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/LAG-290/ 18985-89

November 20, 2017

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

Reference: *LEPCL's application vide letter dated October 06, 2016 (received on October 07, 2016).*

It is intimated that the Authority has approved "Licensee Proposed Modification" in Generation Licence No. IGSPL/66/2016 in respect of Lucky Electric Power Company Limited (LEPCL), pursuant to Regulation 10(11)(a) of the NEPRA Licensing (Application and Modification Procedure) Regulations 1999.

2. Enclosed please find herewith Modification-I in the Generation Licence No. IGSPL/66/2016, as approved by the Authority. Further, the determination of the Authority in the matter is also attached.

Encl: As above

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(Syed Safeer Hussain)

Copy to:

1. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
2. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
3. Chief Executive Officer, K-Electric Limited, KE House No. 39-B, Sunset Boulevard, Phase-II, DHA, Karachi.
4. Director General, Sindh Environmental Protection Agency, Plot No. ST 2/1, Sector 23, Korangi Industrial Area, Karachi

National Electric Power Regulatory Authority (NEPRA)

Determination of the Authority in the Matter of Licensee Proposed Modification in the Generation Licence of Lucky Electric Power Company Limited

November 20, 2017
Case No. LAG-290

(A). Background

(i). The Authority in terms of Section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act") granted a generation licence (No. IGSPL/66/2016 dated March 03, 2016) to Lucky Electric Power Company Limited (LEPCL) for its 660 MW imported coal based generation facility/thermal power plant.

(ii). According to the above generation licence, the generation facility/thermal power plant will consist of 1x660 MW steam turbine with a super critical boiler. The generation facility is proposed to be located at Deh Ghangario, Bin Qasim Town, at Karachi, in the Province of Sindh.

(B). Communication of Modification

(i). LEPCL in accordance with Regulation-10(2) of the NEPRA Licensing (Application & Modification Procedure) Regulations, 1999 (the "Licensing Regulations"), communicated a Licensee Proposed Modification (LPM) in its existing generation licence on October 07, 2016.

(ii). In the text of the proposed modification, LEPCL proposed to change primary fuel of its generation facility/thermal power plant from imported coal to Thar coal and Commercial Operation Dated (COD) from December 31, 2019 to the quarter October-December 2019.

(iii). Regarding "statement of the reasons in support of the modification", LEPCL *inter alia*, stated that in view of the preference of the Government of Pakistan (GoP) to use indigenous resources for power generation, the company has been advised through Private Power & Infrastructure Board (PPIB) to use

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Thar coal as primary fuel for the project. After the technical review and considering government's desire, the sponsors of the project have agreed to use Thar Coal as primary fuel for the project.

(iv). About "statement of the impact on the tariff, quality of service and the performance by the Licensee of its obligations under the licence", LEPCL submitted that since it has opted for fixed upfront coal tariff issued by NEPRA, therefore the proposed modification in the generation licence will not have any adverse impact on the tariff and quality of service. Further, the proposed modification will facilitate LEPCL in fulfilling its obligation under the licence.

(C). Processing of LPM

(i). After completion of all the required information as stipulated under the Regulation 10(2) and 10(3) of the Licensing Regulations by LEPCL, the Registrar published the communicated LPM on October 21, 2016 in one (01) English and one (01) Urdu newspaper (i.e. Business Recorder and Dunya respectively), to inform the general public, interested/affected parties, and different stakeholders about the said LPM as required under the Regulation-10(4) of the Licensing Regulations. The Registrar invited comments of the said stakeholders in favor or against the communicated LPM.

(ii). Apart from the above, separate letters were also sent to Government ministries, their attached departments and representative organizations etc. on October 24, 2016. Through the said letters, the stakeholders were informed about the communicated LPM and publication of notice in the press. Further, the said entities were invited for submitting their views and comments in the matter for assisting the Authority.

(D). Comments of Stakeholders

(i). In response to the above, the Authority received comments from four (04) stakeholders including Board of Investment (BoI), PPIB, Ministry of Petroleum and Natural Resources (MoP&NR) and Anwar Kamal Law Associates (AKLA). The salient points of the comments offered by the above mentioned stakeholders are summarized in the following paragraphs: -

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(a). BoI submitted that being an investment facilitating and promoting government agency, it understands that affordable

and smooth supply of energy is the backbone for industrial growth as well as attracting Foreign Direct Investment (FDI) in the country. BoI expressed that it has no specific comment on the LPM of LEPCL;

(b). PPIB confirmed the change of fuel of the project from imported coal to local coal of Thar. PPIB supported the request of LEPCL for the said change;

(c). MoP&NR submitted that in the wake of current energy supply scenario of the country warranting greater emphasis on coal based power generation and government's energy policy focusing on utilization of indigenous coal resources, this ministry supports the grant of LPM to LEPCL. Constitutionally, coal is a provincial subject and it is understood that the subject application for LPM has been admitted by NEPRA with prior consent/clearance of Govt. of Sindh (GoS). Any concern shown by other stakeholders on the matter may kindly be shared with this ministry; and

(d). AKLA highlighted different issues pertaining to the power sector of the country including (a). underutilization/availability of surplus capacity of existing power plants in the system; (b). setting up of new power plants on "Take or Pay" basis will burden consumers; (c). the upfront determined tariff for coal projects is inclined towards investors; (d). setting up of power plants near coast instead of mine mouth without proper feasibility study; (e). award of tariff for the project without considering the feasibility study; (f). lack of infrastructure for transporting coal from Thar to Karachi. AKLA asserted that the communicated LPM may either be rejected or the sponsors be asked to develop the project on "Take and Pay" basis.

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(ii). The Authority reviewed the above comments and in view of the observations of MoP&NR and AKLA decided to seek the perspective of LEPCL. On the comments of MoP&NR, it was submitted that GoS has allocated Block-II of

the Thar coal to Sindh Engro Coal Mining Company Limited (SECMC) for development of the said block. The said company is a joint venture having major shareholding of the GoS. In this regard, LEPCL has executed a Coal Supply Agreement (CSA) with SECMC. In view of the said, it is clear that GoS is already on board.

(iii). Similarly, LEPCL submitted its point of view on the various observations of AKLA and stated that initially the project was envisaged to be set up using imported coal and accordingly the site of the project was selected to be near the coast. Later on, on the directions of the GoP the implantation of the project was changed to utilize indigenous coal of Thar coal mines for which a comprehensive feasibility study including various technical studies were carried out which not only included the selection of technology but also consisted of detailed transportation, logistics and environmental studies. The said studies confirmed that a project located at Karachi using indigenous coal of Thar was economically viable and feasible as compared to an imported coal project. Further, LEPCL submitted that GoS had made huge investment in developing the necessary infrastructure connecting the Thar coal mines with the major cities of the province which will allow transportation of coal from the mines to the proposed site of the project. LEPCL requested for expediting the processing of its LPM as it has complied with all the requirements of the relevant rules and regulations.

(iv). The Authority considered the above submission of LEPCL and decided to proceed further with the communicated LPM as stipulated in the Licensing Regulations and the NEPRA Licensing (Generation) Rules, 2000 (the "Generation Rules").

(E). Evaluation of the Case

(i). The Authority has examined the entire case in detail including the already granted generation licence, the communicated LPM, comments of the stakeholders, replies of LEPCL and provisions of the relevant rules & regulations.

