



National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/R/LAG-521/1187-94

January 25, 2023

Mr. Naveed Athar

Plant Manager & Authorized Representative
Combined Cycle Power Plant, Nandipur
Northern Power Generation Company
Nandipur, Gujranwala

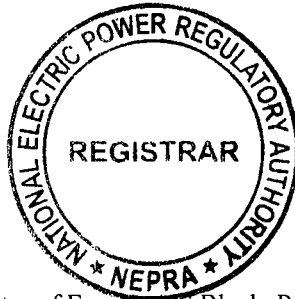
**Subject: Grant of Generation Licence No. GL/28/2022
Licence Application No. LAG-521
Northern Power Generation Company Limited (NPGCL)**

Reference: Your application submitted vide letter No. NPGCL/PM/NP/GL/2553 dated 06.07.2022

Enclosed please find herewith Generation Licence No. GL/28/2022 granted by National Electric Power Regulatory Authority (NEPRA) to Northern Power Generation Company Limited (NPGCL) for its 565.65 MW Gross Combined Cycle Power Plant located at Nandipur near Gujranwala in the province of Punjab, pursuant to Section 14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended or replaced from time to time. 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: As Above



(Signature)
25/1/23
(Engr. Mazhar Iqbal Ranjha)

Copy to:

1. Secretary, Power Division, Ministry of Energy, 'A' Block, Pak Secretariat, Islamabad
2. Secretary, Privatization Commission, Ministry of Privatization, Government of Pakistan, 4th Floor, Kohsar Block, Pak Secretariat, Islamabad
3. Managing Director, NTDC, 414 WAPDA House, Lahore
4. Chief Executive Officer, CPPA(G), 73 East, A.K. Fazl-ul-Haq Road, Blue Area, Islamabad
5. Managing Director, Private Power & Infrastructure Board (PPIB), Ground & 2nd Floors, Emigration Tower, Plot No. 10, Mauve Area, Sector G-8/1, Islamabad
6. Chief Executive Officer, Gujranwala Electric Power Company (GEPCO), 565/A, Model Town, G.T Road, Gujranwala
7. Director General, Environmental Protection Department, Government of the Punjab, National Hockey Stadium, Ferozpur Road, Lahore

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of grant of separate Generation Licence to
Northern Power Generation Company Limited for Nandipur
Power Plant

January 25, 2023
Case No. LAG-521

(A). Background

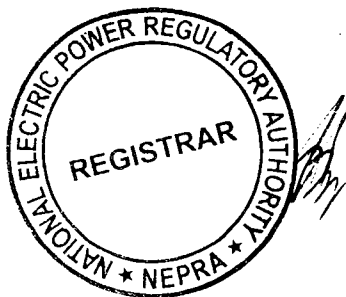
(i). The Authority granted a Generation Licence (No. GL/03/2002, dated July 01, 2002 and subsequent modifications dated April 18, 2014, October 31, 2014, May 02, 2018 and April 13, 2020) to Northern Power Generation Company Limited (NPGCL/GENCO-III) for its three (03) distinctly located Generation Facilities including Thermal Power Station Muzaffargarh (TPS Muzaffargarh), Gas Turbine Power Station, Faisalabad (GTPS, Faisalabad) and Combined Cycle Power Plant at Nandipur (CCPP Nandipur).

(ii). According to the existing Generation Licence, the cumulative installed capacity of NPGCL/GENCO-III is 2059.65 MW (i.e. 1350.00 MW TPS Muzaffargarh, 144.00 MW GTPS, Faisalabad and 565.65 MW CCPP Nandipur). In this regard, it is relevant to mention that CCPP Nandipur was included in the Generation Licence of NPGCL/GENCO-III through Licensee Proposed Modification (LPM) dated October 31, 2014.

(iii). Pursuant to the decision/directions of Govt. of Pakistan (GoP)/Cabinet Committee on Privatization (CCoP) regarding privatization of CCPP Nandipur, the Ministry of Energy Power Division (MoEPD), vide its office order No. 1(33)GP-I/2021 dated December 31, 2021, directed NPGCL to carve out CCPP Nandipur from its existing Generation Licence and avail a separate generation licence for the same.

(B). Filing of Application

(i). NPGCL/GENCO-III submitted an application on July 07, 2022 for the grant of separate generation licence for CCPP Nandipur, in terms of



Section-14B of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act"), read with the relevant provisions of the NEPRA Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 (the "Licensing Regulations")¹.

(ii). The Registrar examined the submitted application to confirm its compliance with the Licensing Regulations and observed that the application lacked some of the required information/documentation. In view of the said, the Registrar directed NPGCL/GENCO-III to submit the missing information/documentation. NPGCL submitted the required missing information/documents on July 26, 2022.

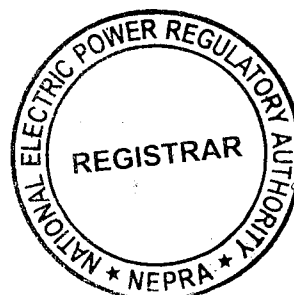
(iii). Accordingly, the Registrar allocated Registration No. LAG-521 to the application of NPGCL/GENCO-III and published a notice of admission in two daily newspapers [i.e. in one (01) Urdu and one (01) English newspapers] on August 17, 2022, containing a brief summary of the particulars of the project for which licence has been sought, inviting the general public to submit their comments in the matter as stipulated in Regulation-7 of the Licensing Regulations.

(iv). In addition to the above, the Registrar sent letters on July 17, 2022 to different stakeholders including but not limited to Govt. Ministries, their attached departments and different representative organizations, soliciting/seeking their views and comments for the assistance of the Authority in the matter, in terms of Regulation-8(2) of the Licensing Regulations.

(C). Comments of Stakeholders

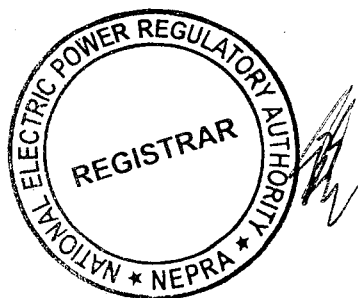
(i). In reply to the above-mentioned notices, the Authority received comments from four (04) stakeholders, including Faisalabad Electric Supply Company Limited (FESCO), Petroleum Division, Ministry of Energy (PtDMoE), Central Power Purchasing Agency (Guarantee) Limited (CPPAGL) and Punjab Power Development Board (PPDB) through Energy Department, Govt. of the Punjab (EDGoPb). The salient points of the comments offered by stakeholders are summarized below: -

¹ In this regard, it is relevant to mention that NPGCL has also filed LPM inter alia for exclusion of CCPP Nandipur from its existing generation licence for which separate proceedings are in process.



- (a). FESCO submitted that it has no reservations with regard to grant of generation licence for CCPP Nandipur by the Authority, it being a Government Policy matter;
- (b). PtDMoE stated that CCPP Nandipur has a useful life of 30 years from its COD (i.e. July 23, 2015), whereas the efficiency of the plant is in the range of 41%-49%. Foregoing in view, this Division has no objection to the grant of generation licence to NPGCL for CCPP Nandipur. Further, PtDMoE has provided a history of Gas Supply Agreement (GSA) for CCPP Nandipur stating that an interim agreement signed between SNGPL and NPGCL for supply of 100 MMCFD of gas is valid till the execution of the GSA. As of August 2022, the outstanding dues of CCPP Nandipur amount to Rs. 27.868 Billion;
- (c). CPPAGL commented that the application of NPGCL for grant of generation licence for CCPP Nandipur is in accordance with the directives communicated by MoEPD vide F. No. 1(33)GP-I/2021 dated December 31, 2021 in light of the decision by Cabinet Committee on Privatization (CCoP) in this respect; and
- (d). PPDB/EDGoPb submitted that it has no specific comments in the matter. Therefore, the Authority may proceed further under the relevant rules, laws and regulations.

