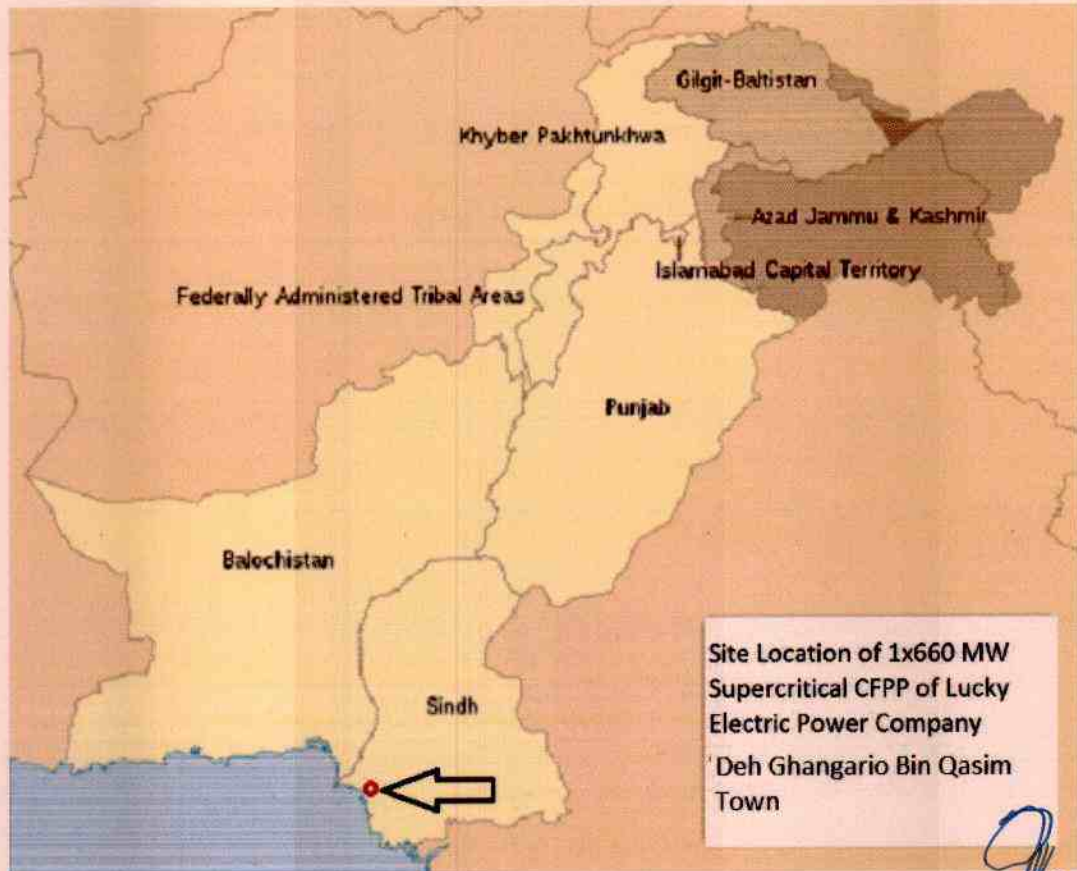


## **SCHEDULE-I**

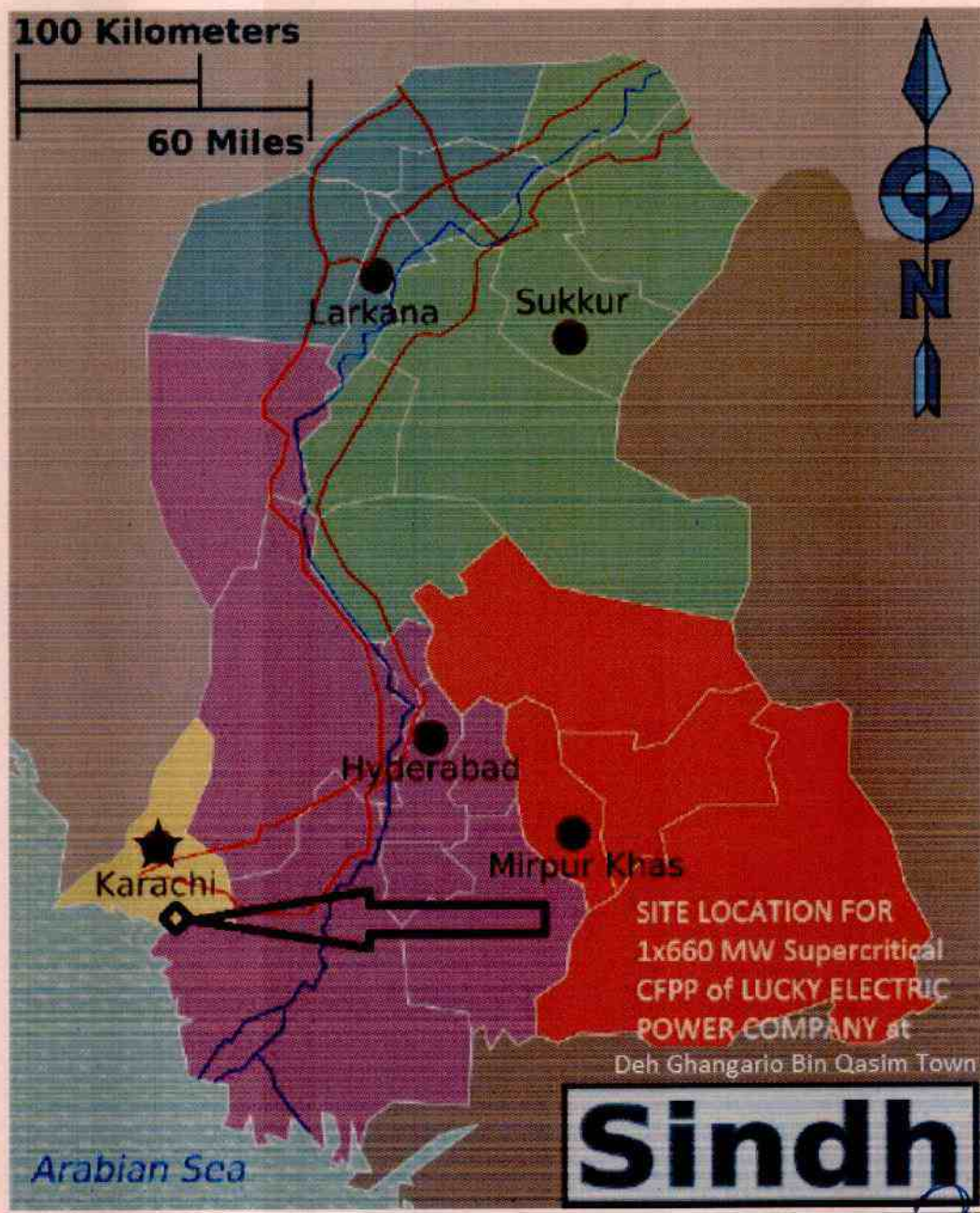
The Location, Size (i.e. Capacity in MW), Type of Technology,  
Interconnection Arrangements, Technical Limits, Technical/Functional  
Specifications and other details specific to the Generation Facilities of  
the Licensee are described in this Schedule

