



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph: 9206500, 9207200 Fax : 9210215
E-mail: office@nepra.org.pk

Registrar

No. NEPRA/R/LAG-96/30-31

September 09, 2008

Chief Executive
Green Electric (Pvt.) Limited (GEPL)
15 Peshawar Block,
Fortress Stadium
Lahore

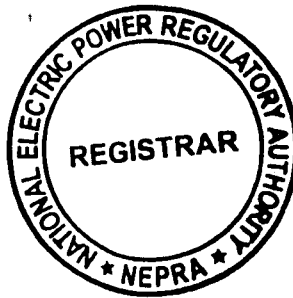
Subject: Generation Licence No. IGSP/20/2008
Licence Application No. LAG-96
Green Electric (Pvt.) Limited (GEPL)

Reference: Your letter No. 16/07, dated May 14, 2007

Enclosed please find herewith Generation Licence No. IGSP/20/2008 granted by the Authority to Green Electric (Pvt.) Limited (GEPL) pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).

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

Enclosure: / As above



Mahjoob Ahmad Mirza
09.09.08
(Mahjoob Ahmad Mirza)

Copy to:

1. Director General, Pakistan Environmental Protection Agency, House No. 311, Main Margalla Road, F-11/3, Islamabad.

National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. IGSPL/20/2008

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 (XL of 1997), the Authority hereby grants a Generation Licence to:

Green Electric (Private) Limited

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

No. 00000015547/20051102, dated November 29, 2005

For its Plant located at 4.5 Km West of Dadu City near Deh Pipri
District Dadu, Sindh

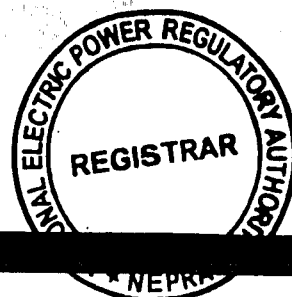
(Installed Capacity: 188.00 MW Gross ISO)

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

Given under my hand this 09th day of September, Two Thousand & Eight, and expires on 30th day of December, Two

Thousand & Forty.


Registrar



 10

Article-1
Definitions

1.1 In this Licence

- (a) "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997);
- (b) "Authority" means the National Electric Power Regulatory Authority constituted under section 3 of the Act;
- (c) "Licensee" means Green Electric (Private) Limited;
- (d) "Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000.

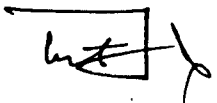
1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or in the Rules.

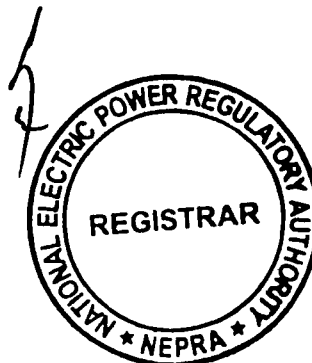
Article-2
Application of Rules

This Licence is issued subject to the provisions of the Rules, 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 power generation facilities of the Licensee are set out in Schedule-I to this Licence.





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

3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other details specific to generation facilities before commissioning of the generation facilities.

Article-4
Term of Licence

4.1 The Licence is granted for a term of thirty (30) years after the Commercial Operation Date.

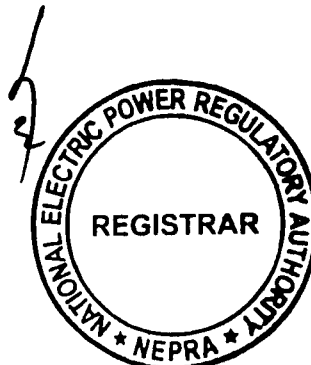
4.2 Unless revoked earlier, the Licensee may ninety days (90) days prior to the expiry of the term of the Licence, apply for renewal of the Licence under the Licensing (Application and Modification Procedures) Regulation, 1999

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 National Electric Power Regulatory Authority (Fees) Rules, 2002.

Article-6
Tariff

The Licensee shall charge only such tariff which has been approved or specified by the Authority.