(ii). The Authority reviewed the above comments of stakeholders and considered it appropriate to seek the perspective of NPGCL on the submission of PtDMoE regarding outstanding dues against CCPP Nandipur. In response, NPGCL/GENCO-III submitted that the outstanding dues of CCPP Nandipur could not be paid due to cash flow issues, however, it is confirmed that the same will be paid soon. Accordingly, the Authority considered it appropriate to proceed further in the matter as stipulated in the Licensing Regulations and the NEPRA Licensing (Generation) Rules, 2000 (the "Generation Rules").



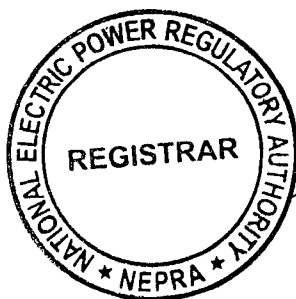
(D). Evaluation/Findings

(i). The Authority has examined the entire case in detail including the existing Generation Licence of NPGCL, the information provided in its application for the grant of separate generation licence for CCPP Nandipur, comments of the stakeholders and the rejoinder in the matter and other relevant information. Further to the said, the Authority has also considered the relevant rules & regulations. The observations of the Authority in the matter are elaborated in the following paragraphs.

(ii). NPGCL is a public limited company incorporated having Company Registration No. L 09667 of 1998-99 under Section 32 of the Companies Ordinance, 1984 (XLVII of 1984). It holds a Generation Licence (No. GL/03/2002, dated July 01, 2002 and subsequent modifications dated April 18, 2014, October 31, 2014, May 02, 2018 and April 13, 2020) for its three (03) distinctly located Generation Facilities including TPS Muzaffargarh, GTPS Faisalabad and CCPP Nandipur.

(iii). According to the existing Generation Licence, the cumulative installed capacity of NPGCL/GENCO-III is 2059.65 MW (i.e. 1350.00 MW TPS Muzaffargarh, 144.00 MW GTPS, Faisalabad and 565.65 MW CCPP Nandipur. In this regard, it is relevant to mention that the CCPP Nandipur was included in the Generation Licence of NPGCL/GENCO-III through Licence Proposed Modification (LPM) dated October 31, 2014.

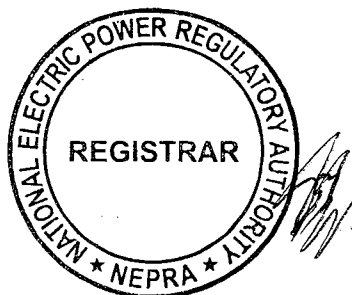
(iv). Regarding CCPP Nandipur it is relevant to mention that PC-I of the same was approved by the Executive Committee of the National Economic Council (ECNEC). CCPP Nandipur consist of three gas turbines (3x122.10 MW) of General Electric/G.E. (PG9171E Frame 9E), three Heat Recovery Steam Generators (HRSGs) and one steam turbine (1x199.35 MW) of Dong Fong, China. The installed capacity of CCPP Nandipur on Gas/RLNG is 565.65 MW whereas on RFO the same is 474.0 MW. CCPP Nandipur achieved Commercial Operation Date (COD) on July 23, 2015 and supplying to the national grid. As per submission of NPGCL the combined cycle efficiency of CCPP Nandipur on Gas/RLNG is 49%.



(v). The CCPP Nandipur has been selected by the GoP for privatization, as part of the overall privatization program. In this regard, an Expression of Interest (EOI) was also published in newspapers on August 29, 2019, for hiring of Financial Advisor (FA) to assist in the process of privatization of CCPP Nandipur. In light of the decision by the GoP/CCoP and to facilitate the process of privatization, the MoEPD directed NPGCL to carve out CCPP Nandipur from its existing Generation Licence and avail separate licence for CCPP Nandipur. Accordingly, NPGCL has filed this application under the relevant rules and regulations for obtaining separate generation licence.

(vi). In terms of Rule-3 of the Generation Rules, the Authority may grant a generation licence to any person to engage in the generation business. The said rule stipulates various conditions pertaining to the grant of generation licence as explained in Rule-3(2), Rule-3(3), Rule-3(4) and Rule-3(5) of the Generation Rules. In the particular case under consideration, the Authority considers that conditions of Rule-3(2) and Rule-3(3) stand satisfied as NPGCL has provided details of location, technology, size, net capacity/energy, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facility/Power Plant. The provision of Rule-3(4) of the Generation Rules regarding holding a public hearing is not applicable as there was no issue which required this exercise.

(vii). The Rule-3(5) of the Generation Rules stipulates that the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the least cost option criteria. In this regard, the Rule-3(5) of the Generation Rules also stipulates the conditions pertaining to least cost option criteria which include (a). sustainable development or optimum utilization of the renewable or non-renewable energy resources proposed for generation of electric power; (b). the availability of indigenous fuel and other resources; (c). the comparative costs of the construction, operation and maintenance of the proposed generation facility against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the

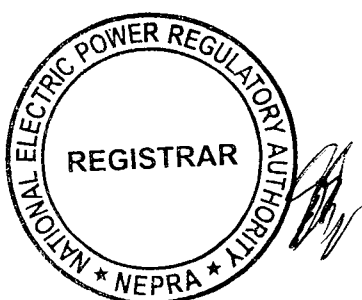


transmission system likely to result from the proposed generation facility and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term forecasts for additional capacity requirements; (g). the tariff resulting or likely to result from the construction or operation of the proposed generation facility; and (h) the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole.

(viii). In this regard, the Authority has observed that the project/CCPP Nandipur is already in operation since 2015 and the said requirements were considered while approving the PC-I by ECNEC and inclusion of the plant in the generation licence of NPGCL in 2014. In view of the said and considering the requirement of separate generation licence for privatization process, the Authority considers that the plant of CCPP Nandipur fulfills the eligibility criteria for the grant of generation licence as stipulated in the NEPRA Act, rules, regulations and other applicable documents.

(ix). Regarding the term of the Generation Licence, the Authority has observed that Rule-5(1) of the Generation Rules stipulates that the term of a generation licence is to be consistent with the maximum expected useful life of the units comprised in a generating facility, except where an applicant consents to a shorter term. According to the existing Generation Licence of NPGCL, the expected useful life of CCPP Nandipur is 30 years from COD. Accordingly, the Authority considers the term of the Generation Licence of CCPP Nandipur as thirty (30) years from its COD (i.e. July 23, 2015), subject to Section 14-B of the NEPRA Act.