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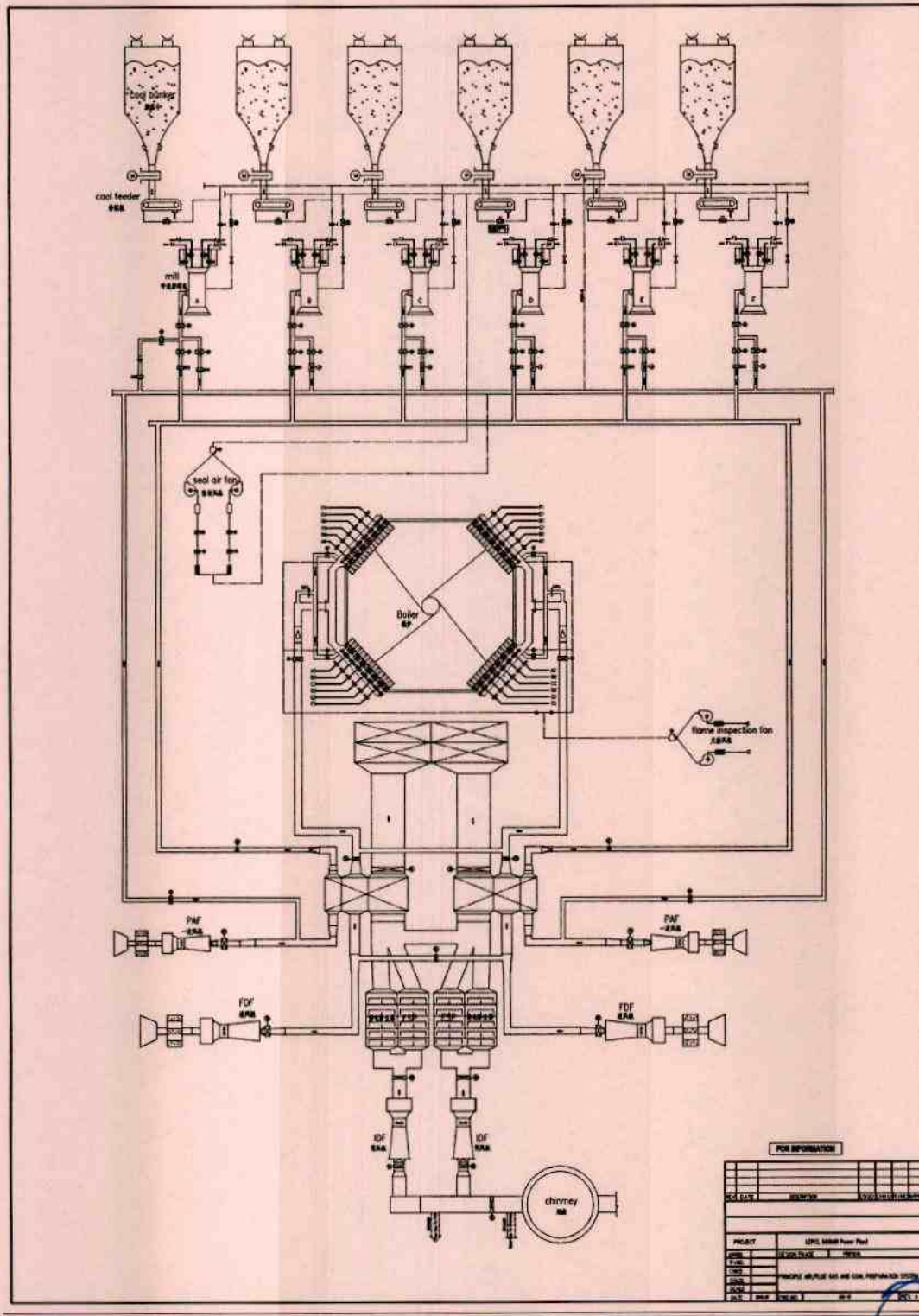
PROPOSED LAYOUT