(ii). In this regard, the Authority has observed that in terms of Regulation-10(5) of the Licensing Regulations, it is lawful to modify a licence as the Authority may deem fit if in the opinion of the Authority such modification (a). does not adversely affect the performance by the licensee of its obligations; (b). does not cause the Authority to act or acquiesce in any act or omission of the

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licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to it; (c). is or is likely to be beneficial to the consumers; (d). is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence; and (e). is reasonably necessary to ensure the continuous, safe and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the licensee.

(iii). In consideration of the above, the Authority has observed that the communicated LPM of LEPCL has not caused it to act or acquiesce in any act or omission of the licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to it. Further, the Authority has observed that it granted a generation licence (No. IGSPL/66/2016, dated March 03, 2016) to LEPCL for its proposed generation facility to be located at Port Qasim, Karachi in the province of Sindh for operation on imported coal. Later on, the GoP decided to impose a ban on the imported fuel and directed the sponsors of the project of LEPCL to switch to local coal of Thar and also issued an amended Letter of Support (LOS) for the project making it necessary to make the changes in the generation licence for which LEPCL communicated a modification as explained in the preceding paragraphs above.

(iv). In consideration of the above, the Authority is of the considered opinion that in order to proceed further with the project, it is imperative for LEPCL to have the proposed amendment. In this regard, the Authority is of the considered opinion that the proposed LPM will not have any adverse effect on the performance of the licensee/LEPCL of its obligations. The project will utilize local coal instead of imported, which will result in savings of precious foreign exchange reserves. The Authority is of the view that the communicated LPM is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence. Further, the LPM is also necessary keeping in view the financial and technical viability of the licensee.

(v). The Authority has duly considered the comments of the stakeholders, the rejoinder filed by LEPCL and has observed that apart from AKLA all the stakeholders have supported the communicate LPM. In its comments, AKLA has highlighted various issues focusing mainly on (a). underutilization/availability of surplus capacity of existing power plants in the system; (b). setting up of new power plants on "Take or Pay" basis; (c). the

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upfront determined tariff for coal projects is inclined towards investors; (d). setting up of power plants near coast instead of mine mouth without proper feasibility study; (e). award of tariff for the project without considering the feasibility study; (f). lack of infrastructure for transporting coal from Thar to Karachi.

(vi). In consideration of the above, the Authority has observed that AKLA has been raising these points on a consistent basis. In this regard, a comprehensive reply through letter no. NEPRA/SAT-I/TRF-100/7060, dated December 27, 2016 had already been sent covering different observations of AKLA. The Authority reiterates its earlier findings in the matter and in addition would like to give its findings on the observations of AKLA in the following paragraphs.

(vii). AKLA has raised the issue of under-utilization of power plants and availability of surplus energy in the system. In this regard, the Authority has observed that AKLA has assumed the utilization of the dependable capacity for each of the power plant to the tune of 100% which is practically not possible. A power plant is required to undergo routine as well as forced outages due to which power plant cannot operate with 100% capacity and plant factor. Further, there are a number of other constraints which affect the plant factor of a power plant including fuel constraints, load requirements, transmission system constraints and system disturbances etc. The Authority continuously monitors the situation and also seeks clarification and reasons of underutilization from licensees, if required. In this regard, a number of advisories and legal actions had been taken in the past for the effective utilization of the available generating sources. However, it is worth mentioning that the Authority cannot indulge itself in the routine operational matters of the licensees and has directed National Power Control Center (NPCC) of National Transmission and Despatch Company Limited (NTDC) for optimal utilization of available generation capacity. Further, on a number of occasions NPCC has also confirmed that maximum generation is being obtained from all the power plants based on their availability, keeping in view the fuel constraints and according to the load requirements.

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(viii). The Authority has observed that AKLA has been very critical of allowing setting up of new power plants on "Take or Pay" basis. In this regard, the Authority would like to highlight that in order to attract investment of private parties in the power sector of the country, GoP has formulated various power policies

where various incentives have been allowed to the investor. Almost all the announced power policies including currently in vogue, allow a two-part tariff structure with the option of take or pay. This has been done to make the projects bankable which is otherwise not possible due to prevailing situation of the power sector of the country. In view of the said reasons, the Authority has been determining tariff for power projects based on "Take or Pay" basis. About the observations of AKLA that the determined upfront tariff for coal projects is inclined towards investors, the Authority would like to clarify that it determined the upfront tariff for coal projects in a transparent manner through an extensive consultative process involving all the relevant stakeholders duly incorporating their comments and views. In this regard, the Authority would like to state firmly that the alleged comments of AKLA at this belated stage are not appropriate at all. About the observations of AKLA that the Authority has granted LEPCL an upfront tariff for its project and allowed locating the same at coast without any feasibility study, it is clarified the company was only granted an upfront tariff once it completed all the formalities of the relevant regulations which did not require any feasibility study. The Authority also clarifies that relevant regulation requiring feasibility study of a power plant, is at the time of submission of application for the grant of generation licence and the same is not required for processing of LPM. However, in view of change in dynamics of the project, the Authority directed LEPCL to carry out a detailed feasibility study of the project using Thar coal. The sponsors hired the services of the well reputed consultants and carried out all the requisite studies including selection technology, inland transportation of the coal and Environmental Impact Assessment (EIA) of the project. The Authority is satisfied that after going through an extensive process, Environmental Protection Agency, Govt. of Sindh (EPAGoS) has accorded its approval of EIA and issued necessary No Objection Certificate. In view of the said, the Authority considers that all the observations of AKLA stand addressed.

(ix). In consideration to the above, it is pertinent to mention that the Authority through its determination No. NEPRA/TRF-369/LEPCL-2015/14430-14432 dated October 20, 2016 has already granted local coal upfront tariff to LEPCL. In consideration of the above, the Authority is of the considered opinion that the proposed LPM will not have any adverse effect on the performance of the licensee/LEPCL of its obligations. The project will utilize local coal instead of imported, which will result in savings of precious foreign exchange reserves. Further, the LPM will not cause the Authority to act or acquiesce in any act or

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omission of the licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to the NEPRA Act. The LPM is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence. Further, the LPM is necessary to reduce the supply-demand gap in the country, keeping in view the financial and technical viability of the licensee.

(F). Approval of LPM

(i). In view of the above, the Authority is satisfied that LEPCL has complied with all the requirements of the Licensing Regulations pertaining to the modification. Therefore, the Authority in terms of Regulation-10(11)(a) of the Licensing Regulations approves the communicated LPM.

(ii). Accordingly, the generation licence (No. IGSPL/66/2016 dated March 03, 2016) is hereby modified. The changes made in the generation licence are attached as annexure to this determination. The approval of the LPM will be subject to the provisions contained in the NEPRA Act, relevant rules framed there under, terms & conditions of the generation licence and other applicable documents.

Authority

Maj. (R) Haroon Rashid
(Member)

16/11/17

Syed Masood-ul-Hassan Naqvi
(Member)

Himayat Ullah Khan
(Member/~~Vice Chairman~~)

Saif Ullah Chattha
(Member/Vice Chairman)

17.11.2017

Tariq Saddozai
(Chairman)

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National Electric Power Regulatory Authority (NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. IGSPL/66/2016

In exercise of the powers conferred under Section-26 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby modifies the Generation Licence granted to **Lucky Electric Power Company Limited** to the extent of changes mentioned as here under:-

(i). The term **imported coal** appearing on the Face Sheet of the Original Licence is changed to **Thar coal**;

(ii). The **expiry date** indicated on the Face Sheet of the Original Licence is changed from December 30, 2049 to June 29, 2051;

(iii). Changes in Articles of the Generation Licence attached as **Revised/Modified Articles** of the Generation Licence;

(iv). Changes in Schedule-I attached as **Revised/Modified Schedule-I**; and

(v). Changes in Schedule-II attached as **Revised/Modified Schedule-II**.