Article-7
Competitive Trading Arrangement

7.1 The Licensee shall participate in such measures 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 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

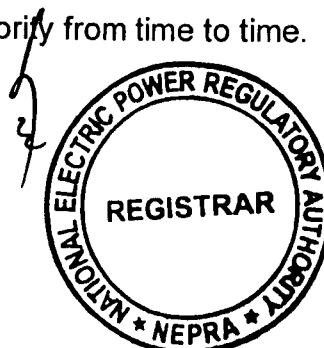
For the purpose of sub-rule (1) of Rule 19 of the Rules, copies of records and data shall be retained in standards and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

Article-9
Compliance with Performance Standards

The Licensee shall conform to the relevant NEPRA rules on Performance Standards as may be prescribed by the Authority from time to time.

Article-10
Compliance with Environmental Standards

The Licensee shall conform to the environmental standards as may be prescribed by the relevant competent authority from time to time.

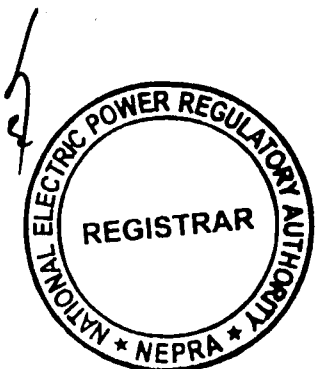


Article-11
Provision of Information

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

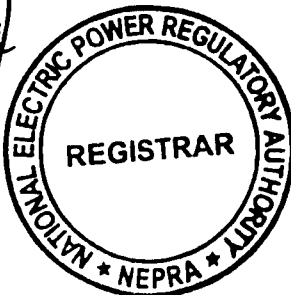
11.2 The Licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required from time to time by the Authority and which is or ought to be or have been in the control or possession of the Licensee.

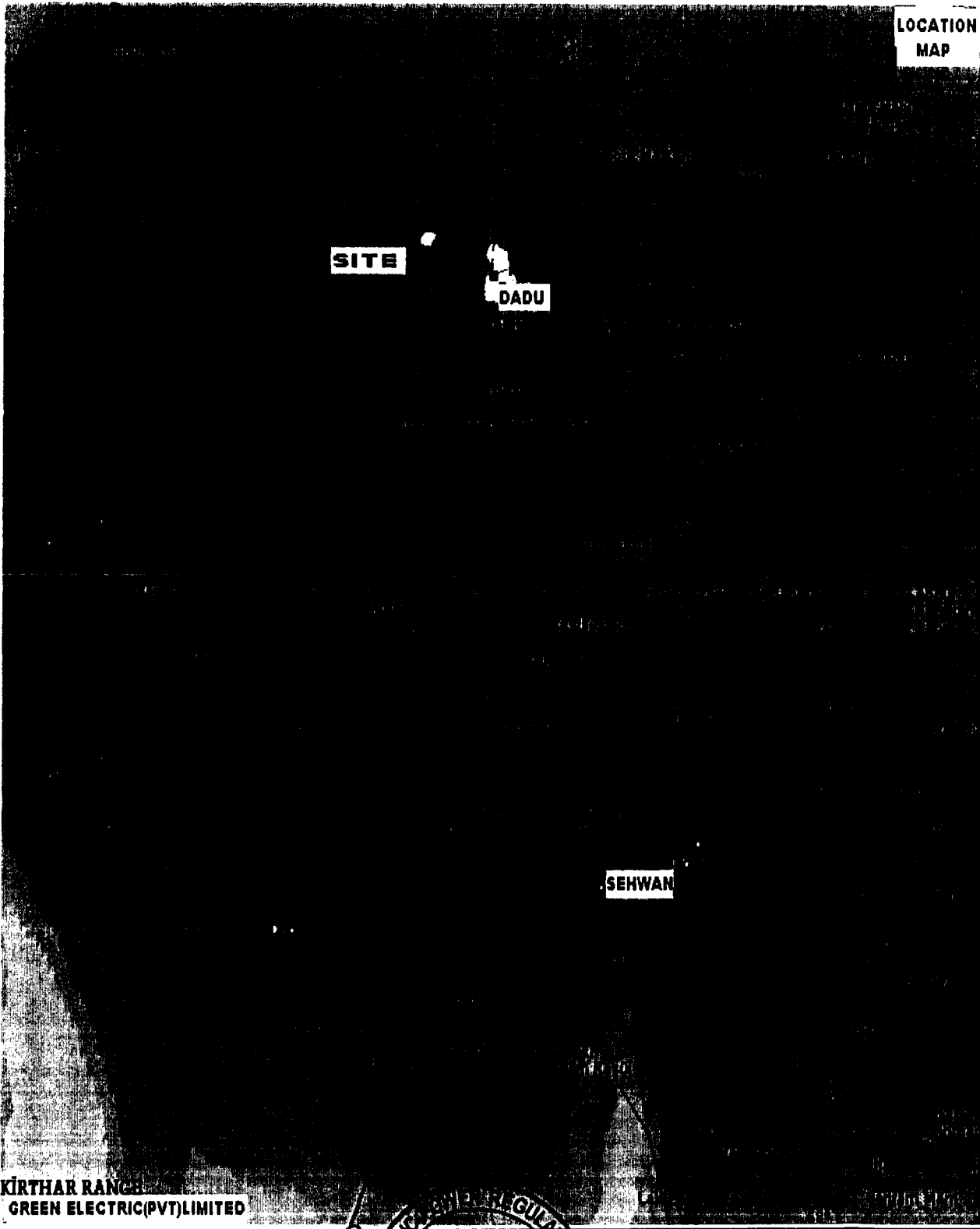
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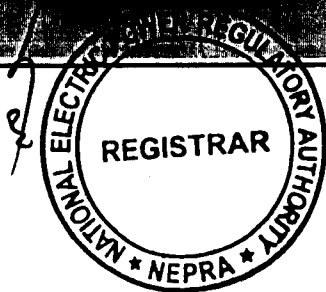
SCHEDULE-I