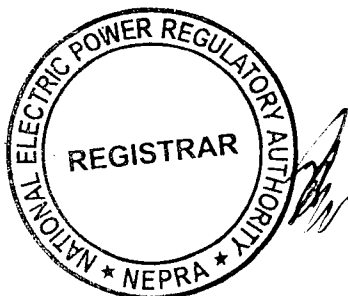
(x). Regarding fuel of CCPP Nandipur, the Authority has observed that according to the existing Generation Licence of NPGCL, the primary fuel of CCPP Nandipur is Furnace Oil, whereas the alternative and start-up fuels are Natural Gas and High Speed Diesel (HSD), respectively. In this regard, NPGCL has clarified that initially, CCPP Nandipur was constructed to operate on liquid fuel (HSFO), however, upon allocation of 100 MMCFD Natural Gas/RLNG by the Ministry of Petroleum, the Nandipur GTs have been fully converted to operate on Gas Fuel (RLNG) to tap the various benefits of gas conversion including (a). 100 MW increase in capacity; (b). Less maintenance of GTs; (c).



Ease in fuel handling and operation of GTs; (d). Elimination of HSFO Treatment; (e). Lesser Housekeeping; and (f). Environmental friendliness. In this regard, it is also relevant to mention that the Authority through its decision No. NEPRA/R/ADG(Trf/TRF-27 1/NPGCL-2020/4909-4911 dated April 11, 2022 directed NPGCL to remove/rectify the inconsistencies regarding primary/secondary fuel in the Generation Licence. In view of the said, FO/HSFO has been eliminated from option of fuel for CCPP Nandipur whereas Natural Gas/RLNG has been set as primary fuel and HSD is being used as alternative and start up fuel, which is in accordance with the directions of the Authority.

(xi). Regarding the tariff, the Authority hereby clarifies that under Section-7(3)(a) of the NEPRA Act, determining tariff, rate and charges etc. is the sole prerogative of the Authority. In this regard, the Authority has already granted EPC stage tariff to NPGCL however, NPGCL has filed a petition for modification in the EPC stage tariff of CCPP Nandipur, which is under process. In view of the said, the Authority directs the Licensee/NPGCL to charge the power purchaser only such tariff which has been determined, approved or specified by the Authority. In view of the said, an article on tariff has been included in the generation licence.

(xii). About the compliance with the environmental standards, NPGCL has submitted that the CCPP Nandipur is fully compliant with the relevant environmental standards (i.e. NEQS) and conditions of the NOC provided from Environmental Protection Department, Govt. of the Punjab (EPDGoPb). In this regard, a team of EPDGoPb at Gujranwala also visits CCPP Nandipur on quarterly basis, to ensure environmental compliance. In this regard, NPGCL has confirmed that CCPP Nandipur will comply with the required environmental standards during the term of the Generation Licence. In view of the importance of the issue, a specific article has been included in the Generation Licence (along with other terms and conditions), making it obligatory for the Licensee/NPGCL to comply with relevant environmental standards at all times. Further, the Licensee/NPGCL is directed to submit a report on a bi-annual basis, confirming that operation of its generation facility is compliant with the required environmental standards as prescribed by the concerned environmental protection agency.



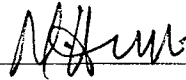
(F). Approval of the Authority

(i). In view of the above, the Authority considers that the application of NPGCL for separate Generation Licence of CCPP Nandipur, already in operation, is compliant with the relevant rules and regulations. Further, the separate Generation Licence is a pre-requisite for privatization of the said plant by the GoP.

(ii). Foregoing in view, the Authority hereby approves the grant of separate Generation Licence for CCPP Nandipur to NPGCL, on the terms and conditions set out in the Generation Licence annexed to this determination. The grant of Generation Licence is subject to the provisions contained in the NEPRA Act, relevant rules, regulations framed thereunder and other applicable documents.

Authority

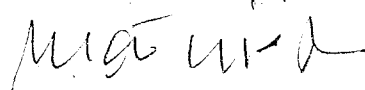
Engr. Maqsood Anwar Khan
(Member)



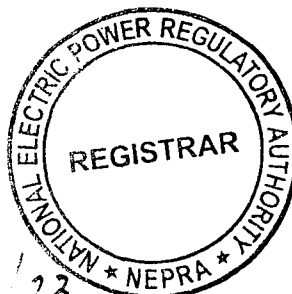
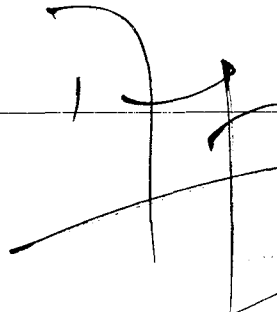
Rafique Ahmed Shaikh
(Member)



Mathar Niaz Rana (nsc)
(Member)



Tauseef H. Farooqi
(Chairman)



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

GENERATION LICENCE

No. GL/28/2022

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

**Northern Power Generation Company Limited
incorporated under Section 32 of the Companies Ordinance, 1984,
having Company Registration No. L 09667 of 1998-99**

**for its Combined Cycle Power Plant Located at Nandipur near
Gujranwala in the province of Punjab**

(Total Installed Capacity: 565.65 MW Gross)

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

Given under my hand this on 25th day of January Two Thousand & Twenty Three and expires on 22nd day of July Two Thousand & Forty Five.



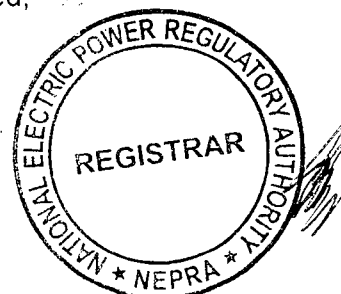
Registrar



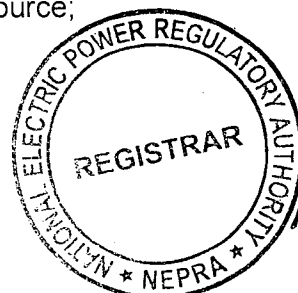
Article-1
Definitions

1.1 In this licence

- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended from time to time;
- (b). "Applicable Documents" means the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, the Commercial Code, 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 and 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 from all the generators is collected for supplying to the Power Purchaser;
- (f). "Commercial Code" or "Market Commercial Code" means the commercial code prepared and maintained by the market operator pursuant to sections 23A and 23B of the Act and approved by the Authority, from time to time;
- (g). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Power Plant of the Licensee is commissioned;

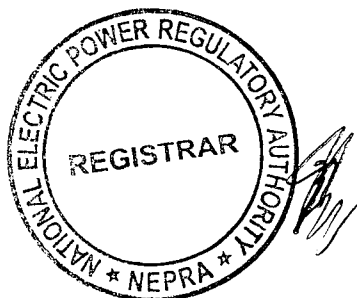


- (h). "Commissioning" means the undertaking of the Commissioning Tests of the generation facility/Power Plant as stipulated in the PPA;
- (i). "CPPA-G" means Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose;
- (j). "Distribution Code" means the code prepared by the concerned Distribution Licensee and approved by the Authority, which defines the technical and operational standards and procedures for Distribution Licensees and all those connected to its system as may be revised from time to time with necessary approval of the Authority;
- (k). "Distribution Licensee" means the a person to whom a licence for distribution of electric power has been granted by the Authority under the Act;
- (l). "Power Purchase Agreement (EPA)" 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;
- (m). "Generation Rules" means the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (n). "Grid Code" means the code prepared by the national grid company and approved by the Authority or, when a separate entity is licensed as system operator, prepared by the system operator licensee under sections 23H of the Act and approved by the Authority;
- (o). "Power Plant " means a the generation facility/combined cycle power plant of the Licensee for production of electric power using natural gas/RLNG as a primary source;



- (p). "IEC" means "the International Electrotechnical Commission or its successors or permitted assigns;
- (q). "IEEE" means the Institute of Electrical and Electronics Engineers or its successors or permitted assigns;
- (r). "Licensee" means **Northern Power Generation Company Limited** or its successors or permitted assigns;
- (s). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application, Modification, Extension and Cancellation) Procedure Regulations, 2021 as amended or replaced from time to time;
- (t). "NTDC" means National Transmission and Despatch Company Limited or its successors or permitted assigns;
- (u). "Power Purchaser" means CPPA-G which will be purchasing electric energy from the Licensee either on behalf of all or any single Distribution Licensee, pursuant to an EPA for procurement of electric energy;
- (v). "SCADA System" means the supervisory control and data acquisition system for gathering of data in real time from remote locations to control equipment and conditions;

1.2 The words and expressions used but not defined herein bear the meaning given thereto in the Act or Generation Rules and Licensing Regulations issued under the Act.



