



# National Electric Power Regulatory Authority

Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad

Ph : 9206500, 9207200, Fax : 9210215

E-mail: registrar@nepra.org.pk

## Registrar

No. NEPRA/R/LAG-134/1090-92

December 08, 2009

Mr. Asad Ahmad  
Director  
First Tri Star Modaraba  
Managed by ART Modaraba Management (Pvt.) Ltd.  
F/498, P.O. Box 3683, Karachi-75700

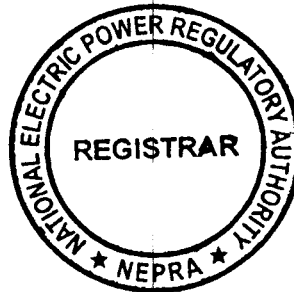
Subject: **Generation Licence No. IGSPL/23/2009**  
**Licence Application No. LAG-134**  
**First Tri-Star Modaraba (FTSM)**

Reference: *Your letter No. nil, dated February 18, 2009*

Enclosed please find herewith Generation Licence No. IGSPL/23/2009 granted by National Electric Power Regulatory Authority (NEPRA) to FTSM pursuant to Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997). Further the determination of the Authority in the subject matter is also attached.

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

Enclosure: **Generation Licence**  
**(No. IGSPL/23/2009)**



  
(Syed Safer Hussain)

Copy to:

1. Chief Executive Officer, Karachi Electric Supply Company Limited (KESC), 7<sup>th</sup> Floor, State Life Building No. 11, Abdullah Haroon Road, Karachi
2. 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/23/2009**

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:

**FIRST TRI-STAR MODARABA**  
**Managed by**  
**A.R.T. MODARABA MANAGEMENT (PRIVATE) LIMITED**

**Incorporated under the Companies Ordinance, 1984  
Under Certificate of Incorporation**

**No. k-01543 of 1989-90, dated August 20, 1989**

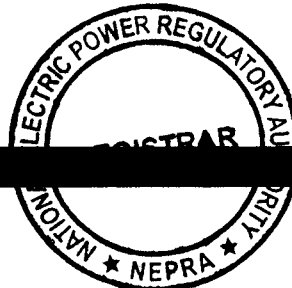
**For its Plant located Naiclass 255, Deh Lal Bakhar, Tapo Gabopat,  
Hawksbay, Karachi, Sind.**

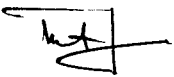

**(Installed Capacity: 110.00 MW Gross ISO)**

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

Given under my hand this 08<sup>th</sup> day of December, Two Thousand & Nine, and expires on 30<sup>th</sup> day of December, Two Thousand & Thirty 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 (XL of 1997);
- (b) "Authority" means the National Electric Power Regulatory Authority constituted under section 3 of the Act;
- (c) "Licensee" means First Tri-Star Modaraba Managed by A.R.T. Modaraba Management (Private) Limited;
- (d) "Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000.

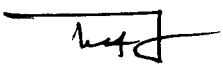
1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or in the Rules.

**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 twenty five (25) years after the Commercial Operation Date.

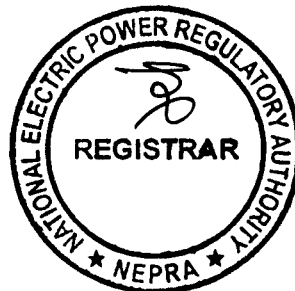
4.2 Unless revoked earlier, the Licensee may ninety days (90) days prior to the expiry of the term of the Licence, apply for renewal of the Licence under the Licensing (Application and Modification Procedures) Regulation, 1999

**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**

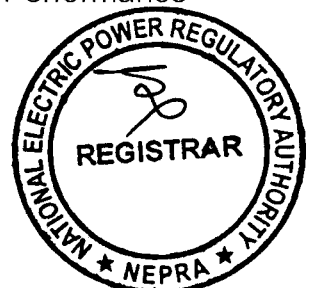
For the purpose of sub-rule (1) of Rule 19 of the Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.


**Article-9**  
**Compliance with Performance Standards**

The Licensee shall 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.