The location, size (capacity in MW) technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the Generation Facilities of the Licensee.





KIRTHAR RANGE
GREEN ELECTRIC(PVT)LIMITED

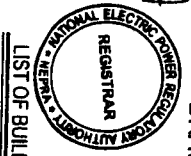
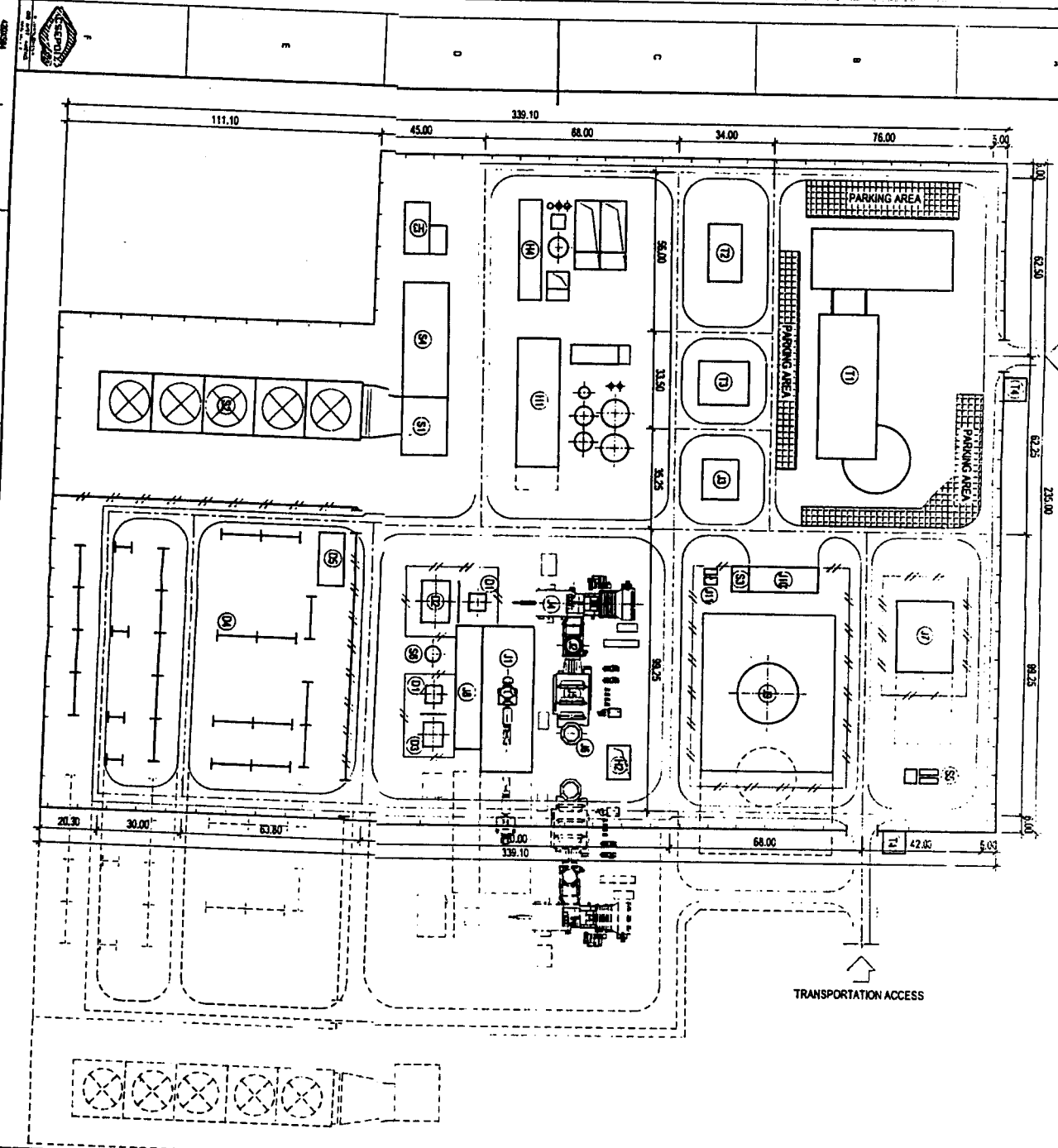