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 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 of this licence. 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.

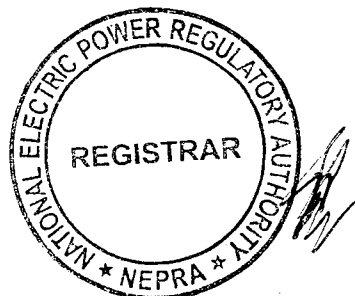
Article-4
Term of Licence

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 (i.e. July 23, 2015) of the generation facility/Power Plant of the Licensee subject to Section 14-B of the Act.

4.2 Unless suspended or revoked earlier or Licence ceases to have effect, the Licensee may apply for renewal of this 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) Regulations, 2021 as amended or replaced from time to time.



Article-6
Tariff

The Licensee shall charge only such tariff from the Power Purchaser 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.

7.2 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.



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

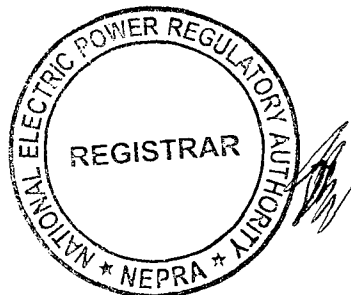
Article-8
Maintenance of Records

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

Article-9
Compliance with Performance Standards

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



Article-10
Compliance with Environmental & Safety Standards

10.1 The generation facility/Power Plant of the Licensee shall comply with the environmental and safety standards in accordance with the NEPRA Power Safety Code, 2021 and such other standards as may be prescribed by the relevant competent authority from time to time.

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

Article-11
Power off take Point and Voltage

The Licensee shall deliver the electric energy to the Power Purchaser at the outgoing Bus Bar of its generation facility/Power Plant. The Licensee shall be responsible for the up-gradation (step up) of generation voltage up to the required dispersal voltage level.

Article-12
Performance Data

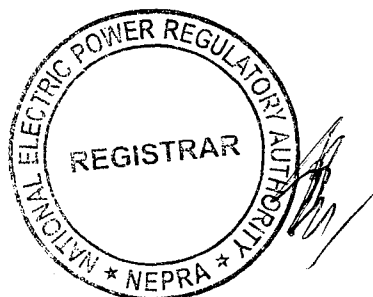
12.1 The Licensee shall install properly calibrated automatic computerized recording device(s) for measuring flow of water at its generation facility/Power Plant for recording of data.

12.2 The Licensee shall install SCADA System or compatible communication system at its generation facility/Power Plant as well as at the side of the Power Purchaser.

12.3 The Licensee shall transmit the data for flows of water and power output of its generation facility/Power Plant to the control room of the Power Purchaser.







Article-13
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-14
Emissions Trading /Carbon Credits

The Licensee shall process and obtain expeditiously the Carbon Credits admissible to the generation facility/Power Plant. The Licensee shall share the said proceeds with the Power Purchaser as per the relevant policy.

Article-15
Design & Manufacturing Standards

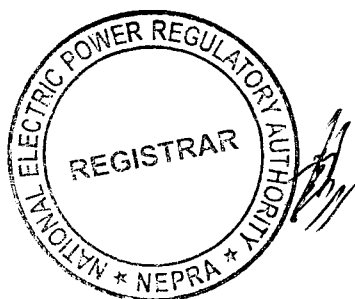
The generation facility/Power Plant of the Licensee shall be designed, manufactured and tested according to the latest IEC, IEEE standards or any other equivalent standard in the matter. All the plant and equipment of generation facility/Power Plant shall be unused and brand new.

Article-16
Power Curve

The Power Purchaser shall verify the power curve of the generation facility of the Licensee, as part of the Commissioning tests according to the latest IEC/IEEE standards and shall be used to measure its performance.

Article-17
Compliance with Applicable Law

The Licensee shall comply with the provisions of the Applicable Law, guidelines, directions and prohibitory orders of the Authority as issued from time to time.

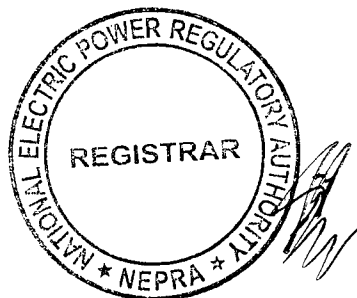


Article-18
Corporate Social Responsibility

The Licensee shall comply with the NEPRA Social Investment Guidelines, 2021, as may be amended from time to time and submit a report on its activities pertaining to Corporate Social Responsibility (CSR) on an annual basis.

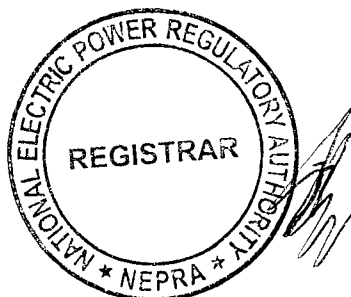
Article-19
Compliance with the Cyber Security Regulations

The Licensee shall comply with National Electric Power Regulatory Authority (Security of Information Technology and Operational Technology) Regulations, 2022 as amended from time to time.