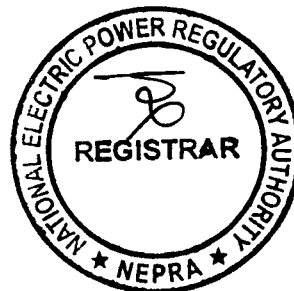


**Article-11**  
**Provision of Information**

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 has been in the control or possession of the Licensee.



## 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.





**KARACHI**  
(Showing Important Areas)

DESCRIPTION

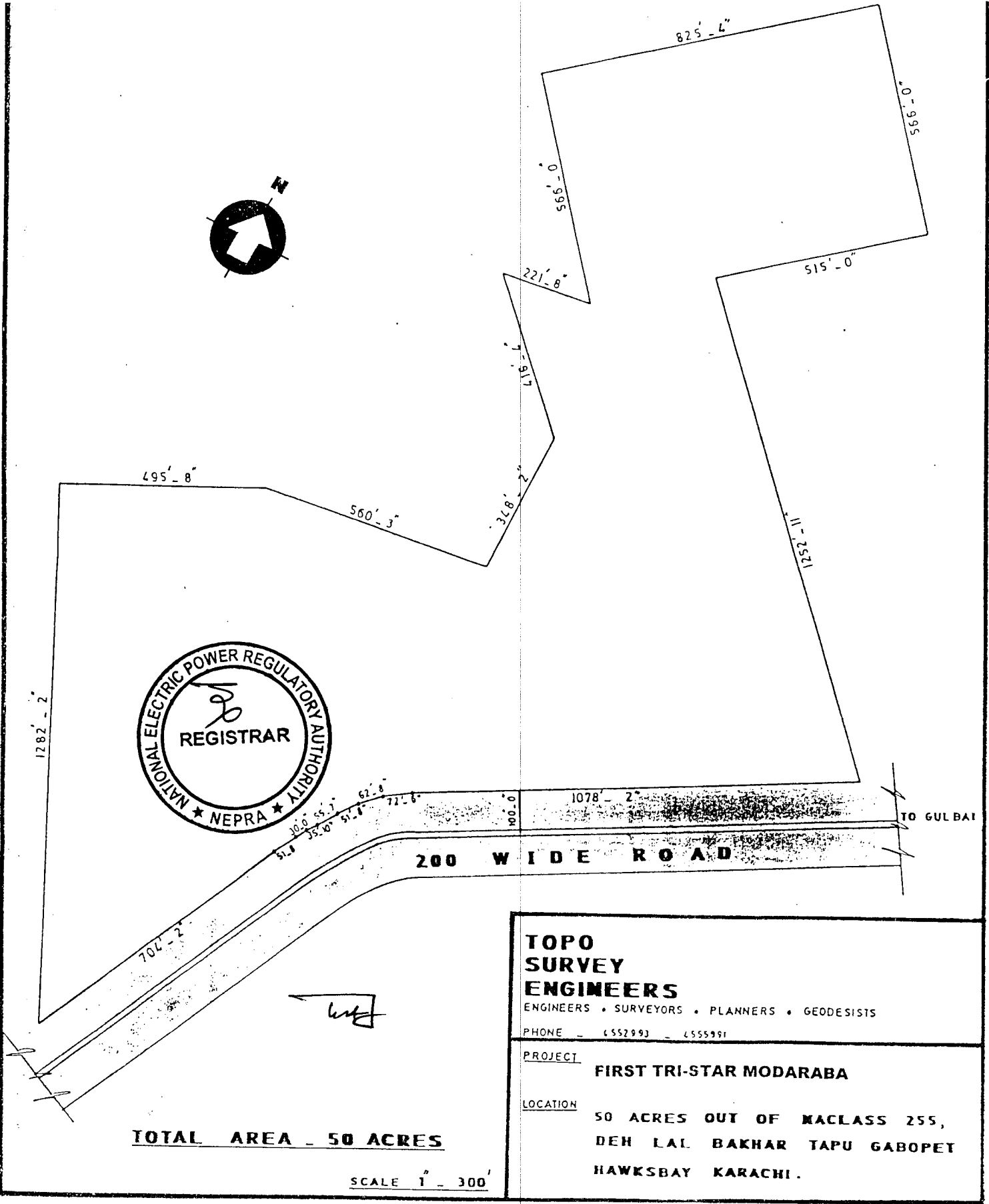
- Park/ Playground
- Main Hospital
- Shopping Place