This **Modification-I** is given under my hand on 20th **day** of **November Two Thousand & Seventeen.**

20/11/17

Registrar

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Article-1
Definitions

1.1 In this Licence

(a). Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;

(b). "Applicable Documents" mean the Act, the NEPRA rules and regulations, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the grid code, the applicable distribution code, if any, or the documents or instruments made by the licensee pursuant to its generation licence, in each case of a binding nature applicable to the licensee or, where applicable, to its affiliates and to which the licensee or any of its affiliates may be subject;

(c). "Applicable Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;

(d). "Authority" means "the National Electric Power Regulatory Authority constituted under Section-3 of the Act";

(e). "Bus Bar" means a system of conductors in the Generation Facility/Power Plant of the Licensee on which the electric power of all the generators is collected for supplying to the Power Purchaser;

(f). "Commercial Operations Date (COD)" means the day immediately following the date on which the Generation Facility/ Power Plant of the Licensee is commissioned;

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(g). "CPPA-G" means "Central Power Purchasing Agency (Guarantee) Limited" or any other entity created for the like purpose;

(h). "Generation Facility/Power Plant" means the coal fired generation facility for production of electric power;

(i). "Generation Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";

(j). "GoP" means the Government of Pakistan acting through the PPIB which has issued LoS to the Licensee for the design, engineering, construction, insuring, commissioning, operation and maintenance of the Generation Facility/Power Plant and has signed or will be signing an IA with the Licensee;

(k). "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;

(l). "IEC" means International Electrotechnical Commission or any other entity created for the like purpose and its successors or permitted assigns;

(m). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;

(n). "Implementation Agreement (IA)" means the implementation agreement signed or to be signed between the GoP and the Licensee in relation to this particular Generation Facility/Power Plant, as may be amended from time to time;

(o). "Letter of Support (LoS)" means the letter of support issued or to be issued by the GoP through the PPIB to the Licensee;

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(p). "Licensee" means "**Lucky Electric Power Company Limited**" and its successors or permitted assigns;

(q). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;

(r). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;

(s). "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/Power Plant, as may be amended by the parties thereto from time to time;

(t). "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;

(u). "PPIB" means the Private Power and Infrastructure Board or any other entity created for the like purpose established by the GoP to facilitate, promote and encourage development of renewable energy in the country;

(v). "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.

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Article-2
Applicability of Law

This Licence is issued subject to the provisions of the Applicable 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/Power Plant of the Licensee are set out in Schedule-I of this Licence.

3.2 The net capacity of the Generation Facility/Power Plant of the Licensee is set out in Schedule-II hereto. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its Generation Facility/Power Plant before its COD.

Article-4
Term of Licence

4.1 This licence shall become effective from the date of its issuance and will have a term of thirty (30) years from the COD of the Generation Facility/Power Plant of the Licensee.

4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of the Licence ninety (90) days prior to the expiry of the above term, as stipulated in the Licensing Regulations.

Article-5
Licence fee

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

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Article-6
Tariff

The Licensee shall charge the Power Purchaser 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 Generation Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9
Compliance with Performance Standards

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

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Article-10
Compliance with Environmental Standards

10.1 The Generation Facility/Power Plant of the Licensee at all times shall comply with the environmental and safety 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/Power Plant is in conformity with the required 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

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

Article-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.

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SCHEDULE-I
(Revised/Modified)

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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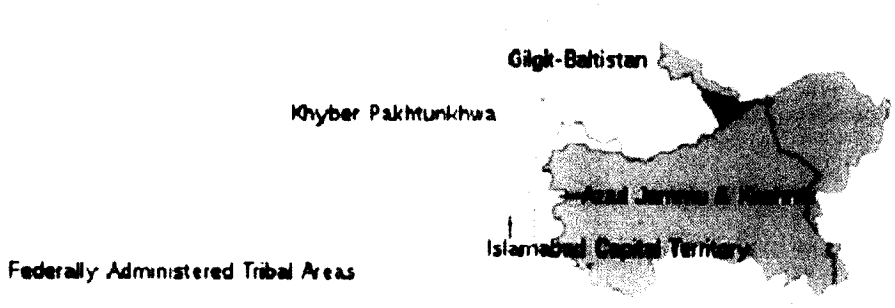
Location Map of the Generation Facility/Power Plant of Lucky Electric Power Company Limited (LEPCL)



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Location Map of the Generation Facility//Power Plant of LEPCL

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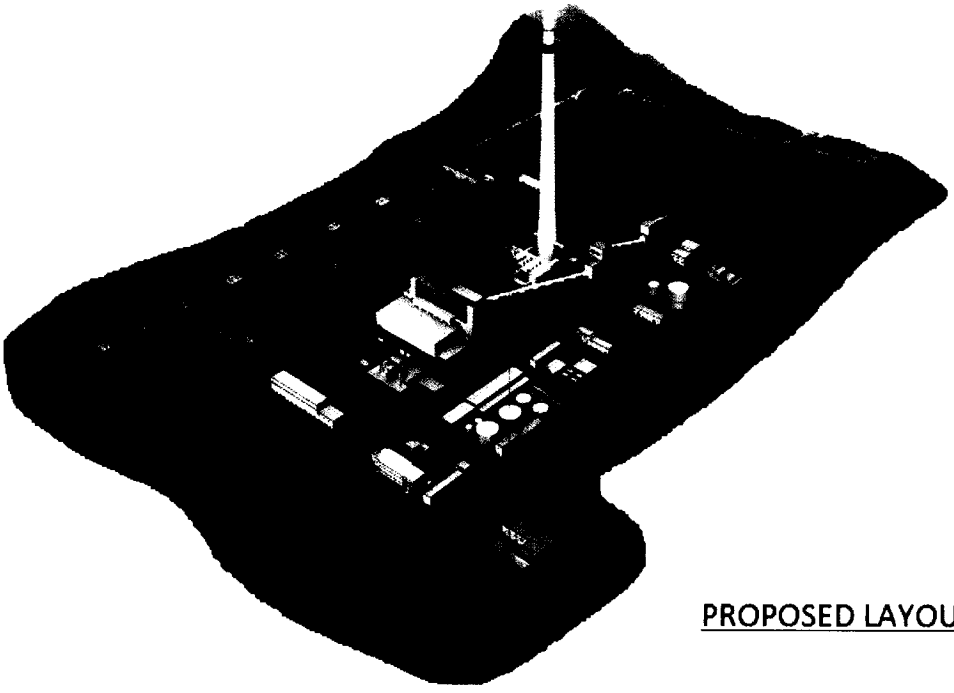
Layout of the Generation Facility//Power Plant of LEPCL