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All Rights Reserved
File Name:

MAIN ACCESS

TRANSPORTATION ACCESS



DRAWING NORTH

LIST OF BUILDING AND STRUCTURE

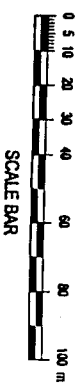
No.	NAME	No.	NAME
11	STEAM TURBINE HALL	12	BYPASS STACK
13	DIESEL GENERATOR ROOM	14	GAS TURBINE
15	H.R.S.G	16	STACK
17	NATURAL GAS ADJUSTING STATION	18	HV AND LV SWITCHGEAR ROOM
19	OIL TANKS AREA	110	OIL PUMP HOUSE
111	OIL WATER TREATMENT FACILITIES		
D1	UNIT TRANSFORMER	D2	MAIN TRANSFORMER
D3	MAIN TRANSFORMER FOR STEAM TURBINE	D4	SMI/CHGEAR YARD
D5	NET CONTROL ROOM		
H1	CHEMICAL WATER TREATMENT PLANT	H2	DRYAN UNIT SUMP AND PUMP HOUSE
H3	C/W WATER AGENT HOUSE	H4	WASTE WATER TREATMENT PLANT
S1	CIRCULATING WATER PUMP HOUSE	S2	COOLING TOWER
S3	FOAM ROOM	S4	COMBINATION WATER PUMP HOUSE
S5	SAINTARY WASTE WATER TREATMENT PLANT	S6	EMERGENCY OIL POND
T1	OFFICE BUILDING	T2	STORAGE FOR OVERSIOUS GOODS
T3	FIRE-FIGHTING GARAGE	T4	GUARD ROOM

LEGEND

- NEW BUILDING
- NEW FENCE
- NEW ROAD
- NEW WALL

NOTE:

1. THE AREA WITHIN THE BOUNDARY WALL IS 70560 m²;
2. THE UNITS OF DIMENSION IN THIS DRAWING IS METER.



CHINA NATIONAL MACHINERY & EQUIPMENT
IMPORT & EXPORT CORPORATION

CENTRAL SOUTHERN CHINA
ELECTRIC POWER DESIGN INSTITUTE

DESIGNED BY
CHECKED BY
DATE

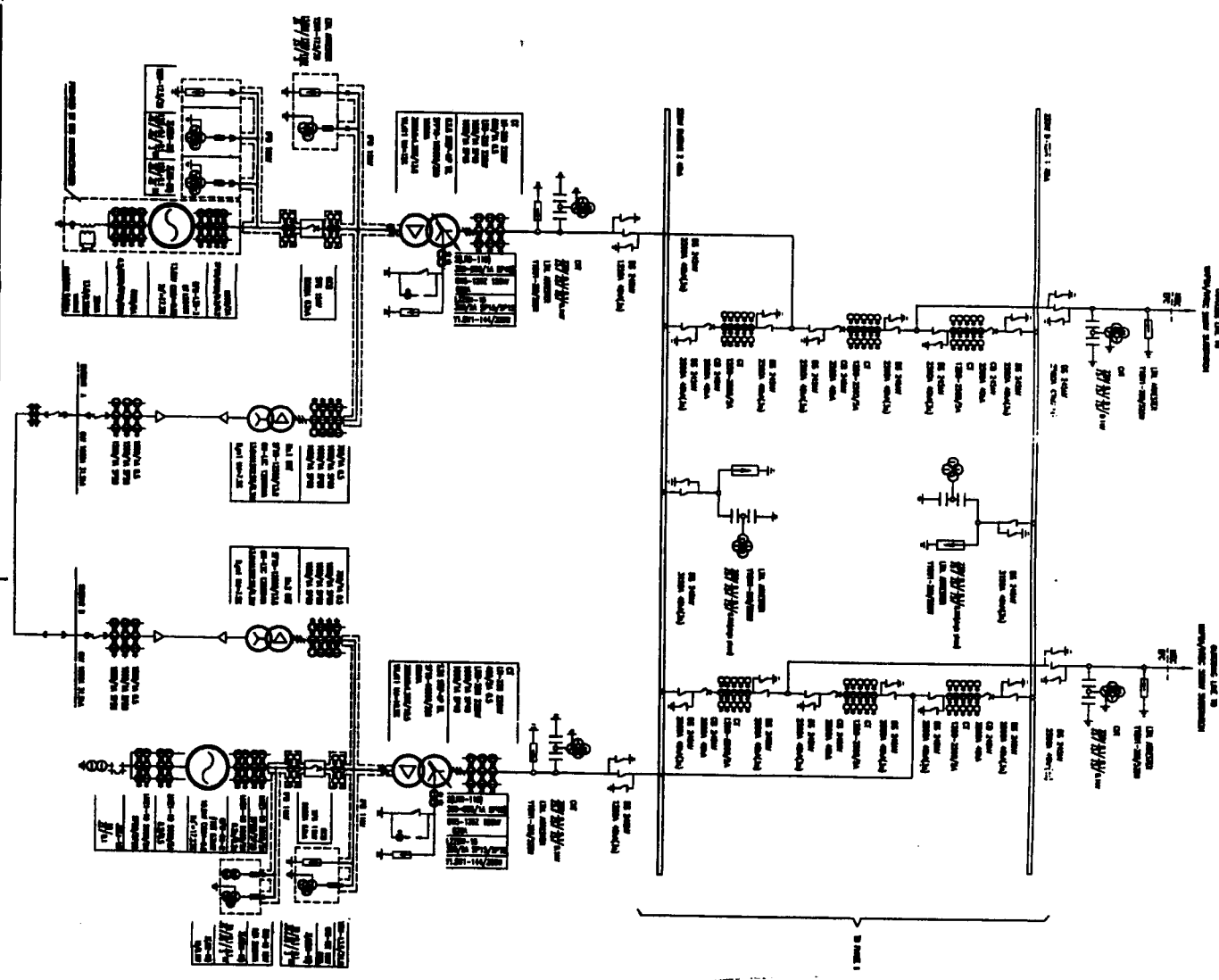
GENERAL LAYOUT

GE/18MMW GREEN POWER
PHS16/154E

SCALE 1:1000

JMC NO. AS2007134A-201

All Rights Reserved
The Name



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**CHINA NATIONAL MACHINERY & EQUIPMENT
IMPORT & EXPORT CORPORATION**