**MapTRAX**  
Map Data © 2004, 2005  
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ARABIAN SEA



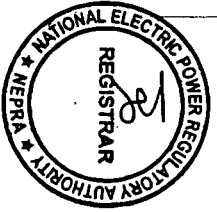




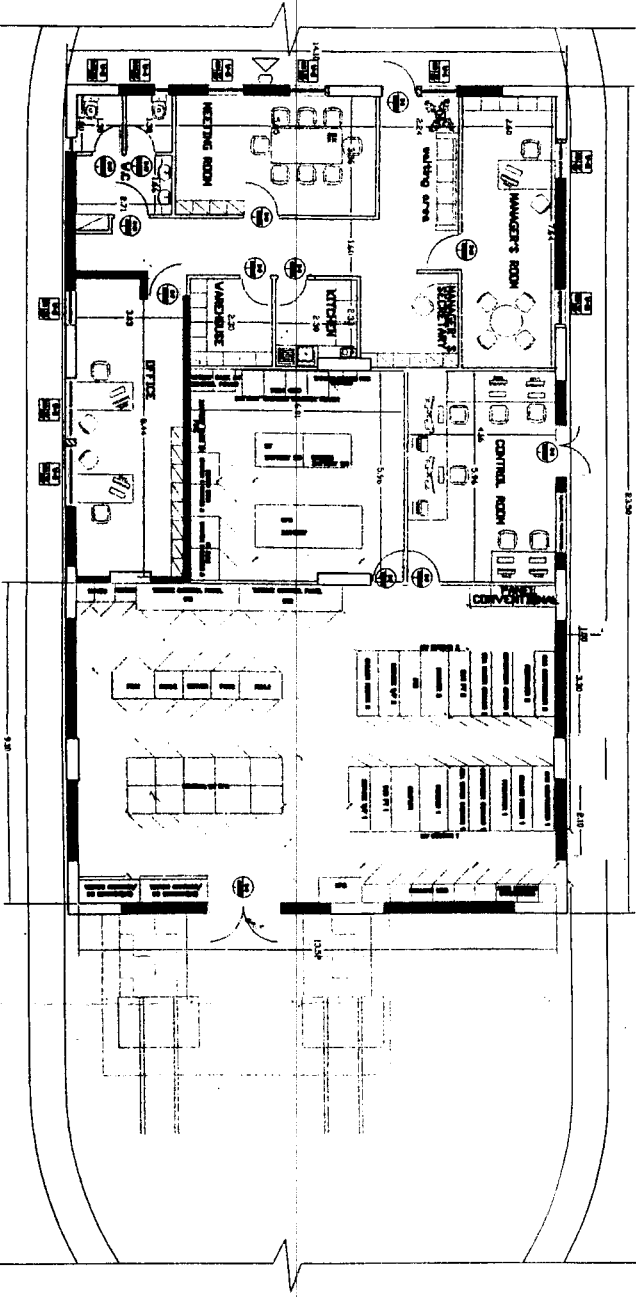
**TOTAL AREA - 50 ACRES**

SCALE 1" = 300'

<b>TOPO SURVEY ENGINEERS</b>	
ENGINEERS • SURVEYORS • PLANNERS • GEODESISTS	
PHONE - 6552993 - 6555991	
<u>PROJECT</u>	<b>FIRST TRI-STAR MODARABA</b>
<u>LOCATION</u>	<b>50 ACRES OUT OF NAICLASS 255, DEH LAL BAKHAR TAPU GABOPET HAWKS BAY KARACHI.</b>