PROPOSED LAYOUT

Lucky Electric Power Company Limited

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

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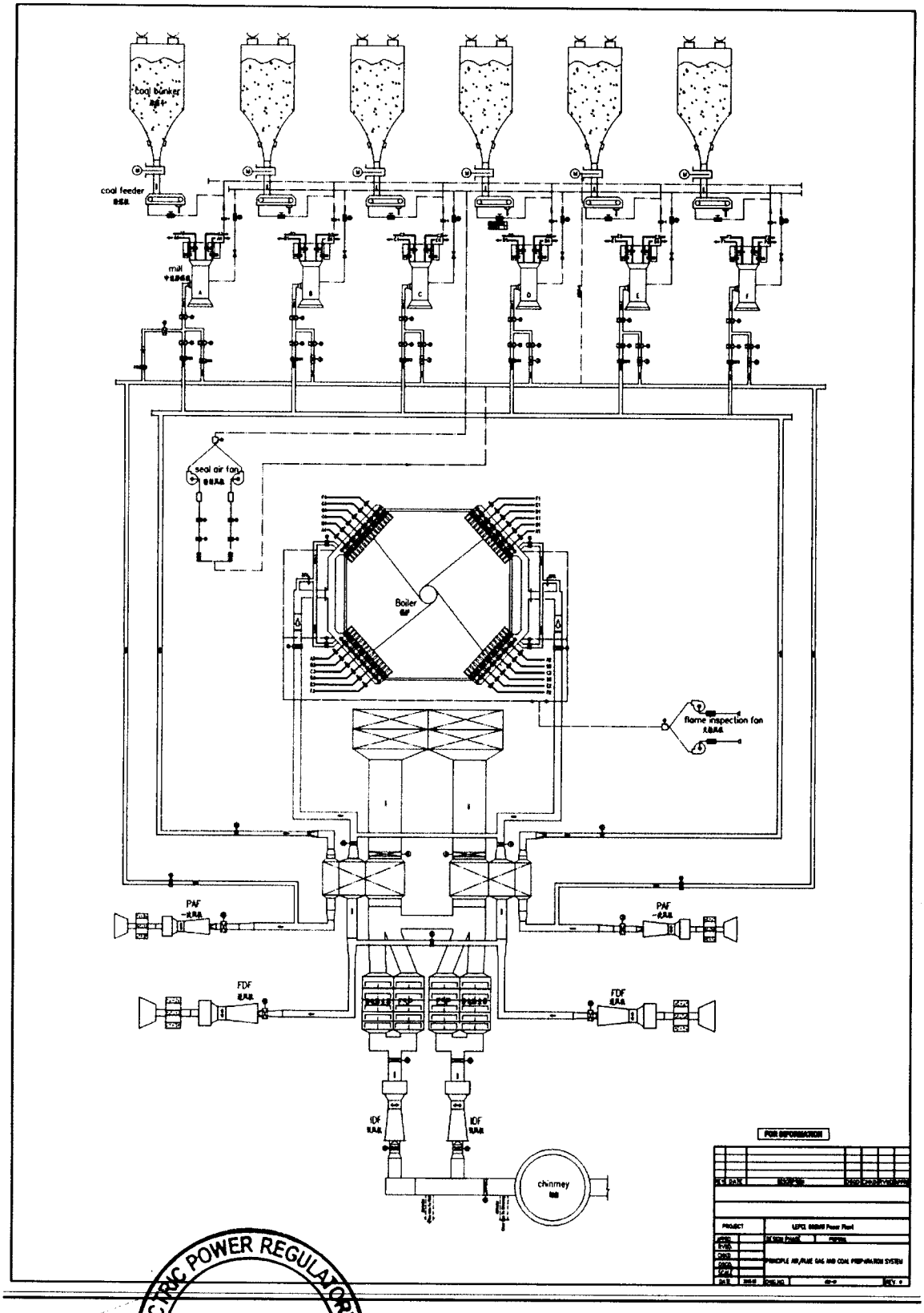
Drawings/Diagrams of the Generation Facility//Power Plant of LEPCL



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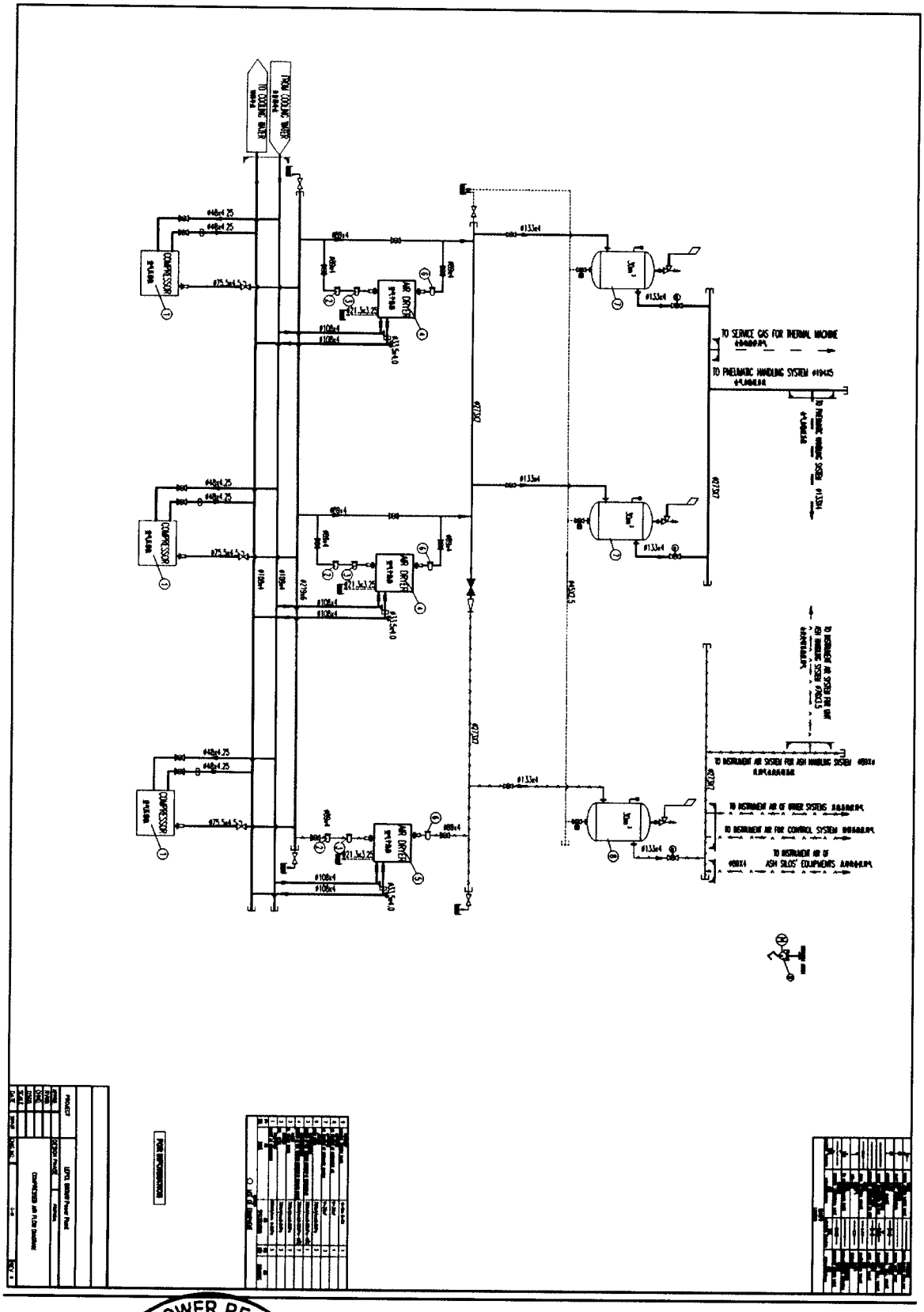