**CENTRAL SOUTHERN CHINA
ELECTRIC POWER DESIGN INSTITUTE**

DEL. (SINAP) CREDIT POWER PROJECT
PLANT STAGE

DESIGNED BY: _____
CHECKED BY: _____
DATE: _____

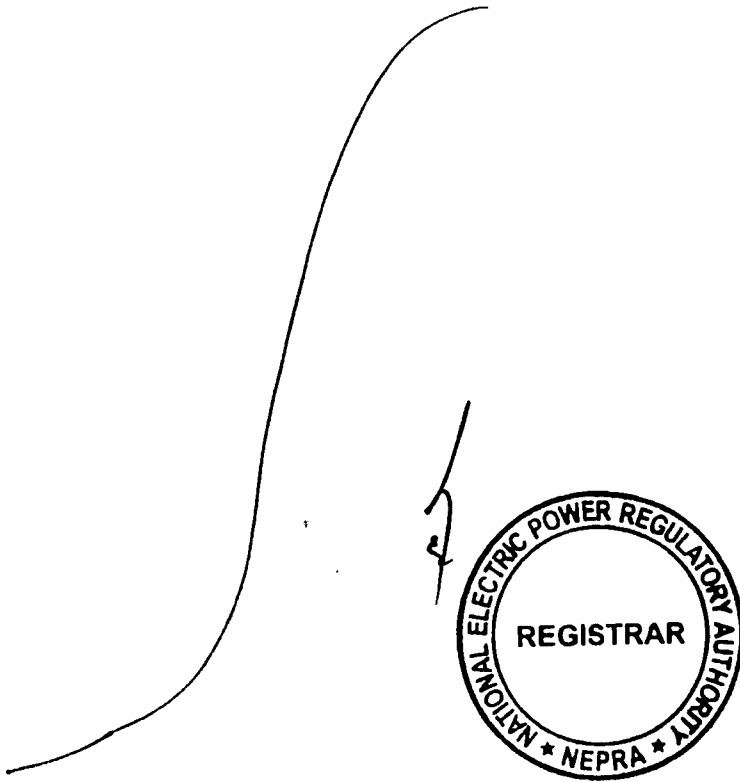
ELECTRICAL KIT SINGLE LINE DIAGRAM

NO. 01 AP20071344-001

INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT*

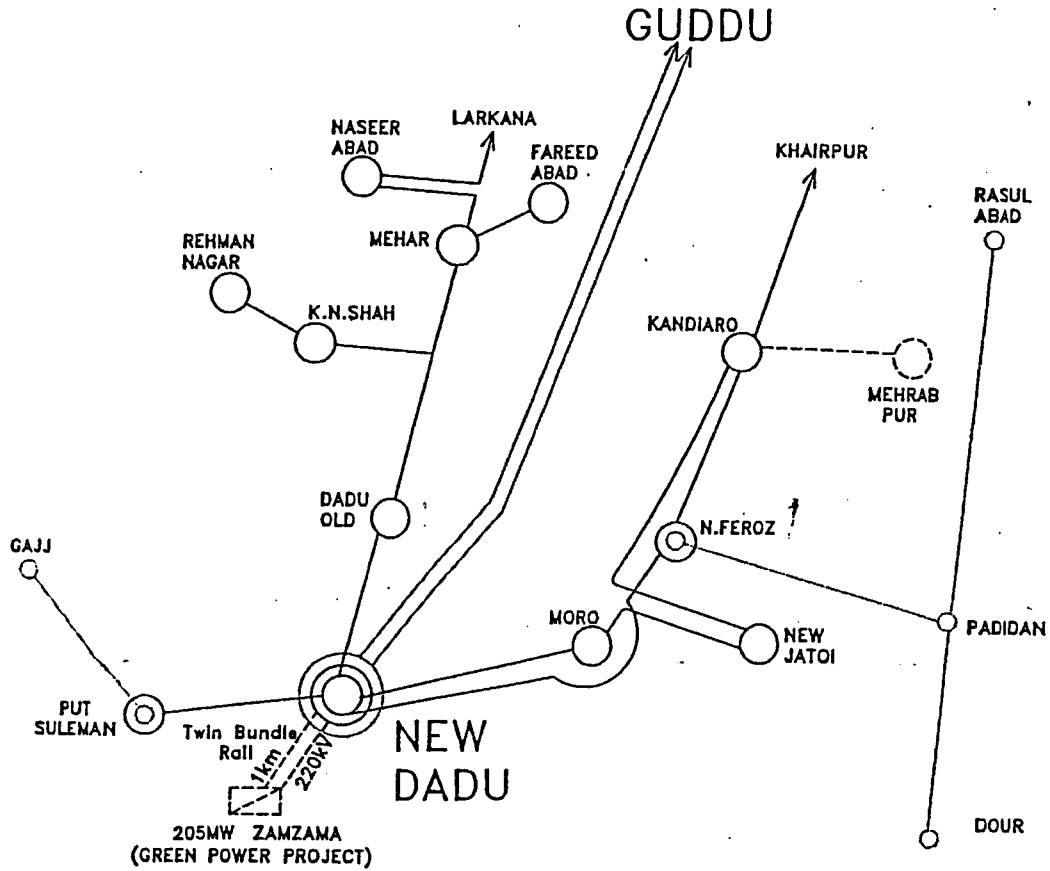
The Power from the generation facility of Green Electric (Private) Limited shall be dispersed to system directly within HESCO load center at 220 KV voltage level by constructing the following dispersal arrangement:-

- A new 220 KV D/C (Twin Bundled) Transmission Line, measuring approximately 1-Kilometer in length (on ACSR Rail conductor), from the Power Plant of Green Electric (Private) Limited to 500 KV Dadu Grid Station.