Plan

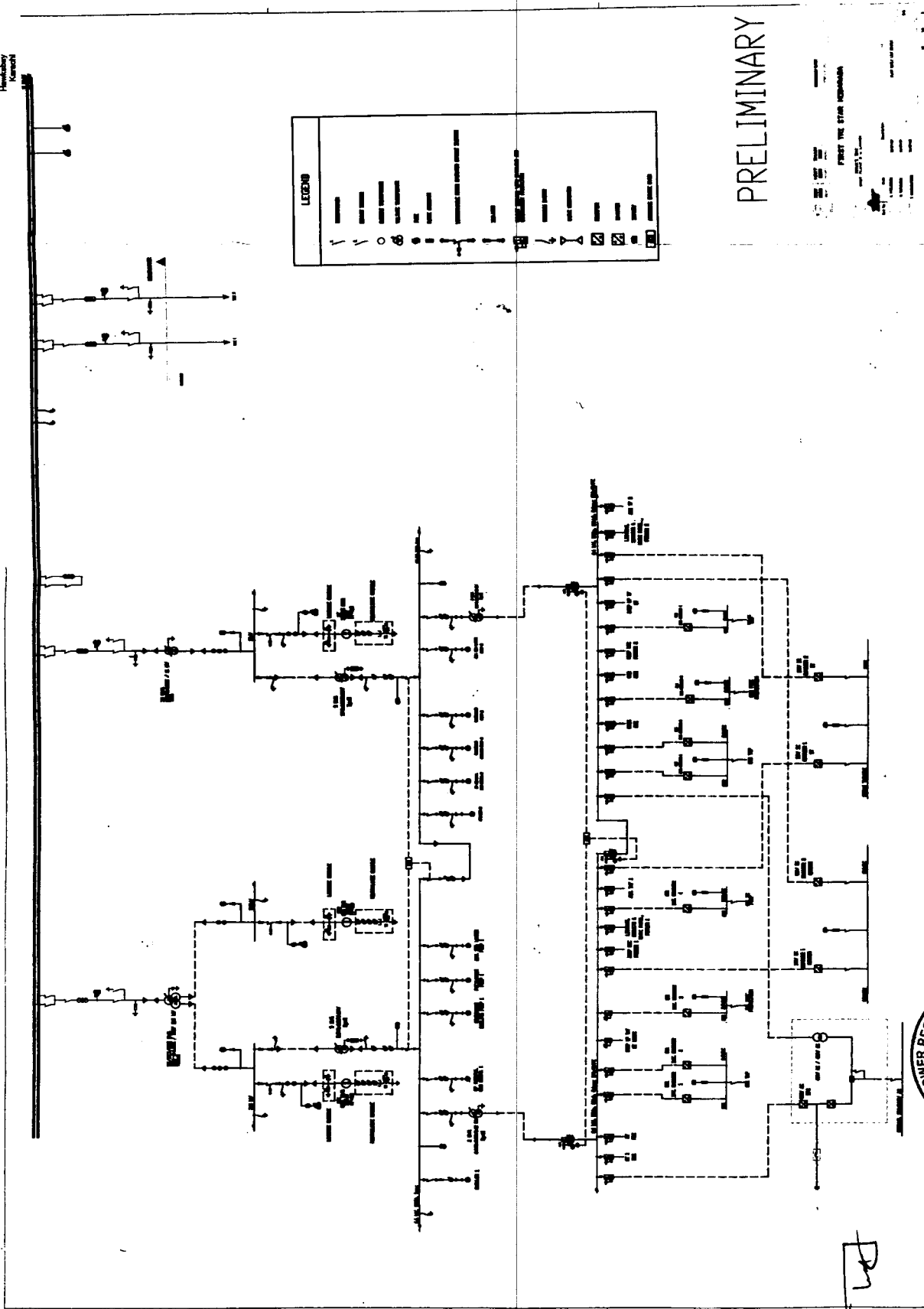


PRELIMINARY

Generation License  
 Hawk's Bay  
 Managed by  
 A.C.T. Industrial Management (Private) Limited  
 License No. 1234  
 Issued on 12/12/2011  
 Validity  
 Renewal

		<b>HAWK'S BAY</b> <b>CCGT Plant 2 x LM6000PC</b>	
CONTROL & ELECTRICAL BUILDING PLAN VIEW		SHEET NO. _____ OF _____	DATE _____
DRAWN BY _____ CHECKED BY _____ DATE _____	SCALE _____	PROJECT NO. _____	

Generation License  
 First Tri-Star Modaraba  
 Managed by  
 A.R.T. Modaraba Management Private Limited  
 Number 255, Chak La Bahar  
 Tejgaon Cantonment  
 Dhaka  
 Bangladesh  
 Network