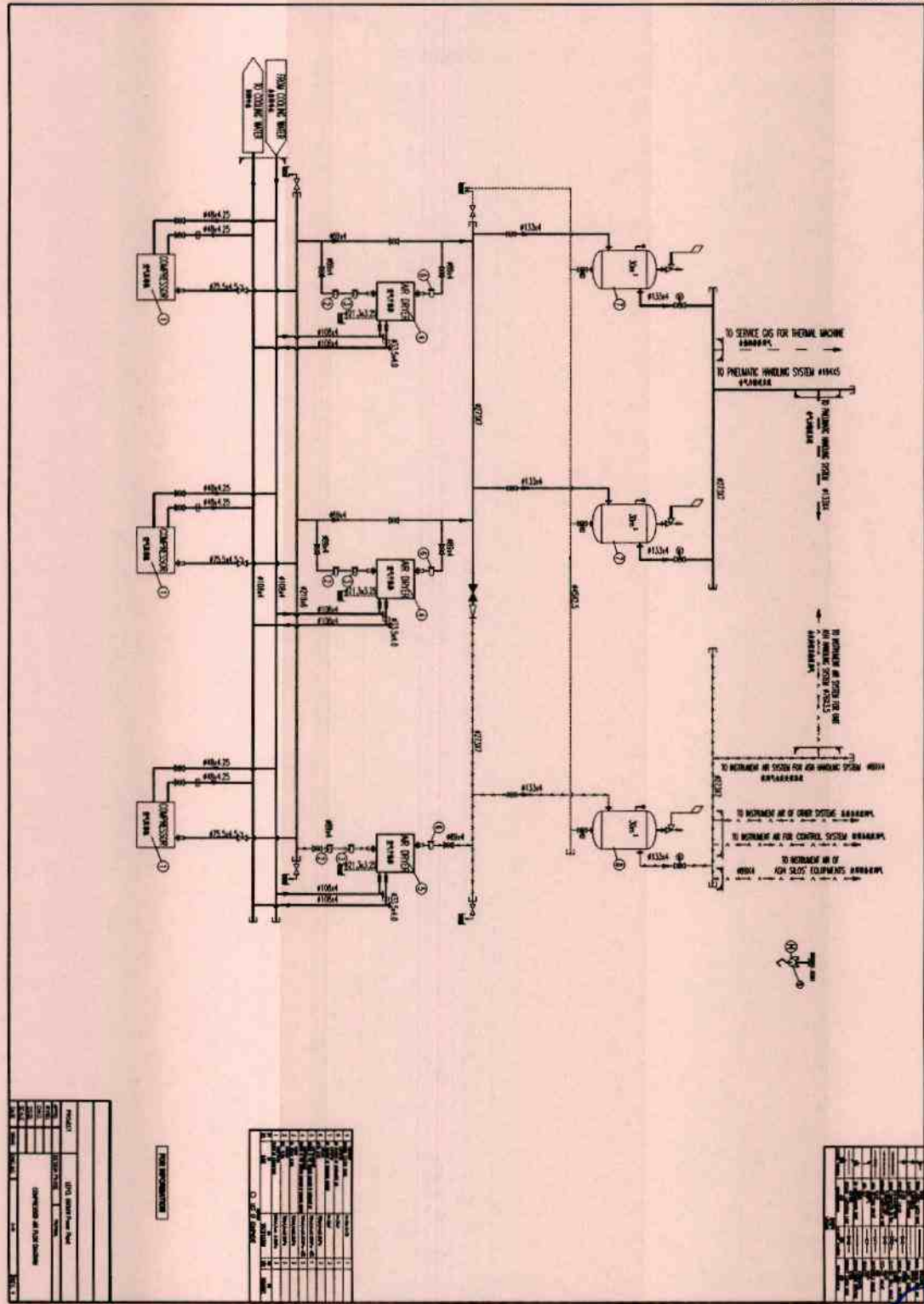
Lucky Electric Power Company Limited

1 x 660 MW Supercritical CFPP, Deh Ghangario Bin Qasim Town.