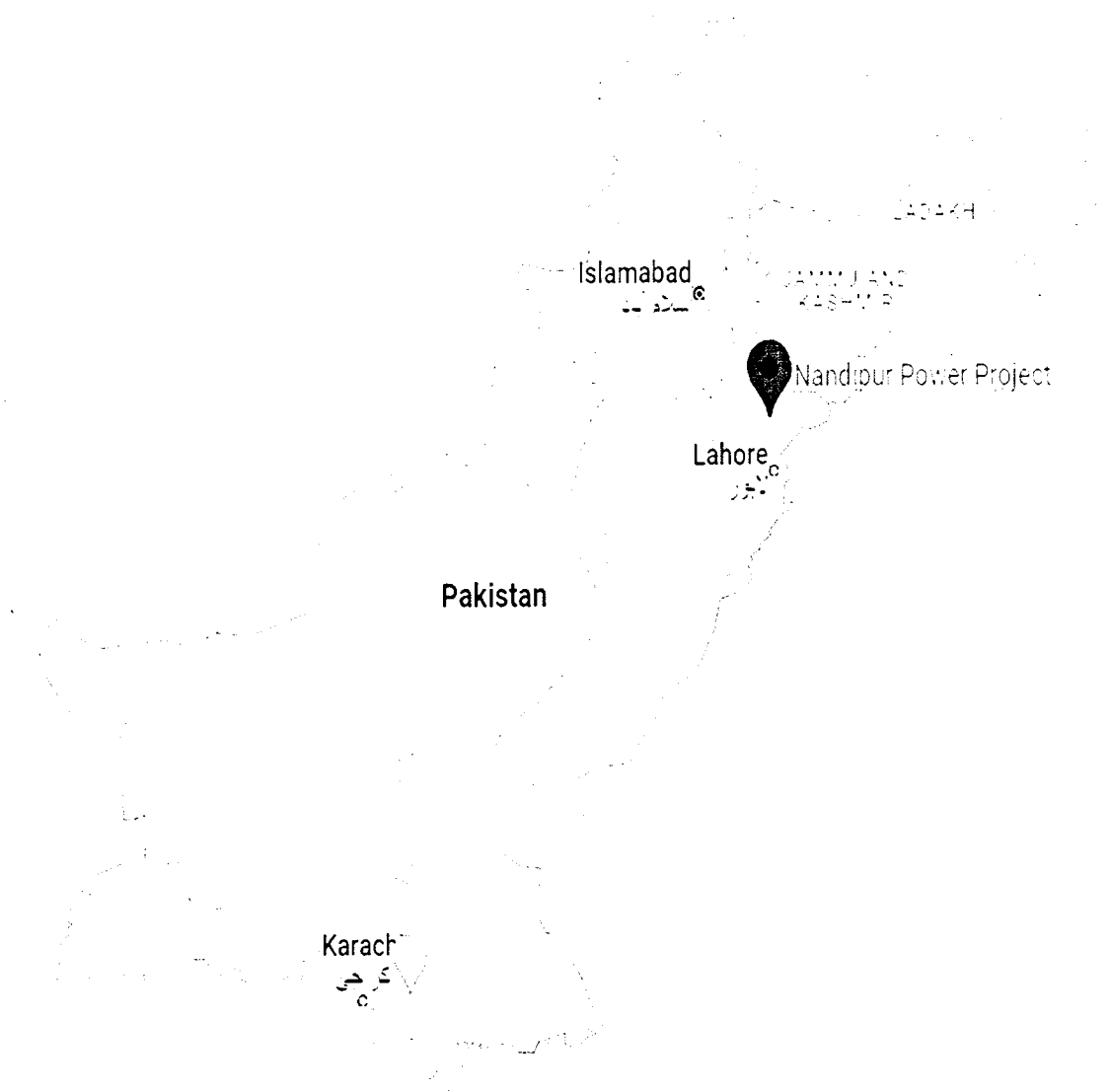


SCHEDULE-I

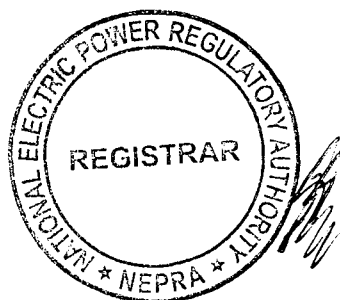
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.



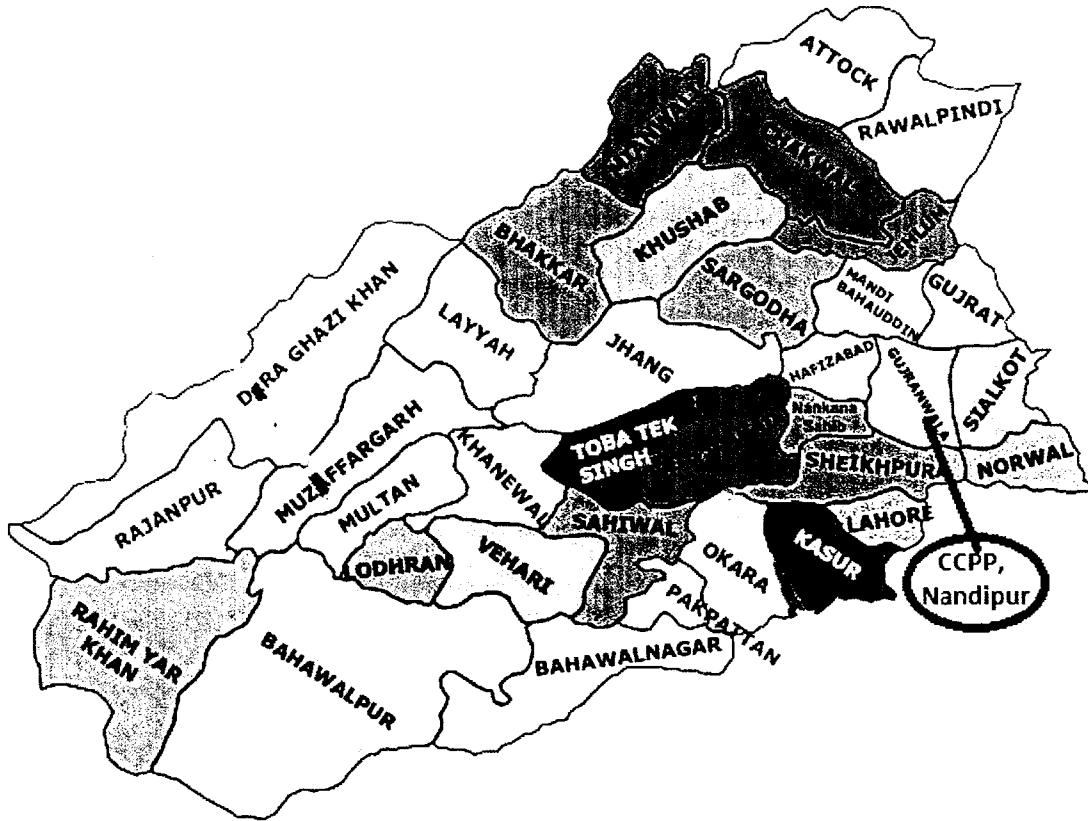
Location of the
Generation Facility/Power Plant of the Licensee
on the Map of Pakistan



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Location of the
Generation Facility/Power Plant of the Licensee
on the Map of Pakistan