LEGEND

	GENERATOR
	TRANSFORMER
	BUSBAR
	CIRCUIT BREAKER
	ISOLATOR
	CAPACITOR BANK
	REACTOR
	SURGE ARRESTER
	LIGHTNING ROD
	EARTH CONNECTION
	GROUND
	CABLE
	OVERHEAD LINE
	SWITCHGEAR
	PROTECTION RELAY
	METER
	CONTROL PANEL
	COMMUNICATION LINE
	DATA LINE
	POWER LINE
	GROUND

PRELIMINARY

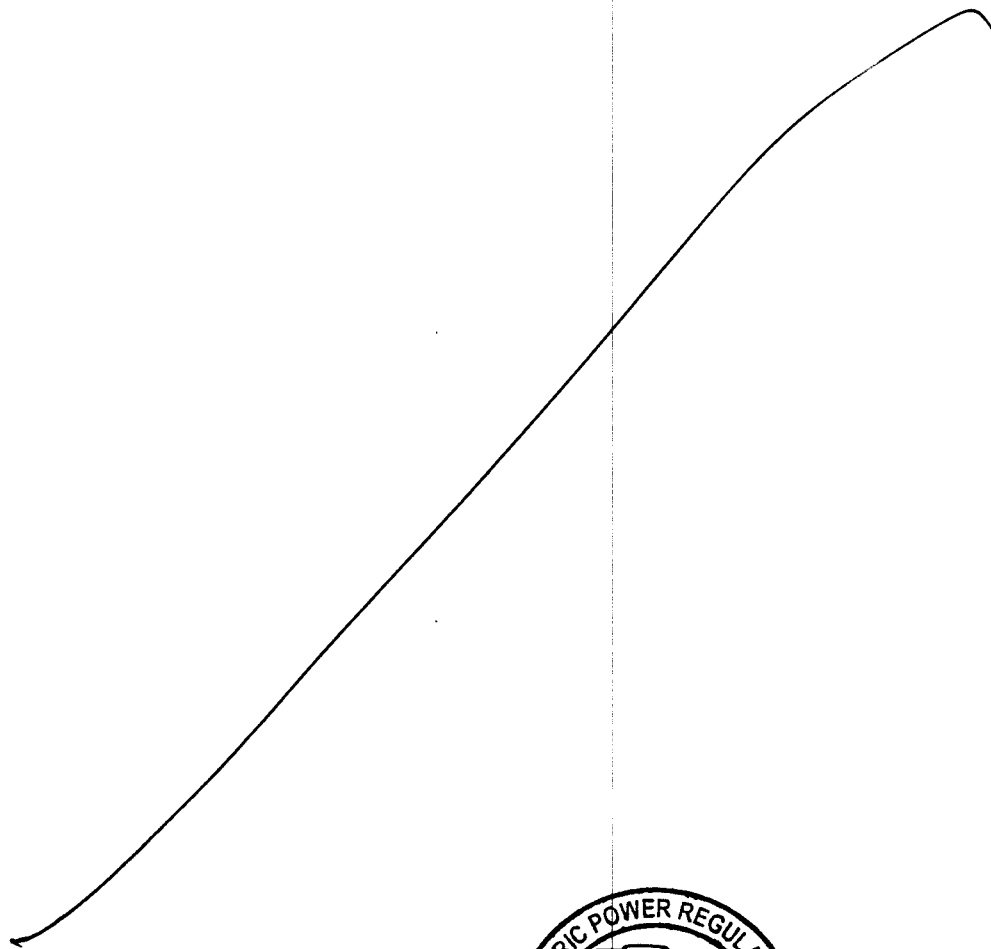
PROJECT: THE STAR MODARABA  
 SHEET: TSM-01  
 DATE: 10/10/2011