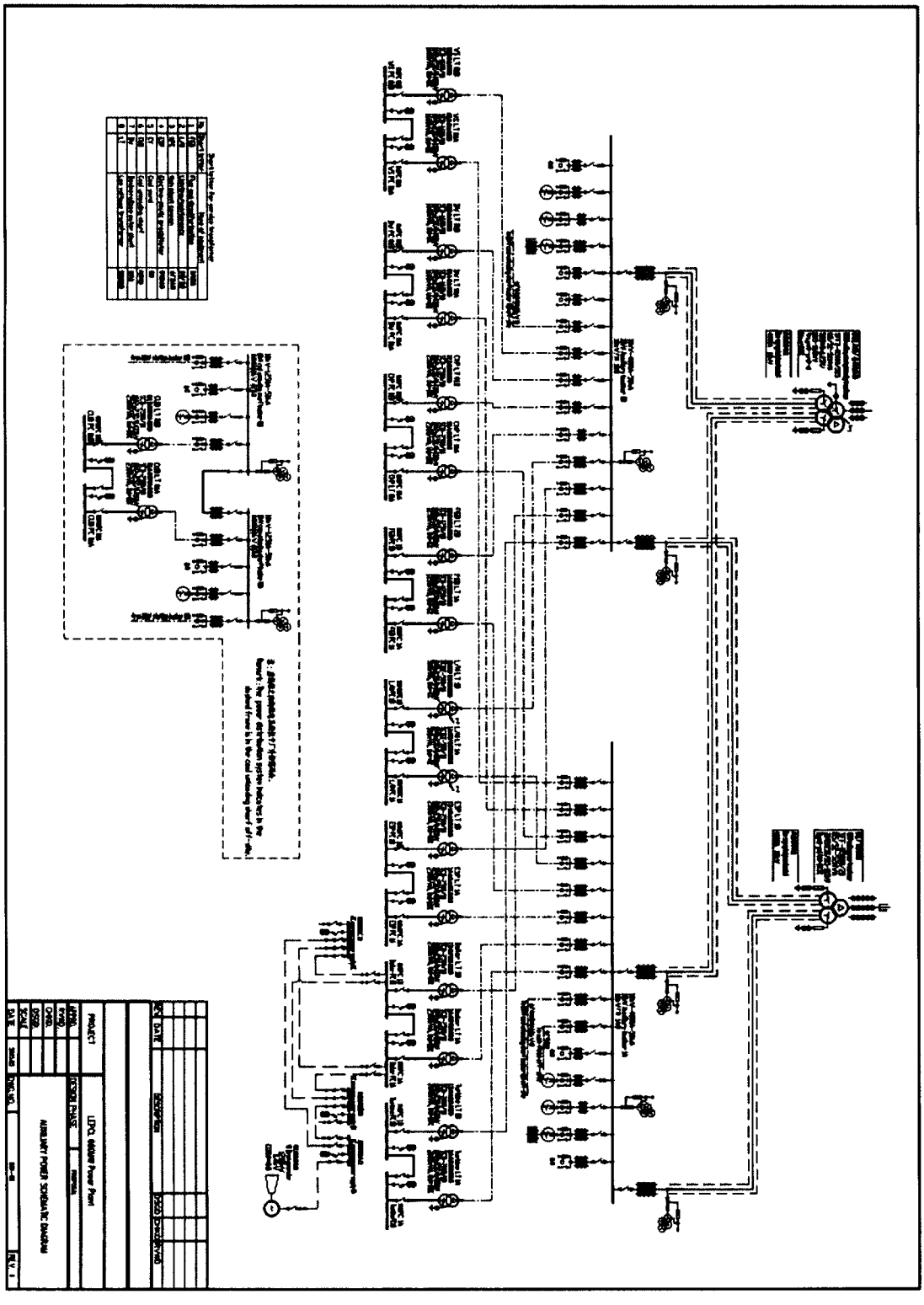

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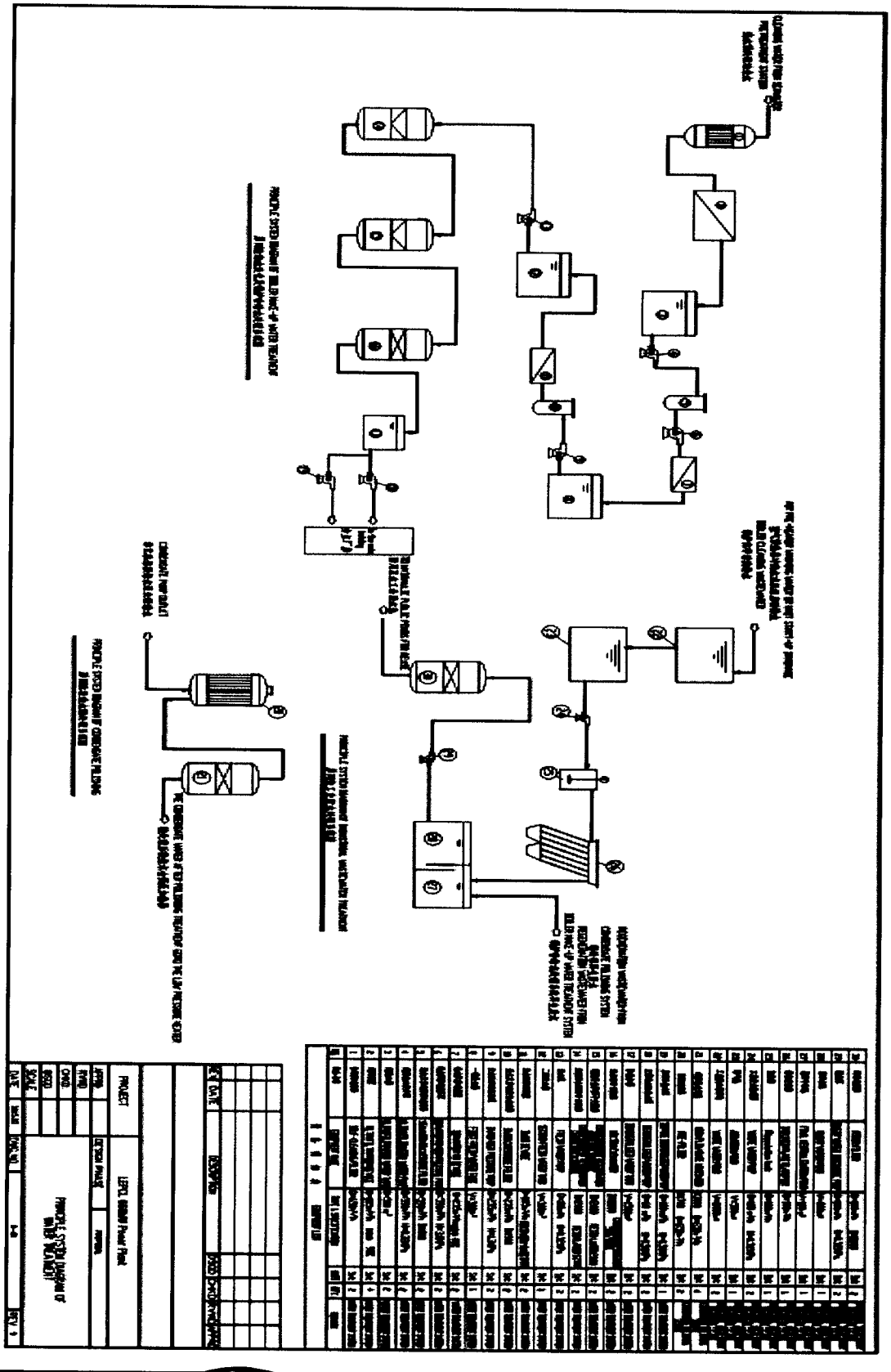