Daska

N5

Ghakhar

M-11

Rahwal
Cantonments



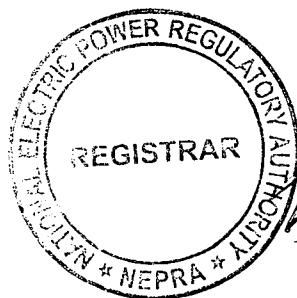
Nandipur Power Project

Gujranwala

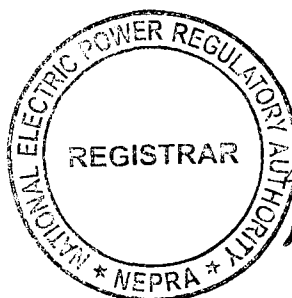
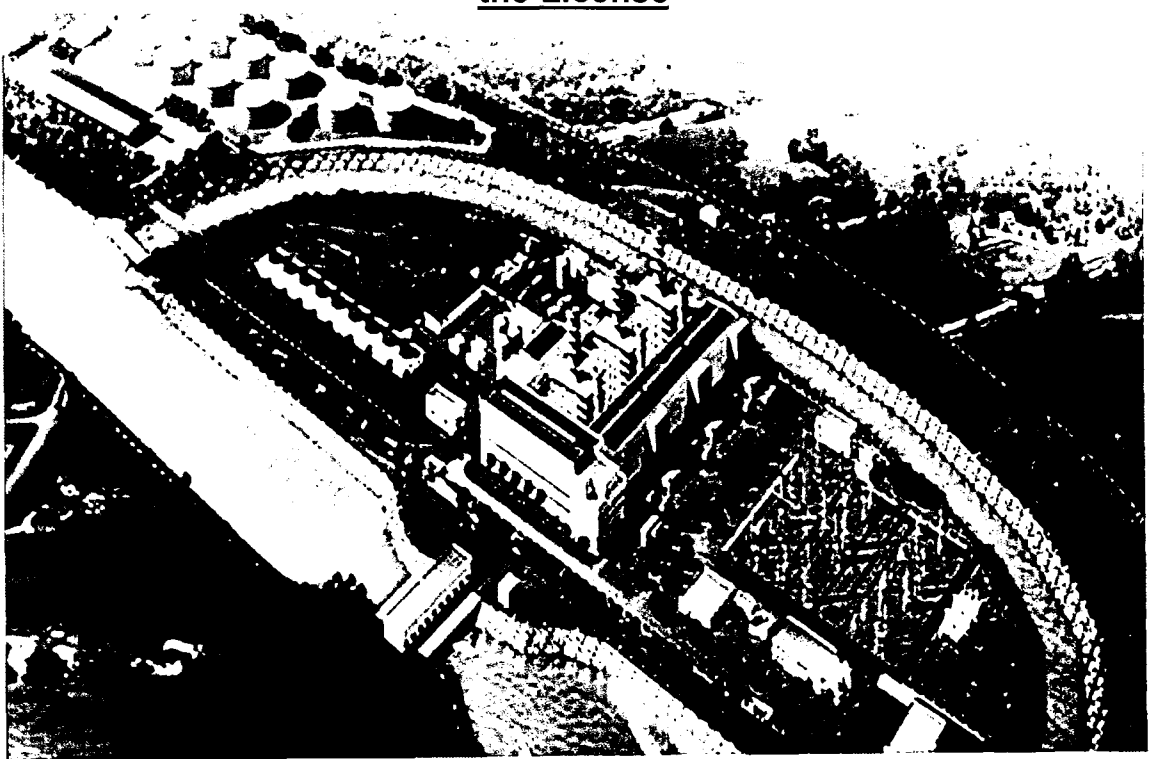
گوجرانوالہ