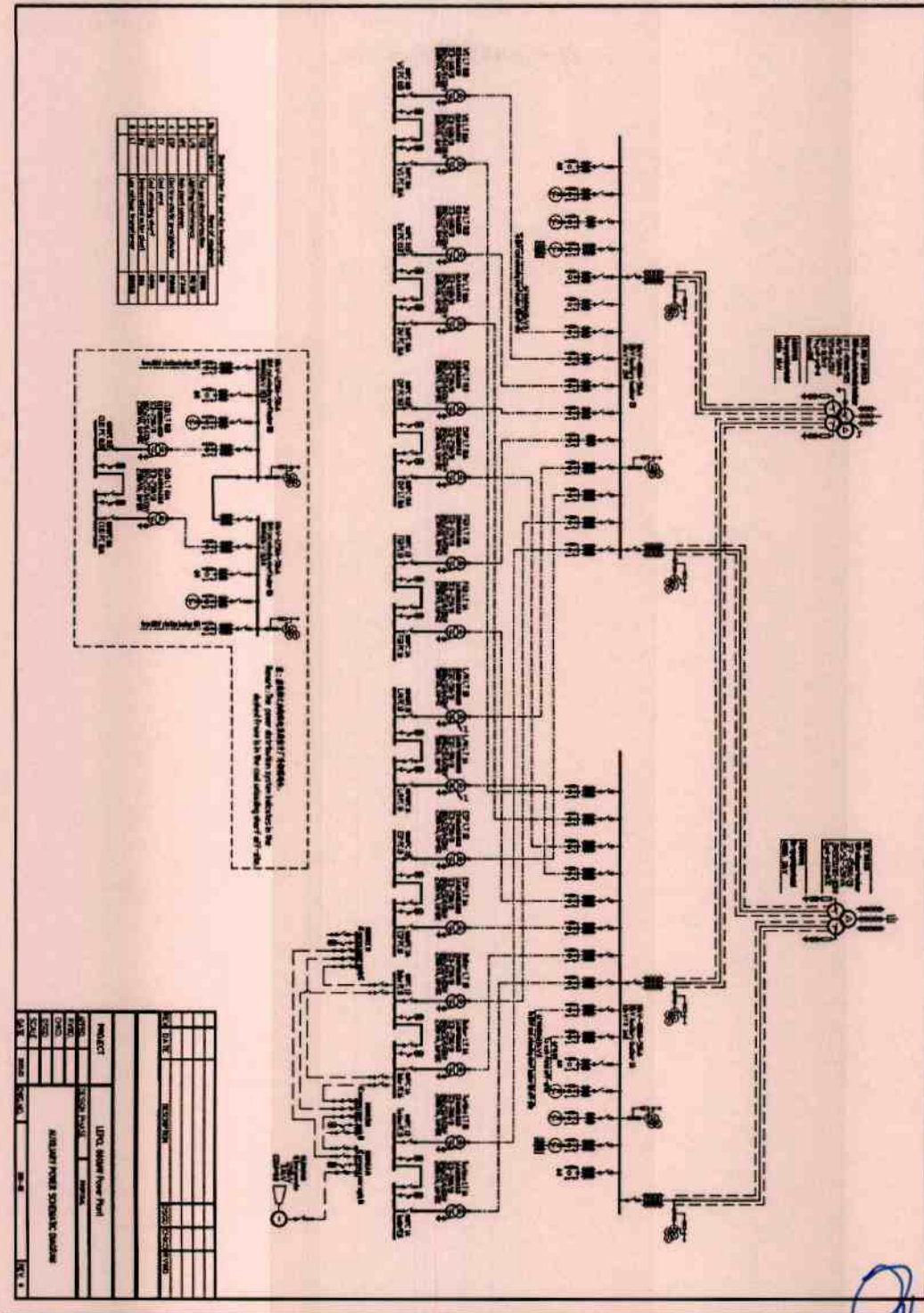


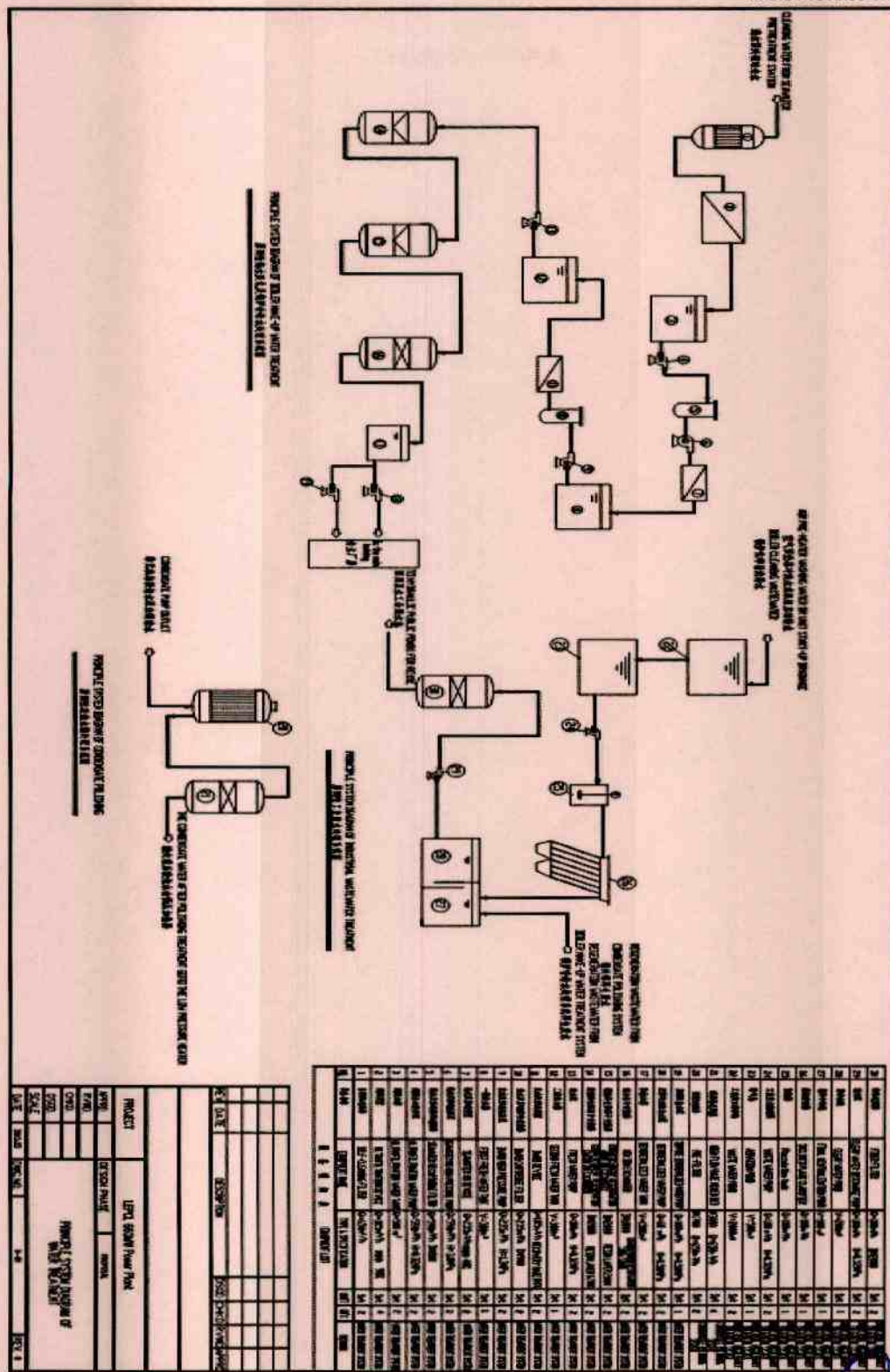




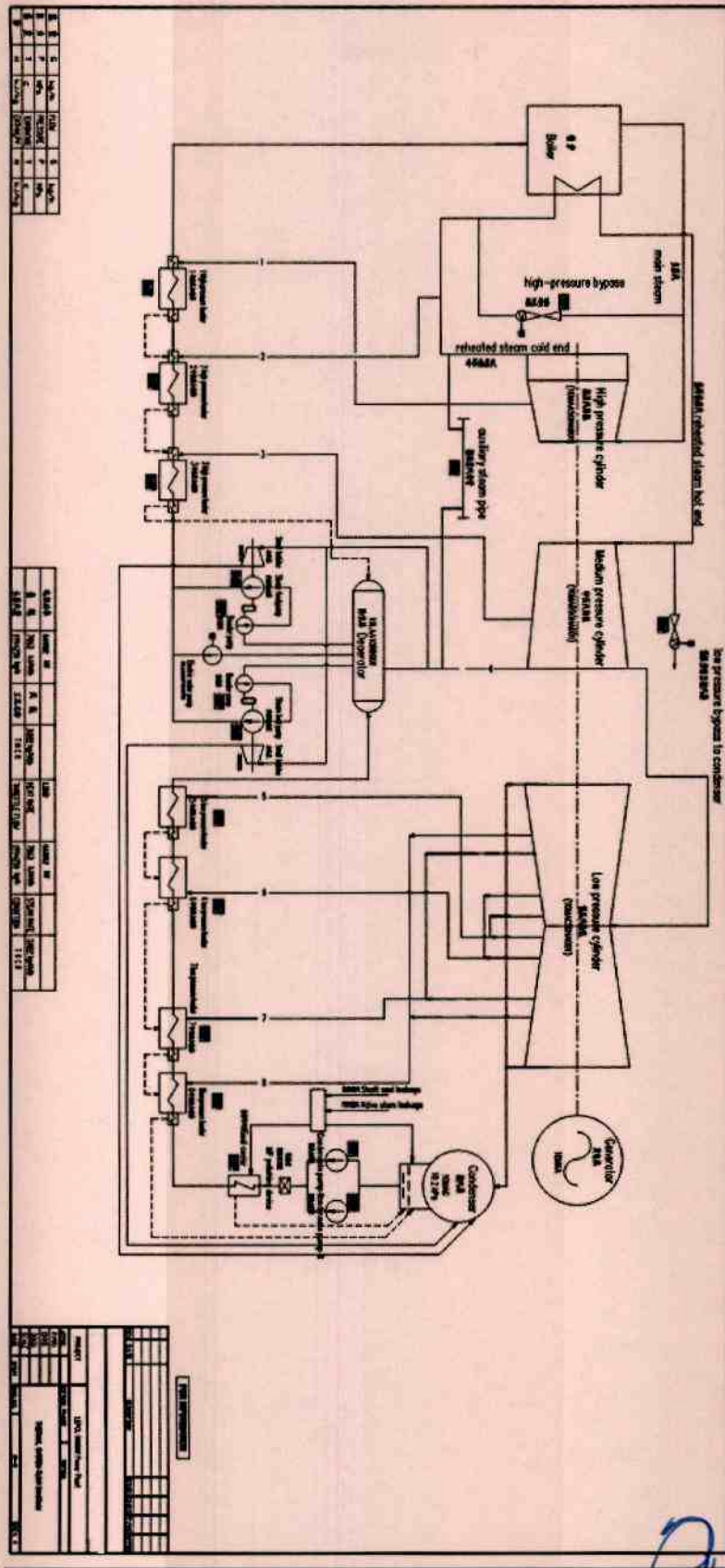


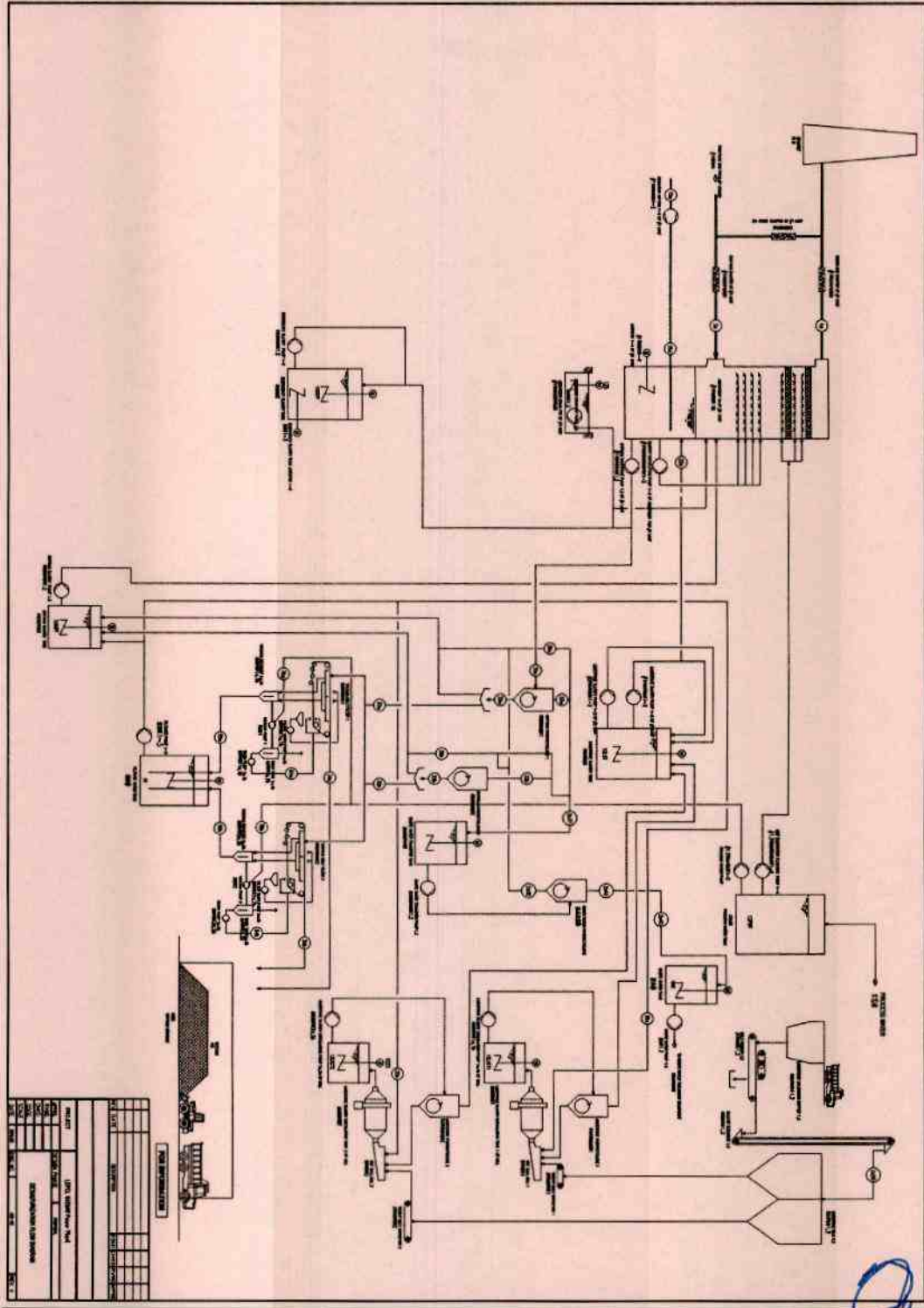




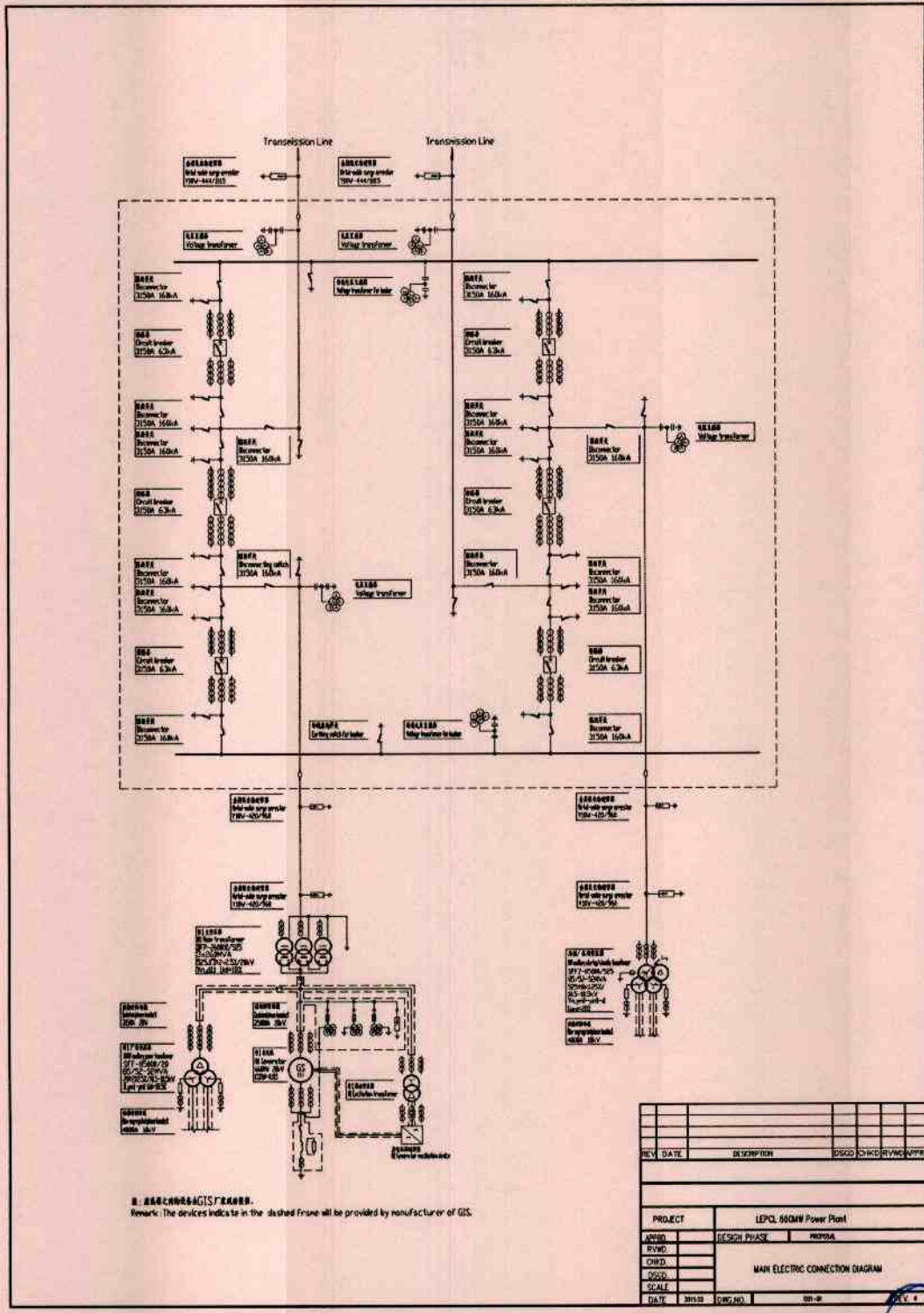


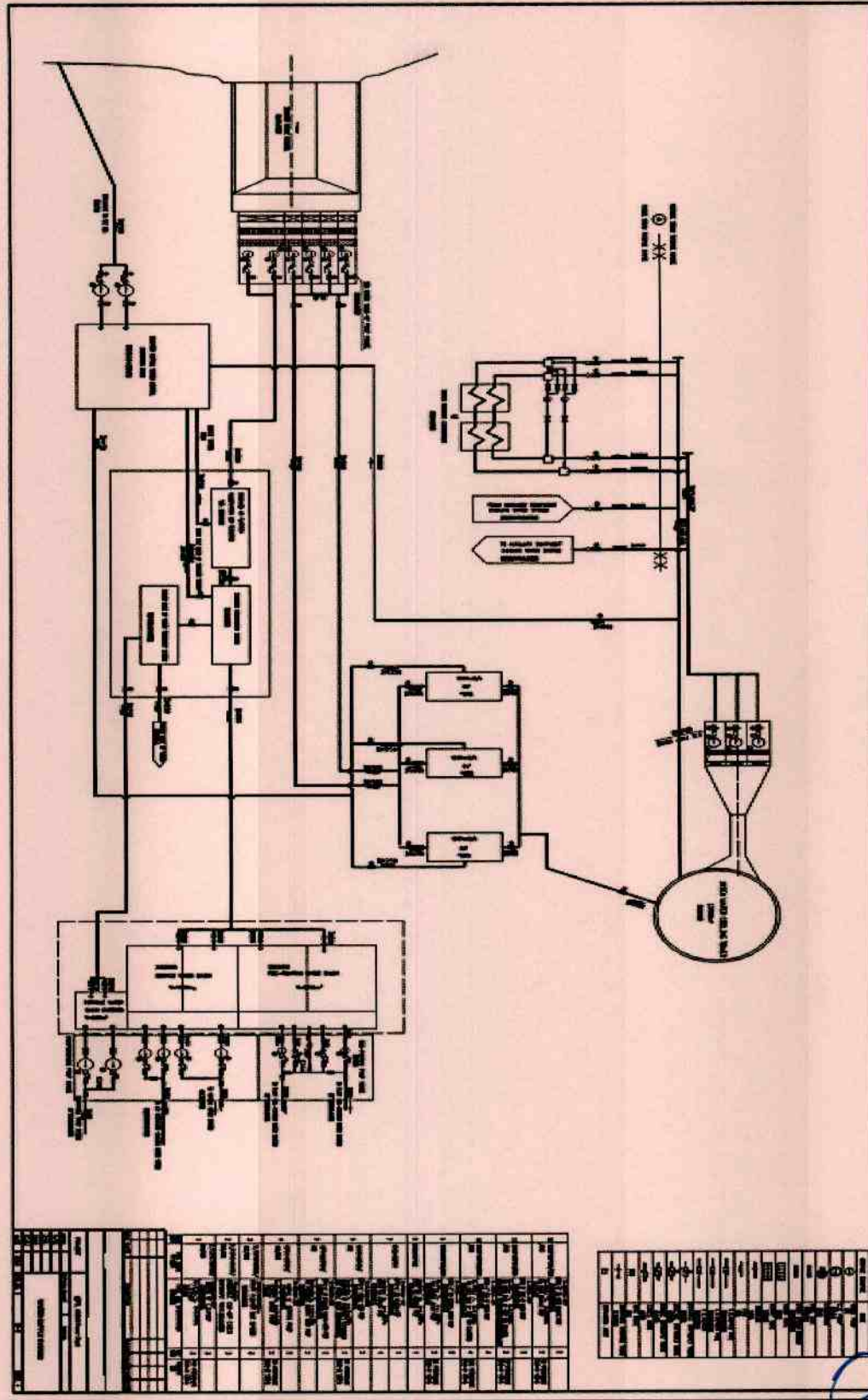














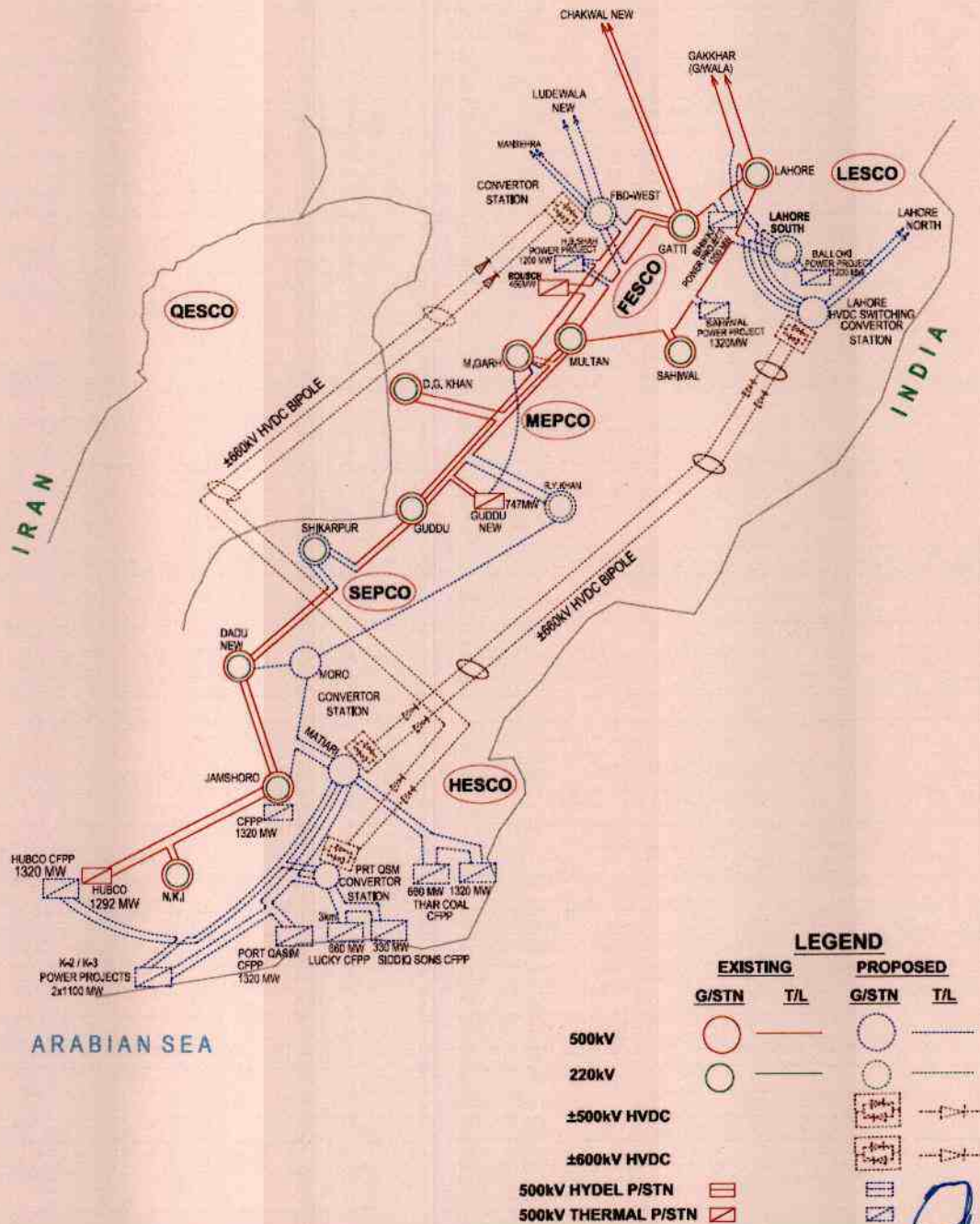
**Interconnection Facilities/  
Transmission Arrangements for Dispersal of Power from  
the Generation Facility**