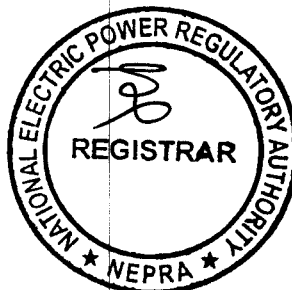
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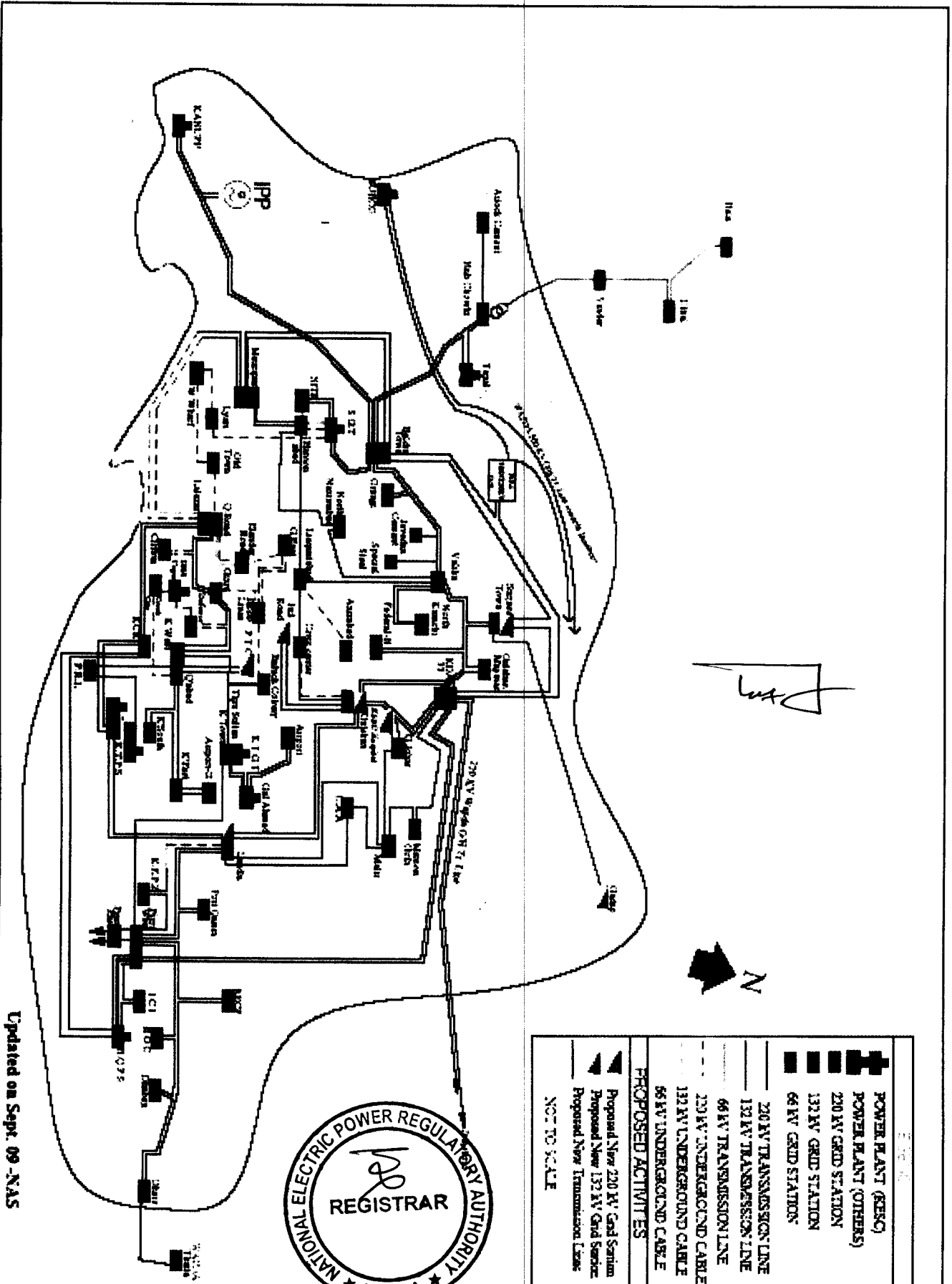
## INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT\*

The Power of the Generation Facility shall be dispersed to System of NTDC through the System of KESC at 132 KV voltage level by constructing a new Transmission Line measuring approximately one (01) Km by making an In-Out of 132 KV D/C Baldia-KANPP Transmission line at the CCPP.