Wacale
Sanchuan

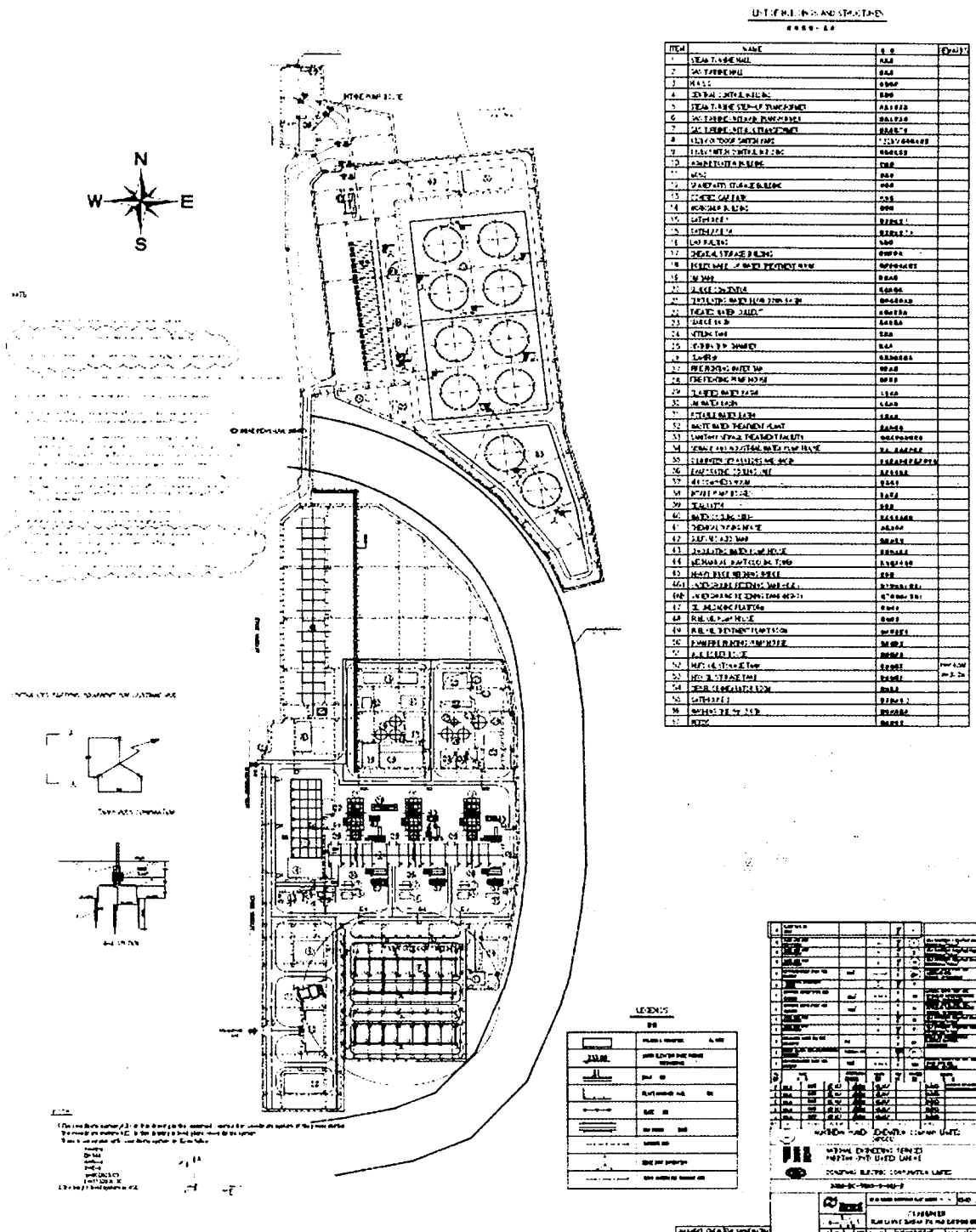
N5



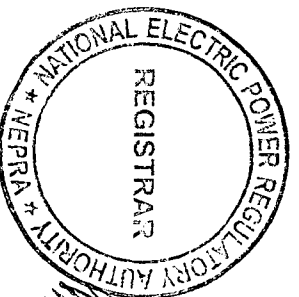
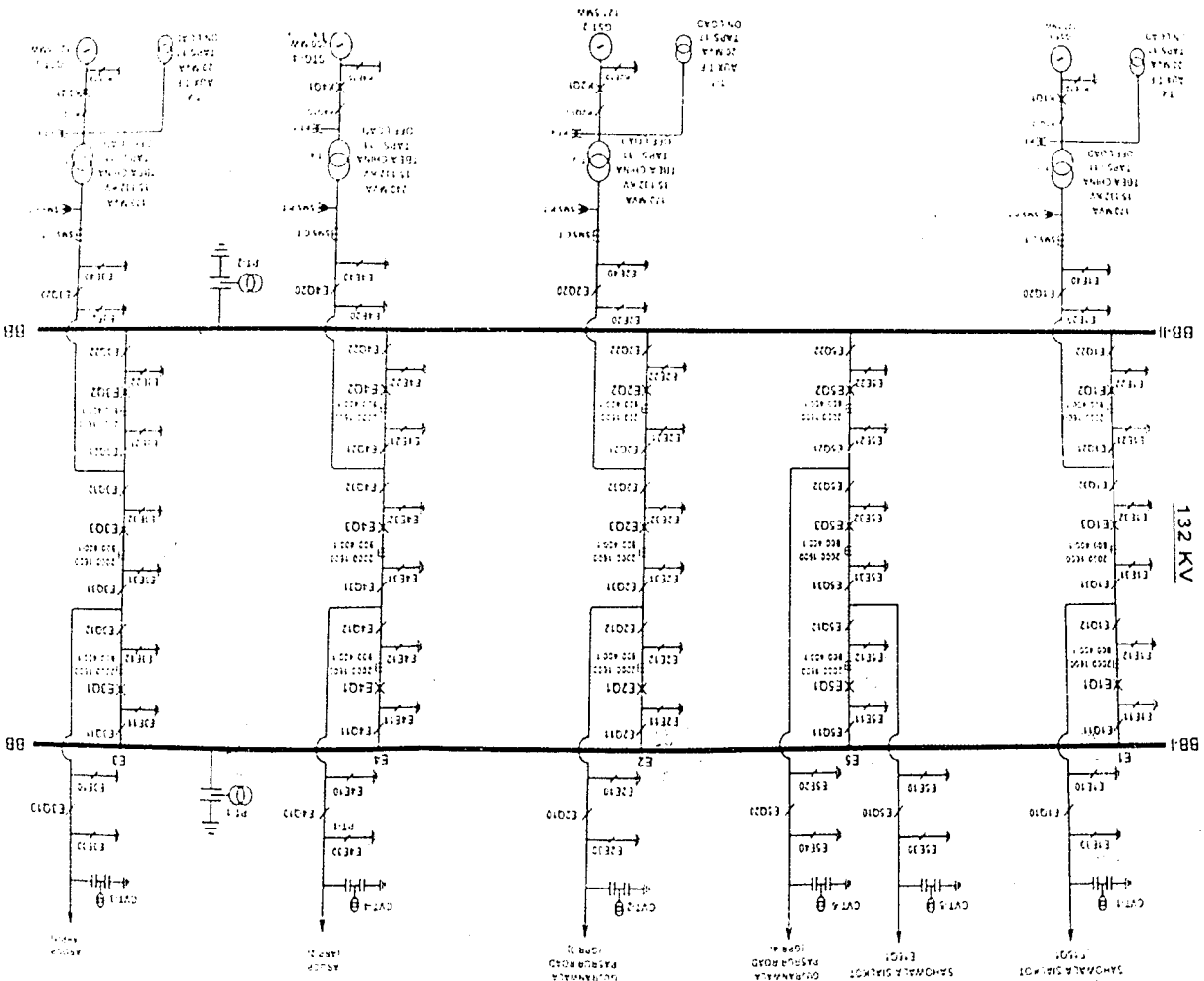
Layout of the
Generation Facility/Power Plant of
the License



Layout of the Generation Facility/Power Plant of the License



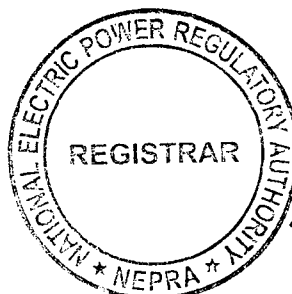
**Single line Diagram (Electrical) of the
 Generation Facility/Power Plant
 of the Licensee**



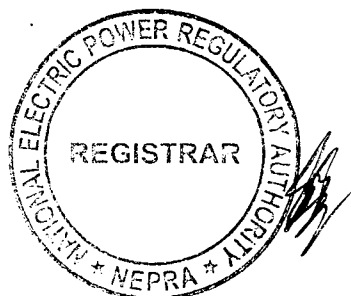
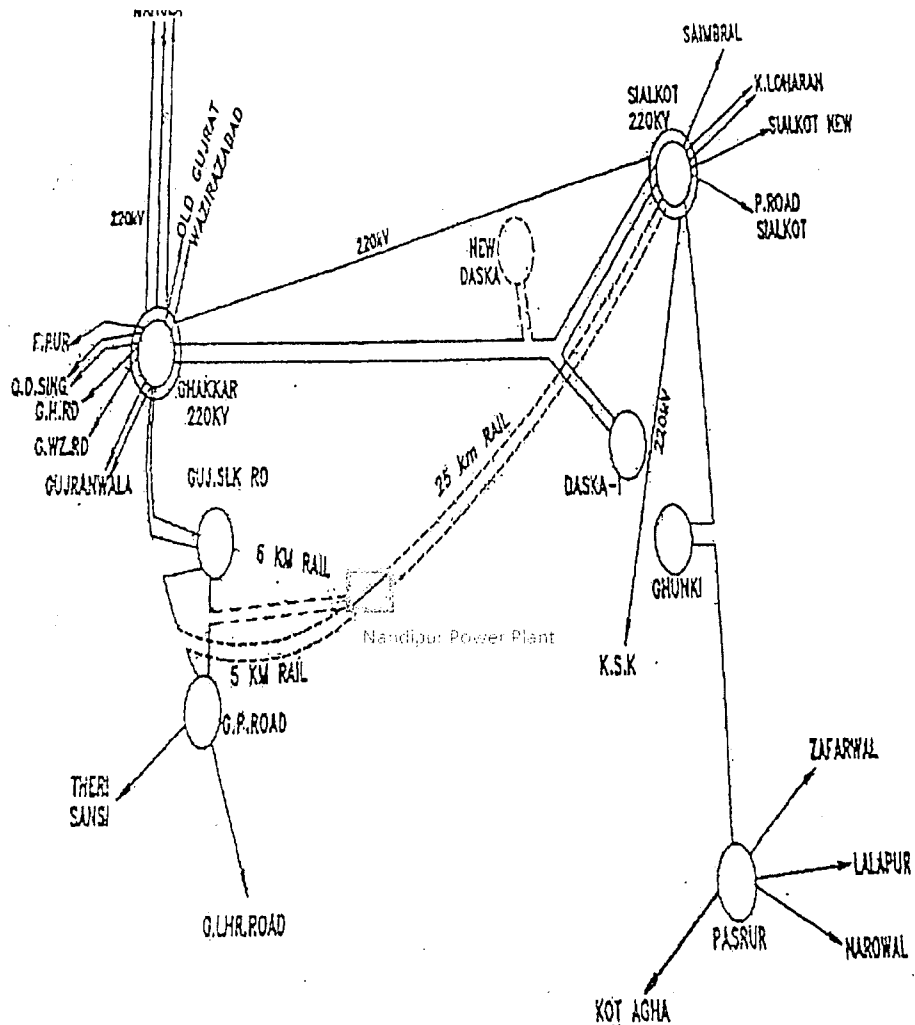
**Interconnection Arrangement for
Dispersal of Electric Energy/Power from the Generation
Facility/Power Plant of the Licensee**

The electric power generated from the generation facility/Power Plant of the Licensee/NPGCL shall be dispersed to power system directly within GEPCO load center at 132kV voltage level through six circuits comprising three D/C transmission lines as follows:

- (a). 132 kV D/C T/Line with twin bundle Rail Conductor (on 220 KV Towers) from Nandipur CCPP to Sahowala 220/132 kV Substation (33 Km).
- (b). Two 132kV D/C T/Lines on AASC Greely Conductor for looping In/Out of 132 KV D/C T/Lines from Gujranwala Pasrur Road - Gujranwala Sialkot Road (Aroop) at Nandipur CCPP (7.0 + 6.5=13.5 Km)



**Schematic Diagram for
 Dispersal of Electric Energy/Power from Generation
 Facility/Hydel Power Plant of the Licensee**



**Detail of
 Generation Facility/Power Plant
 of the Licensee**

(A). General Information

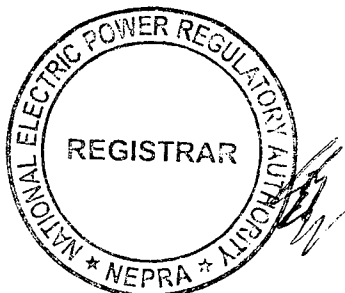
(i).	Name of the Licensee/ Company	Norther Power Generation Company Limited (NPGCL)
(ii).	Registered/Business Office of the Licensee/ Company	Thermal Power Station Muzaffargarh (TPS Muzaffargarh), in the Province of Punjab
(iii).	Location of the Generation Facility	at Nandipur, Near Gujranwala, in the Province of Punjab
(iv).	Type of Generation Facility	Thermal Power Plant

(B). Plant Configuration

(i).	Installed Capacity/ Plant Size of the Generation Facility	565.65 MW	
(ii).	Type of Technology	Combined Cycle Power Plant	
(iii).	Number of Units/Size (MW)	3x122.10 MW Gas Turbine + 1x199.35 MW Steam Turbine	
(iv).	Unit Make/Model/Type & Year of Manufacture Etc.	Gas Turbines	GeneralElectric/G.E.PG 9171E (Frame 9E)
		Steam turbine	Dong Fong Electric Company Limited, China.
(v).	COD of the Generation Facility	July 23, 2015	
(vi).	Expected Useful Life of the Generation Facility from COD	30 years	

(C). Fuel Details

(i).	Primary Fuel	Natural Gas/RLNG
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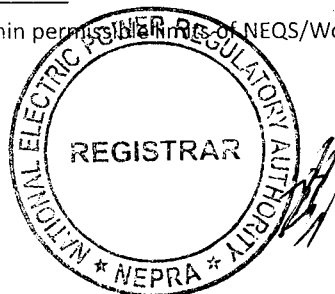


(ii).	Alternative/Start-Up Fuel	High Speed Diesel (HSD)	
(iii).	Fuel Source for each of the above	Primary Fuel	Alternative Fuel
		Indigenous/Imported	Imported
(iv).	Fuel Supplier for each of the above	Primary Fuel	Alternative/Start-Up Fuel
		SNGPL	PSO
(v).	Supply Arrangement for each of the above	Primary Fuel	Alternative/Start-Up Fuel
		Through Pipeline	Through Oil Tankers
(vi).	No. of Storage Bunkers/Tanks/Open Yard	Primary Fuel	Alternative/Start-Up Fuel
		No Storage	Two (02) tanks
(vii).	Storage Capacity of each Bunkers/Tanks/Open Yard	Primary Fuel	Alternative/Start-Up Fuel
		No Storage	10,000 M Ton
(viii).	Gross Storage	Primary Fuel	Alternative/Start-Up Fuel
		No Storage	20,000 M Ton

(D). Emission Values¹

		Primary Fuel	Alternative/Start Fuel
(i).	SO _x (mg/Nm ³)	< 1700	
(ii).	NO _x (mg/Nm ³)	< 400	
(iii).	CO(mg/Nm ³)	< 100	
(iv).	CO ₂ (%)	< 4	

¹All emission will remain within permissible limits of NEQS/World Bank.



(E). Cooling System

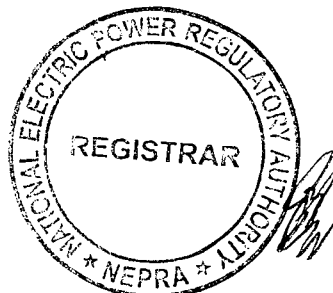
(i).	Cooling Water Source/Cycle	Two Sources: (a). Upper Chanab Canal-Open Cycle Mode; (b). Tube-Wells & Cooling Tower-Closed Cycle Mode
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(F). Plant Characteristics

(i).	Generation Voltage	15 KV		
(ii).	Frequency	50Hz \pm 2.5%		
(iii).	Power Factor	0.85(lagging)		
(iv).	Automatic Generation Control (AGC) (MW control is the general practice)	Yes		
(v).	Ramping Rate (MW/min) CCPP (3+1) ²	10 MW/Min		
(vi).	Time required to Synchronize to Grid (Hrs.) CCPP (3+1) ³	Cold Start 4.83 Hrs	Warm Start 3.58 Hrs	Hot Start 2.33 Hrs

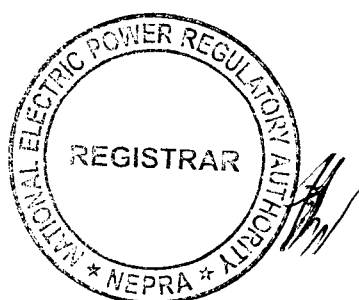
² As per power purchase agreement

³ As per power purchase agreement



SCHEDULE-II

The Total Installed Gross ISO Capacity (MW), De-Rated Capacity At Reference Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity At Reference Site Conditions (MW) of the Generation Facility/Power Plant of Licensee is given in this Schedule



SCHEDULE-II

Sr. No.	Description	On Gas/RLNG	On HSD
(1).	Total Installed Gross Capacity (MW) of the Gas Turbines at ISO conditions (15 °C)	3x122.10 =366.30	3x106.70 =320.10
(2).	Total De-Rated Capacity (MW) of the Gas Turbines at mean site conditions (30 °C)	3x110.50 =331.80	3x95.40 =286.20
(3).	Total Installed Gross Capacity (MW) of the Steam Turbine at ISO conditions (15 °C)	199.35	153.89
(4).	Total De-Rated Capacity (MW) of the Steam Turbine at mean site conditions (30 °C)	194.50	138.80
(5).	Total Installed Gross Capacity (MW) of the Generation Facility/CCPP at ISO conditions (15 °C)	366.30+199.35 =565.65	320.10+153.89 =474.00
(6).	Total De-Rated Capacity (MW) of the Generation Facility/CCPP at mean site conditions (30 °C)	331.81+194.50 =526.30	286.20+138.80 =425
(7).	Auxiliary Consumption (MW) of the Generation Facility/CCPP at ISO conditions (15 °C)	13.00	13.99
(8).	Auxiliary Consumption (MW) of the Generation Facility/CCPP at mean site conditions (30 °C)	16.30	14.0
(9).	Net Capacity (MW) of the Generation Facility/CCPP at ISO conditions (15 °C)	565.65-13.00 =552.65	474.00-13.99 =460
(10).	Net Capacity (MW) of the Generation Facility/CCPP at mean site conditions (30 °C)	526.30-16.30 =510.00	425.00-14.00 =411

Note

All the above figures are as provided by the Licensee. The Capacity available to Power Purchaser for dispatch will be determined through procedures contained in the Power Purchase Agreement (PPA) or the Applicable Document(s).