The electric power from the Imported Coal based generation facility/power plant of the Licensee/Lucky Electric Power Company Limited (LEPCL) 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 IF/TA for supplying to National Grid will be consisting of a 500 kV Double Circuit (D/C) transmission line, approx. 3 km long, on Quad-bundled Greeley Conductor for making In/Out of already planned Port Qasim Converter Station—Siddiquis Energy Limited coal fired generation facility Single Circuit (S/C) at the switchyard of LEPCL. In this regard, the Licensee shall adhere to the relevant provisions of the Distribution Code/Grid Code to the extent applicable.

(3). Any change in the above mentioned IF/TA 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.





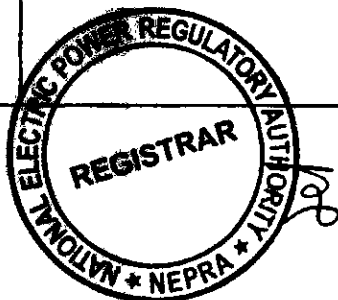
## Detail of Generation Facility/ Power Plant

### (A). General Information

(i).	Name of Company/ Licensee	Lucky Electric Power Company Limited
(ii).	Registered/Business Office	6-A, A. Aziz Hashim Tabba Street, Muhammad Ali Housing Society, Karachi-75350, Pakistan
(iii).	Location of the Generation Facility/ Power Plant	Deh Ghangario Bin Qasim Town, Karachi, in the Province of Sindh.
(iv).	Type of Generation Facility/ Power Plant	Thermal Generation Facility