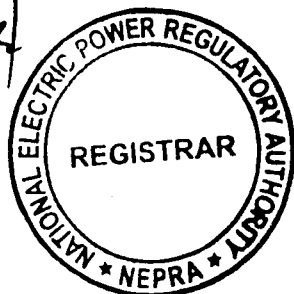


* As provided in the Interconnection Study carried out by NTDC submitted with the application.

Interconnection Arrangements for Dispersal of Power from the Green Electric (Private) Limited



NOTE:
DOTTED LINES INDICATE SCOPE OF
PROPOSED INTERCONNECTION OPTIONS



Plant Details[†]

1. General Information

i.	Name of Applicant	Green Electric (Private) Limited
ii.	Registered/Business Office	15-Peshawar Block, Fortress Stadium, Lahore
iii.	Plant Location	4.5 Km, Deh Pipri, District of Dadu, Sindh
iv.	Type of Generation Facility	Thermal Generation

2. Plant Configuration

i.	Plant Size Installed Capacity (Gross ISO)	188.00 MW (Phase-I)	
ii.	Type of Technology	Combined Cycle Power Plant (CCPP)	
iii.	Number of Units/Size (MW)	Gas Turbine	1 x 126.00 MW
		Steam Turbine	1 x 62.00 MW
iv.	Unit Make & Model	Gas Turbine	GE PG 9171E
		Steam Turbine	Harbin Steam Turbine Company China/Shanghai Turbine Company China/Nanjing Turbine Corporation Limited (NTC) China or Equivalent
v.	De-rated Capacity (at Mean Site Conditions)	177.36 MW	
vi.	Auxiliary Consumption	7.36 MW	
vii.	Commissioning and Commercial Operation date	December 31, 2010	
viii.	Expected Life of the Facility from Commercial Operation Date	30 Years	

[†] As provided by the Applicant



3. Fuel Details

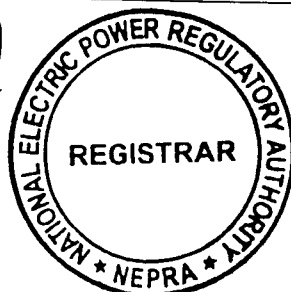
i.	Primary Fuel	Low BTU Gas from Zamzama Gas Field	
ii.	Alternate/Back-up Fuel	High Speed Diesel (HSD)	
iii.	Fuel Source (Imported/Indigenous)	Primary Fuel	Alternate/Back-up Fuel
		Indigenous	Indigenous/Imported
iv.	Fuel Supplier	Primary Fuel	Alternate/Back-up Fuel
		Sui Southern Gas Company (SSGC)	PSO/Shell/Bakri/ PARCO
v.	Supply Arrangement	Primary Fuel	Alternate/Back-up Fuel
		Trough Pipeline from Zamzama Gas field to Power plant	Through Oil Tankers
vi.	No of Storage Tanks	Primary Fuel	Alternate/Back-up Fuel
		N/A	One (01)
vii.	Storage Capacity of each Tank	Primary Fuel	Alternate/Back-up Fuel
		N/A	6000 Metric Tons
viii.	Total Gross Storage	Primary Fuel	Alternate/Back-up Fuel
		N/A	6000 Metric Tons

4. Emission Values

i.	SO _x	Primary Fuel	Alternate/Back-up Fuel
		N/A	N/A
ii.	NO _x	Primary Fuel	Alternate/Back-up Fuel
		≤ 125 mg/Nm ³	≤ 165 mg/Nm ³
iii.	CO	Primary Fuel	Alternate/Back-up Fuel
		35 mg/Nm ³	35 mg/Nm ³
iv.	PM ₁₀	Primary Fuel	Alternate/Back-up Fuel
		50 mg/Nm ³	50 mg/Nm ³