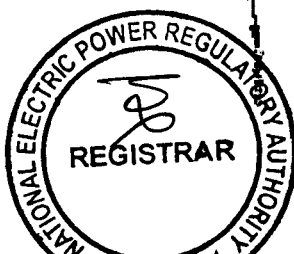


\* As provided by the applicant





Updated on Sept. 09 -NAS



PROPOSED ACTIVITIES
Proposed New 220 KV Grid Station
Proposed New 132 KV Grid Station
Proposed New Transmission Lines
NOT TO SCALE

POWER PLANT (GEN)
POWER PLANT (OTHERS)
220 KV GRID STATION
132 KV GRID STATION
66 KV GRID STATION

220 KV TRANSMISSION LINE
220 KV TRANSMISSION LINE
132 KV TRANSMISSION LINE
66 KV TRANSMISSION LINE
220 KV UNDERGROUND CABLE
132 KV UNDERGROUND CABLE
66 KV UNDERGROUND CABLE

## PLANT DETAILS<sup>†</sup>

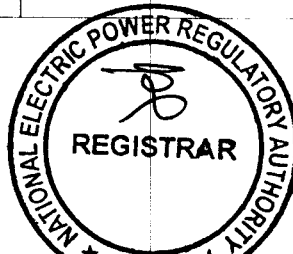
### (A) GENERAL INFORMATION

(i).	Name of Applicant	First Tri-Star Modaraba (managed by A.R.T. Modaraba Management (Private) Limited
(ii).	Registered/Business Office	F/498, S.I.T.E. Karachi - 75700.
(iii).	Plant Location	Naiclass 255, Deh Lal Bakhar, Tapo Gabopat, Hawksbay, Karachi.
(iv).	Type of Generation Facility	Thermal Generation

### (B) PLANT CONFIGURATION

(i).	Plant Size Installed Capacity (Gross ISO)	110.00 MW	
(ii).	Type of Technology	Combined Cycle Power Plant (CCPP)	
(iii).	Number of Units/Size (MW)	Gas Turbine	2 x 40.00 MW
		Steam Turbine	1 x 30.00 MW
(iv).	Unit Make & Model	Gas Turbine	LM6000PC SPRINT /General Electric
		Steam Turbine	General Electric (G.E. USA)/ or Equivalent
(v).	De-rated Capacity (at Mean Site Conditions)	107.00 MW	
(vi).	Auxiliary Consumption	3.00 MW	
(vii).	Commissioning and Commercial Operation date	December 31, 2010	
(viii).	Expected Life of the Facility from Commercial Operation Date	25 Years	

<sup>†</sup> As provided by the Applicant



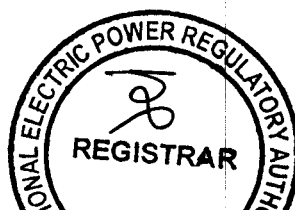
**(C) FUEL DETAILS**

(i).	Primary Fuel	Natural Gas (NG)	
(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 a 16" Pipeline from the Network of SSGC 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	4000 Metric Tons
(viii).	Total Gross Storage	Primary Fuel	Alternate/Back-up Fuel
		N/A	4000 Metric Tons

**(D) EMISSION VALUES**

(i).	SO <sub>x</sub>	Primary Fuel	Alternate/Back-up Fuel
		100-150 µg/m <sup>3</sup>	To be provided later
(ii).	NO <sub>x</sub>	Primary Fuel	Alternate/Back-up Fuel
		400 µg/Nm <sup>3</sup>	To be provided later
(iii).	CO	Primary Fuel	Alternate/Back-up Fuel
		40,000 µg/Nm <sup>3</sup>	To be provided later
(iv).	PM <sub>10</sub>	Primary Fuel	Alternate/Back-up Fuel
		60-90 µg/Nm <sup>3</sup> (annual)	To be provided later

*hat*

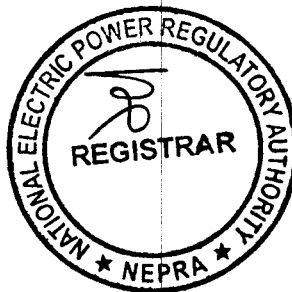


**(E) COOLING SYSTEM**

(i).	Cooling Water Source/Cycle	Sea Water/Open Cycle
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**(F) PLANT CHARACTERISTICS**