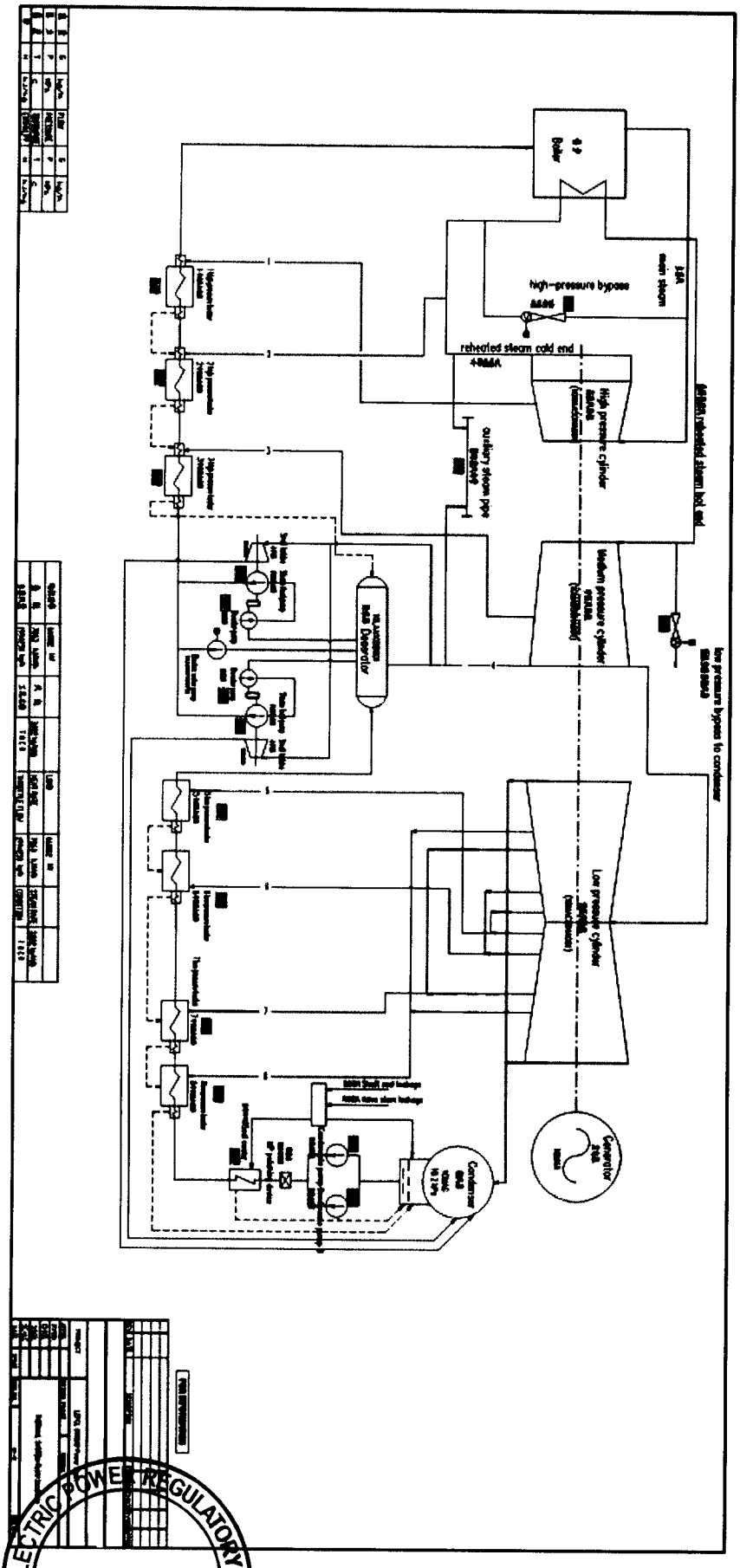

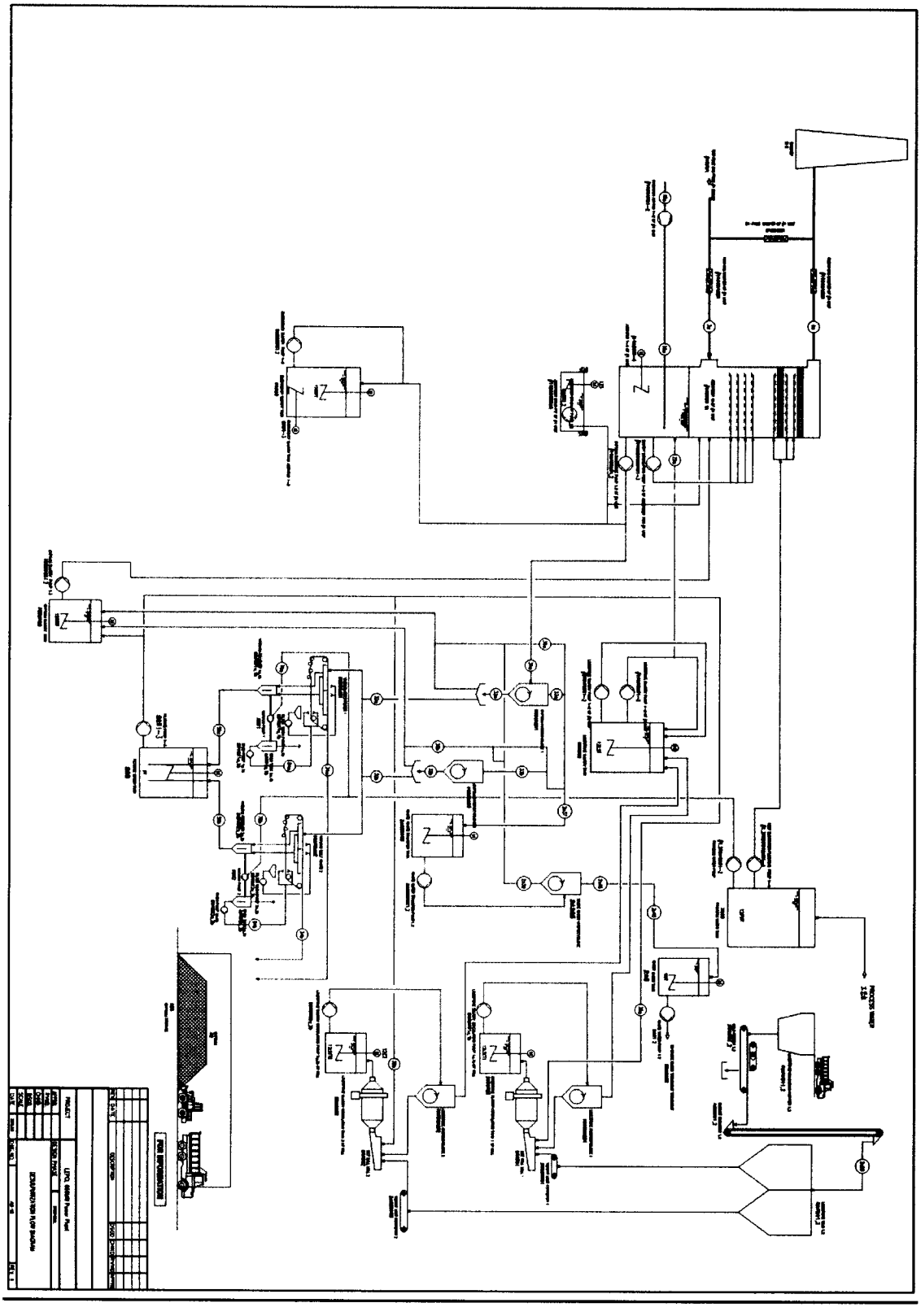

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