### (B). Configuration of Generation Facility

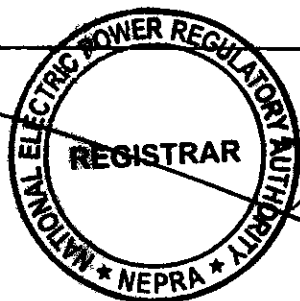
(i).	Installed Capacity/Size of the Generation Facility/ Power Plant	660.00 MW	
(ii).	Type of Technology	Conventional Thermal Power Generation Facility with Super Critical Boiler and Steam Turbine	
(iii).	Number of Units/Size (MW)	1 x 660 MW	
(iv).	Unit Make/Model/Type & Year of Manufacture Etc.	Steam Turbine	Super-critical, Reheat, Tandem compound three Cylinders, four (or two) flow exhausts, condensing Steam Turbine/ Dongfang Turbine Corp. Ltd./ Shanghai Electric Group Co., Limited/Harbin Turbine Co., Ltd./Alstom / Siemens / Hitachi/ Siemens / Toshiba or Equivalent
		Boiler	Supercritical thermal power unit, once-through, single pass, single reheat, balanced draft, radiant furnace, dry bottom/ Dongfang Boiler Group Co., Ltd./ Harbin Boiler Co., Ltd./ Shanghai Electric Group Co., Ltd./ B&W(Babcock) Co., Ltd./ Alstom/Ansaldo/Foster



			<b>Wheeler or Equivalent</b>
(v).	<b>COD of the Generation Facility/Power Plant</b>	<b>December 31, 2019 (Anticipated)</b>	
(vi).	<b>Expected Useful Life of the Generation Facility/Power Plant from COD</b>	<b>30 years</b>	

**(C). Fuel/Raw Material Details**

(i).	<b>Primary Fuel</b>	<b>Imported Bituminous/Sub-Bituminous Coal</b>	
(ii).	<b>Start-Up Fuel</b>	<b>High Speed Diesel/HSD</b>	
(iii).	<b>Fuel Source for each of the above (i.e. Imported/Indigenous)</b>	<b>Primary Fuel</b>	<b>Start-Up Fuel</b>
		<b>Bituminous/Sub-Bituminous Coal from Indonesia, South Africa, Botswana, Ukraine, Australia, Columbia, USA and others</b>	<b>Indigenous/Imported</b>
(iv).	<b>Fuel Supplier for each of the above</b>	<b>Primary Fuel</b>	<b>Start-Up Fuel</b>
		<b>Anglo-American, Exxaro, Glencore, Vitol Dubai and others</b>	<b>Shell Pakistan/Pakistan State Oil/Any other OMC Company</b>
(v).	<b>Supply Arrangement for each of the above Fuels</b>	<b>Primary Fuel</b>	<b>Start-Up Fuel</b>
		<b>Through Ships, Jetty of Pakistan International Bulk Terminal (PIBT) and to the Site through belt conveyers and trucks.</b>	<b>Through Oil Tankers</b>



(vi).	No of Storage Bunkers/Tanks/ Open Yard	Primary Fuel	Start-Up Fuel
		One open yard	Two oil tank
(vii).	Storage Capacity of each Bunkers/Tanks/ Open Yard	Primary Fuel	Start-Up Fuel
		About 500,000 Tons	2 x 1200 m <sup>3</sup>
(viii).	Gross Storage	Primary Fuel	Start-Up Fuel
		About 500,000 Tons	2400 m <sup>3</sup>

(D). **Emission Values**

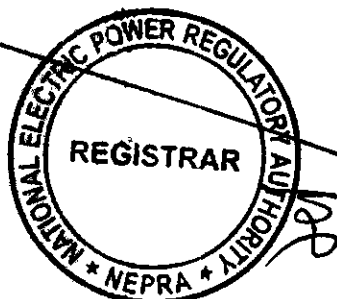
		Primary Fuel	Start-Up Fuel
(i).	SO <sub>x</sub> (mg/Nm <sup>3</sup> )	As per NEQS	As per NEQS
(ii).	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	-	--
(iii).	CO <sub>2</sub> (%)	-	-

(E). **Cooling System**

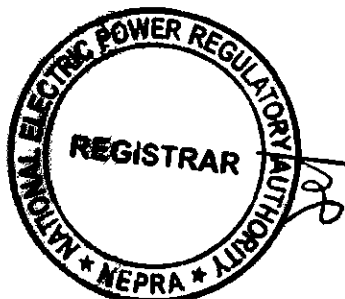
(i).	Cooling Water Source/Cycle	The cooling water is from adjacent sea channel of Port Qasim south of the site. Natural cooling tower Seawater secondary circulation system will be adopted for cooling water system.
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(F). **Plant Characteristics**

(i).	Generation Voltage	20-22kV
(ii).	Frequency	50Hz
(iii).	Power Factor	0.85 (lagging) / 0.95(leading)



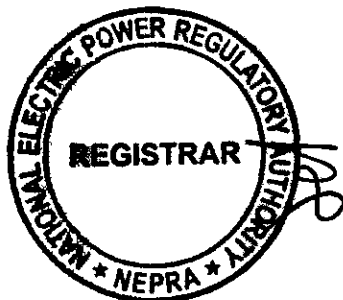
(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	AGC Unit is included in the NCS, and AGC Unit can accept command signal from Despatch. The command signal is converted to analog, and then the analog transmitted to the DCS via hardware to achieve the AGC function.		
(v).	Ramping Rate (MW/min)	under 30% MCR	from 30% to 50% MCR	from 50% to 100% MCR
		13.2 MW/Min	19.8 MW/Min	33 MW/min
(vi).	Time required to Synchronize to Grid (Hrs.)	for Cold Start	for Warm Start	for Hot Start
		4.25 hours	2 hours	0.75 hours



## **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 is given in this Schedule

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## **SCHEDULE-II**

(1).	<b>Total Gross Installed Capacity of the Generation Facility/Power Plant</b>	<b>660.00 MW</b>
(2).	<b>De-rated Capacity of Generation Facility/Power Plant at Reference Site Conditions</b>	<b>660.00 MW</b>
(3).	<b>Auxiliary Consumption of the Generation Facility/Power Plant</b>	<b>053.00 MW</b>
(4).	<b>Total Installed Net Capacity of Generation Facility/Power Plant at Reference Site Condition</b>	<b>607.00 MW</b>

**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).