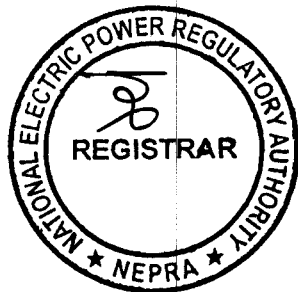
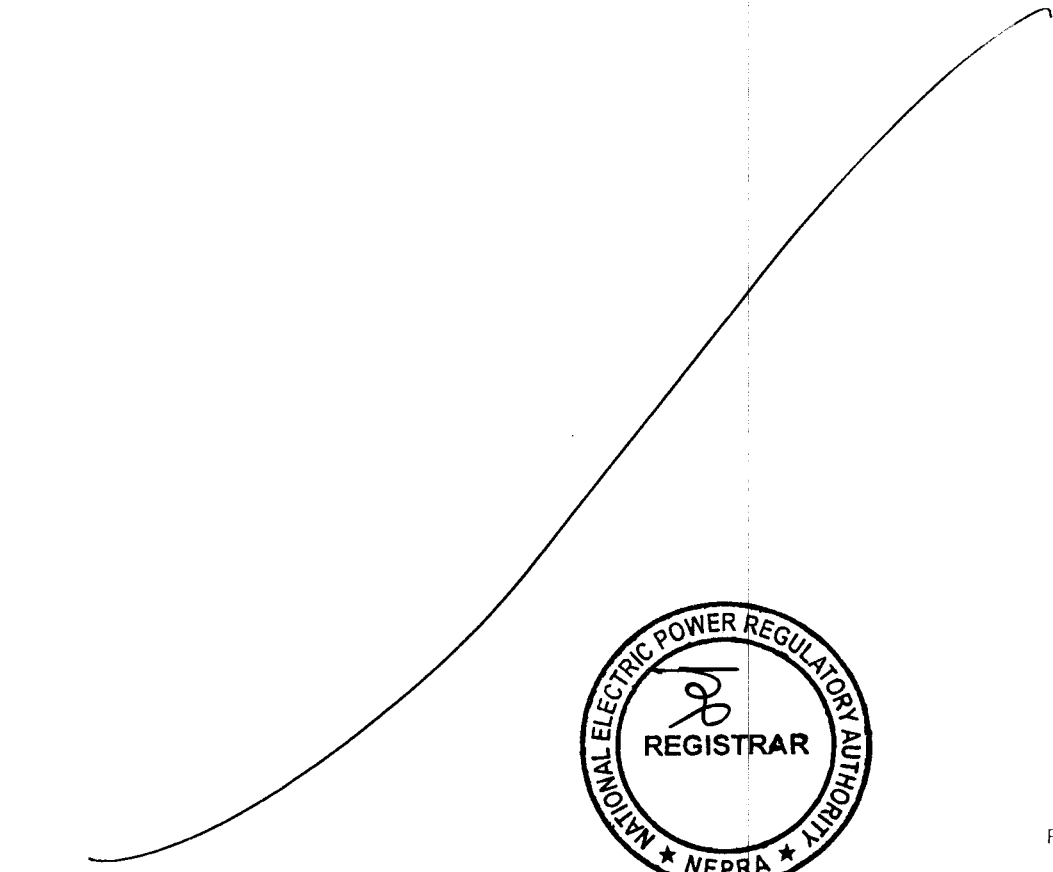
(i).	Generation Voltage	11 KV	
(ii).	Frequency	50 Hz	
(iii).	Power Factor	0.8 Lagging to 0.95 Leading	
(iv).	Automatic Generation Control	Yes	
(v).	Ramping Rate	Will be provided later as per manufacturer's technical limits	
(vi).	Time required to Synchronize to Grid and loading the complex to full load.	Hot Start	5 hrs for 2 GTs and 6 hrs for complex.
		Cold Start	6 hrs for 2 GTs and 8 hrs for complex





**SCHEDULE-II**

The net capacity of the Licensee's Generation Facilities



## SCHEDULE-II\*

1.	Installed Capacity Gross ISO	110.00 MW
2.	De-rated Capacity at Mean Site Conditions	107.00 MW
3.	Auxiliary Consumption	3.00 MW
4.	Net Capacity of the Plant at Mean Site Conditions	104.00 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