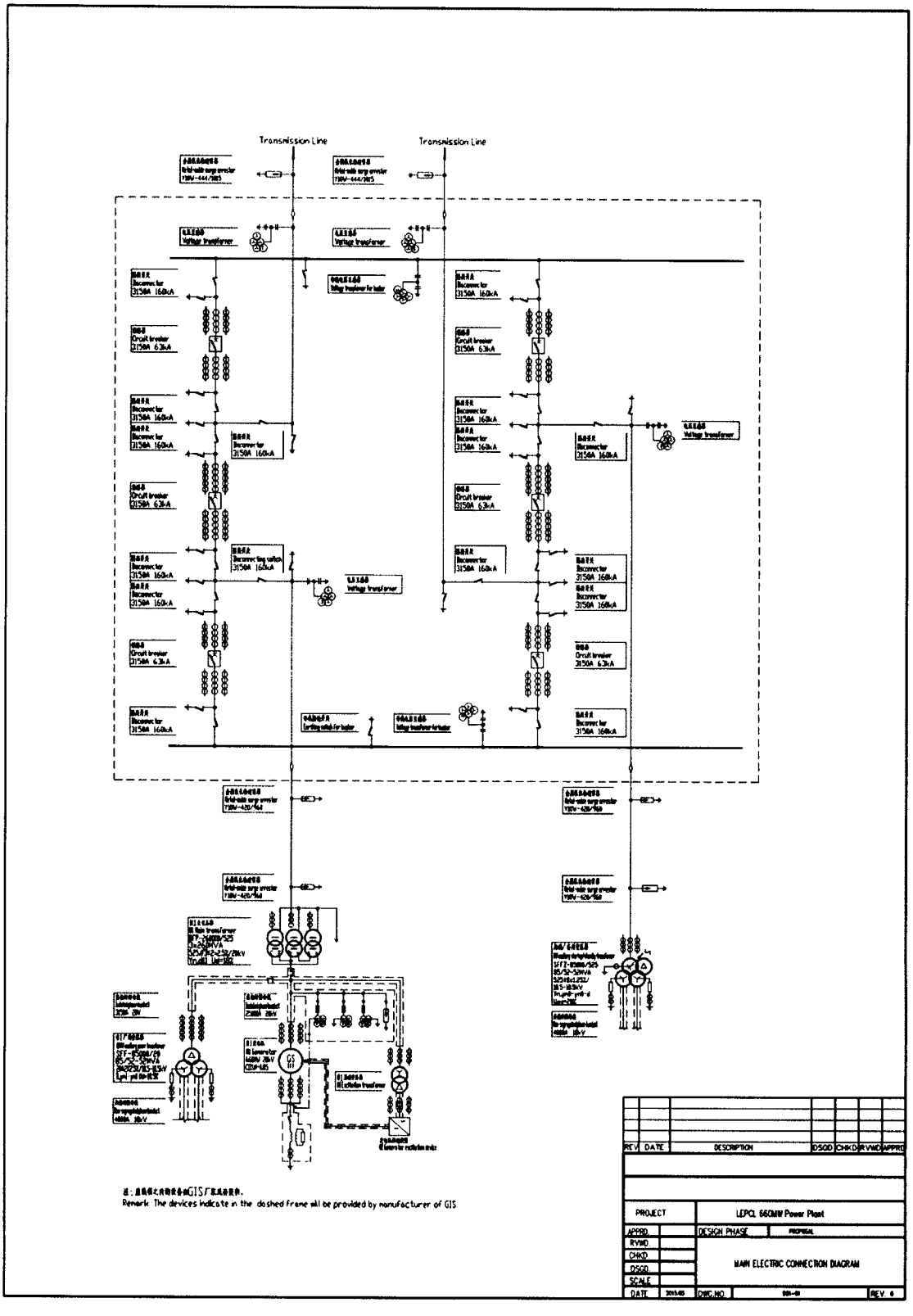

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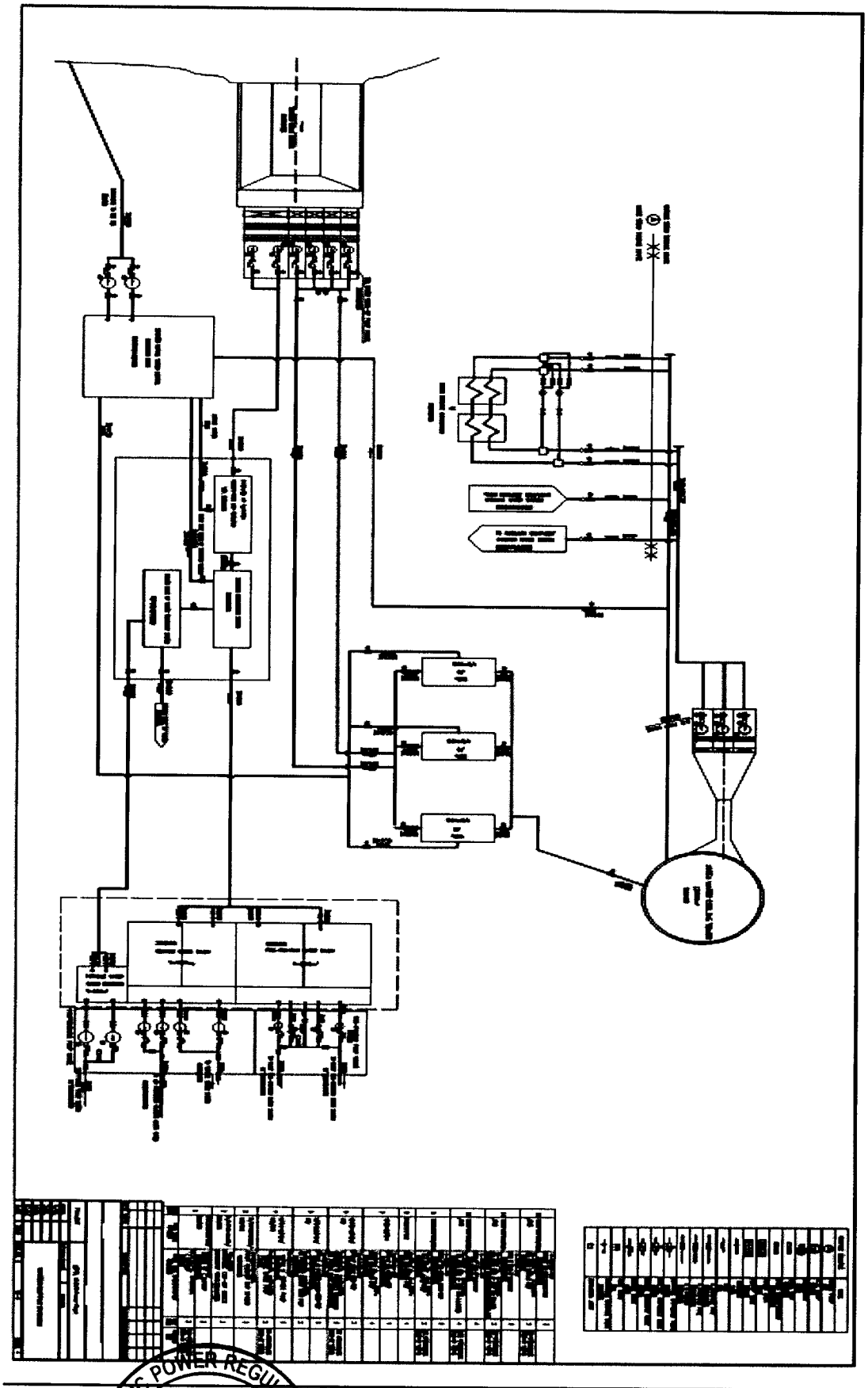