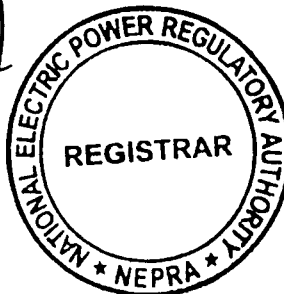
5. Cooling System

i.	Cooling Water Source/Cycle	Underground water from tube wells/ Canal Water/Closed Cycle
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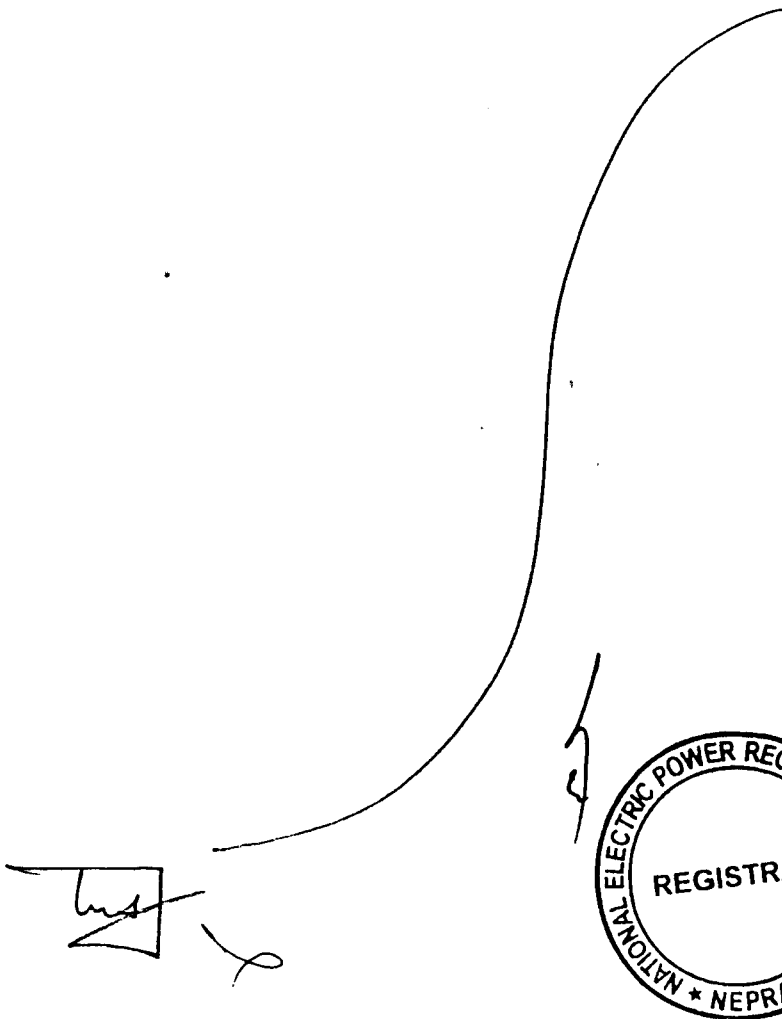
6. Plant Characteristics

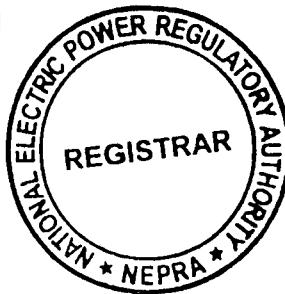
i.	Generation Voltage	15 KV (Gas Turbine) and 11 KV (Steam Turbine)
ii.	Frequency	50 Hz
iii.	Power Factor	0.8 Lagging to 0.95 Leading
iv.	Automatic Generation Control	Yes
v.	Ramping Rate	Will be provided later as per manufacturer's technical limits
vi.	Time required to Synchronize to Grid and loading the complex to full load.	-Do-



SCHEDULE-II

The net capacity of the Licensee's Generation Facilities

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SCHEDULE-II*

1.	Installed Capacity Gross ISO	188.00 MW
2.	De-rated Capacity at Mean Site Conditions	177.36 MW
3.	Auxiliary Consumption	7.36 MW
4.	Net Capacity of the Plant at Mean Site Conditions	170.00 MW

Note

All the above figures are indicative as provided by the Licensee. The Net Capacity available to NTDC for dispatch and other purchasers will be determined through procedures contained in the Agreements or Grid Code.

* As provided by the applicant