Interconnection Facilities/ Transmission Arrangements for Dispersal of Power from the Generation Facility

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, approximately 3.0 km long, on Quad-bundled Greeley Conductor for making In/Out of already planned Port Qasim Converter Station–Siddiqsons 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.

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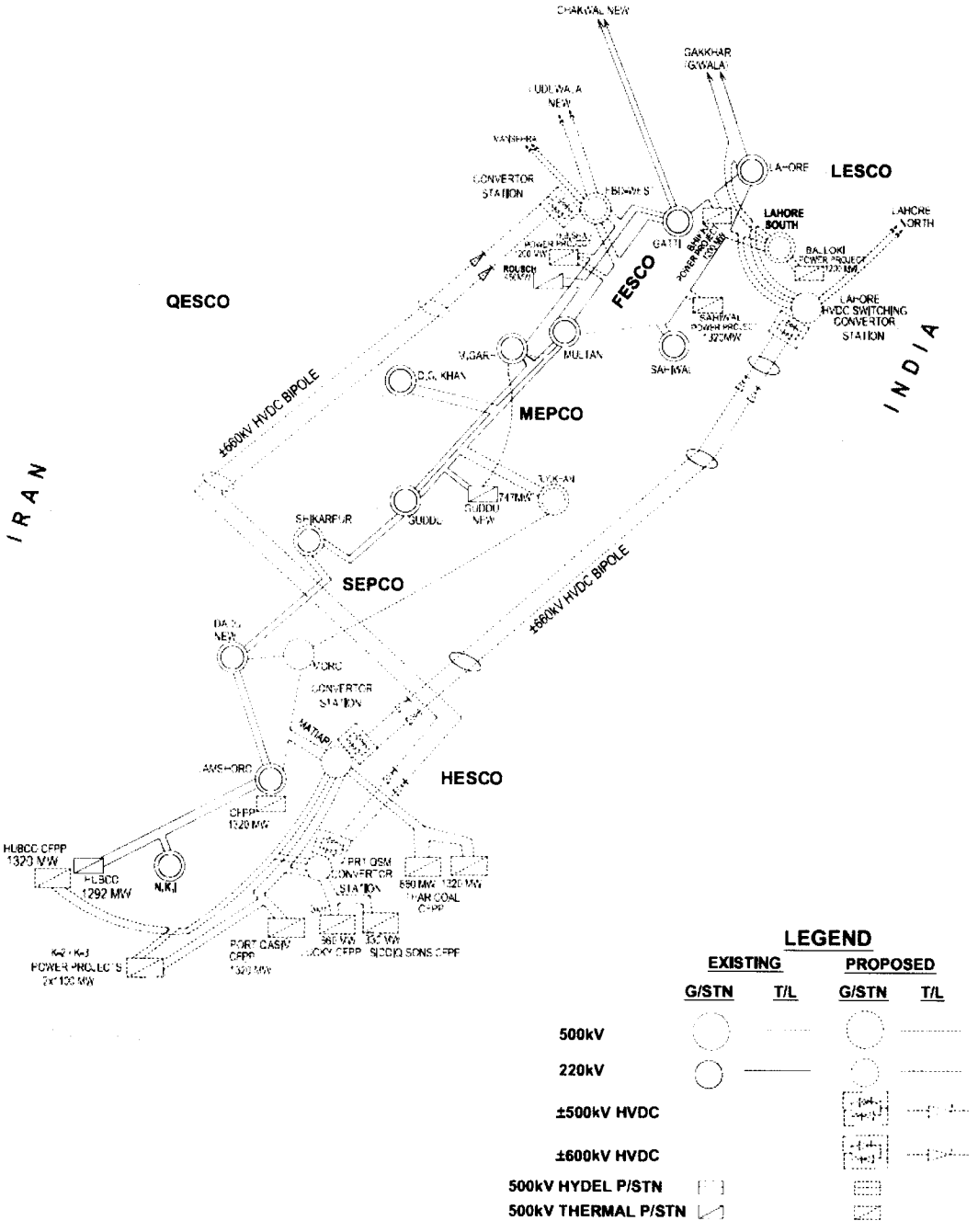

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Detail of Generation Facility/ Power Plant

(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 steam generator, once-through, single or double pass, reheat, balanced draft, dry bottom/Dongfang Boiler Group Co., Ltd./ General Electric/Harbin Boiler Co., Ltd./ Shanghai Electric Group Co., Ltd./ B&W(Beijing) Co., Ltd./ Alstom/Ansaldo/Foster Wheeler or Equivalent
(v).	Commercial Operation Date (COD) of the Generation Facility/ Power Plant	June 30, 2021 (Anticipated)	

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(vi).	Expected Useful Life of the Generation Facility/ Power Plant from COD	30 years

(C). Fuel/Raw Material Details

(i).	Primary Fuel	Thar Coal	
(ii).	Start-Up Fuel	High Speed Diesel/HSD	
(iii).	Fuel Source for each of the above (i.e. Imported/Indigenous)	Primary Fuel	Start-Up Fuel
		Thar Coal	Indigenous/Imported
(iv).	Fuel Supplier for each of the above	Primary Fuel	Start-Up Fuel
		Sindh Engro Coal Mining Company (SECMC)	Shell Pakistan/Pakistan State Oil/Any other OMC Company
(v).	Supply Arrangement for each of the above Fuels	Primary Fuel	Start-Up Fuel
		Through Rail/Road	Through Oil Tankers
(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^3
(viii).	Gross Storage	Primary Fuel	Start-Up Fuel
		About 500,000 Tons	2400 m^3

(D). Emission Values

		Primary Fuel	Start-Up Fuel
(i).	SO_x (mg/Nm^3)	As per NEQS	As per NEQS
(ii).	NO_x (mg/Nm^3)	As per NEQS	As per NEQS
(iii).	CO_2 (%)	As per NEQS	As per NEQS

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(E). Cooling System

(i).	Cooling Water Source/Cycle	The cooling water is from adjacent sea channel of Port Qasim at south of the site. Induced Draft cooling with circulation system will be adopted for cooling water system.

(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.	13.2MW/Min. to 19.8 MW/Min.	19.8 MW/Min. to 33.0 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

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SCHEDULE-II
(Revised/Modified)

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

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