



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

Registrar

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

No. NEPRA/R/LAG-95/3128-29

July 27, 2007

Chief Executive Officer
Engro Energy (Pvt.) Limited
PNSC Building,
M.T. Khan Road,
Karachi-74000

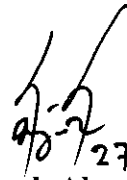
Subject: **Generation Licence No. IGSPL/13/2007**
Licence Application No. LAG-95
Engro Energy (Private) Limited (EEPL)

Please refer to your letter no. nil, dated February 09, 2007 to NEPRA for a Generation Licence.

2. Enclosed here is Generation Licence No. IGSPL/13/2007 granted by the Authority to Engro Energy (Pvt.) Limited (EEPL). The Licence is granted to you pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997).
3. Please quote above mentioned Generation Licence No. for your future correspondence with the Authority.

DA/as above




27.07.07.
(Mahjoob Ahmad Mirza)

Copy for information to 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/13/2007

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:

ENGRO ENERGY (PRIVATE) LIMITED

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

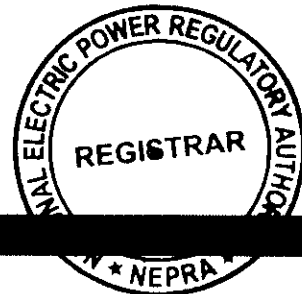
No. 00000012175/20060207, dated February 28, 2006

For its Plant at Qadirpur, District Ghotki, Sindh
(Installed Capacity: 226.52 MW Gross ISO)

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

Given under my hand this 26th day of July Two Thousand & Seven,
and expires on 30th day of October, Two Thousand &
Thirty Four.


Registrar



not. 10/10/07

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 Engro Energy (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.

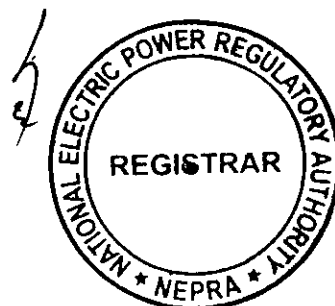
Article-2
Application of Rules

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.

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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

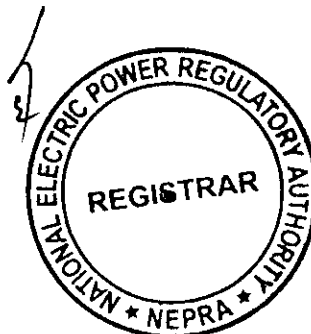
Article-5
Licence fee

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.

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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.

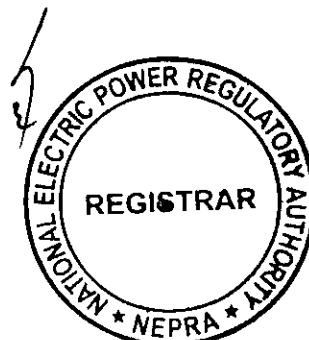
Article-8
Maintenance of Records

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

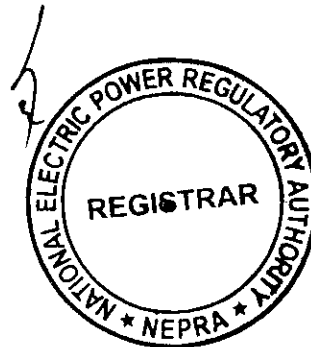
The Licensee shall conform to the environmental standards as may be prescribed by the relevant competent authority from time to time.

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.

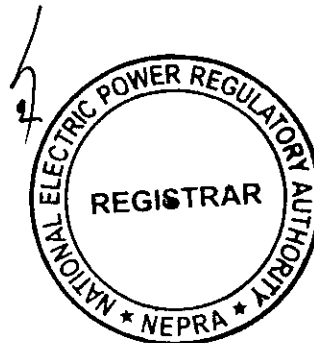
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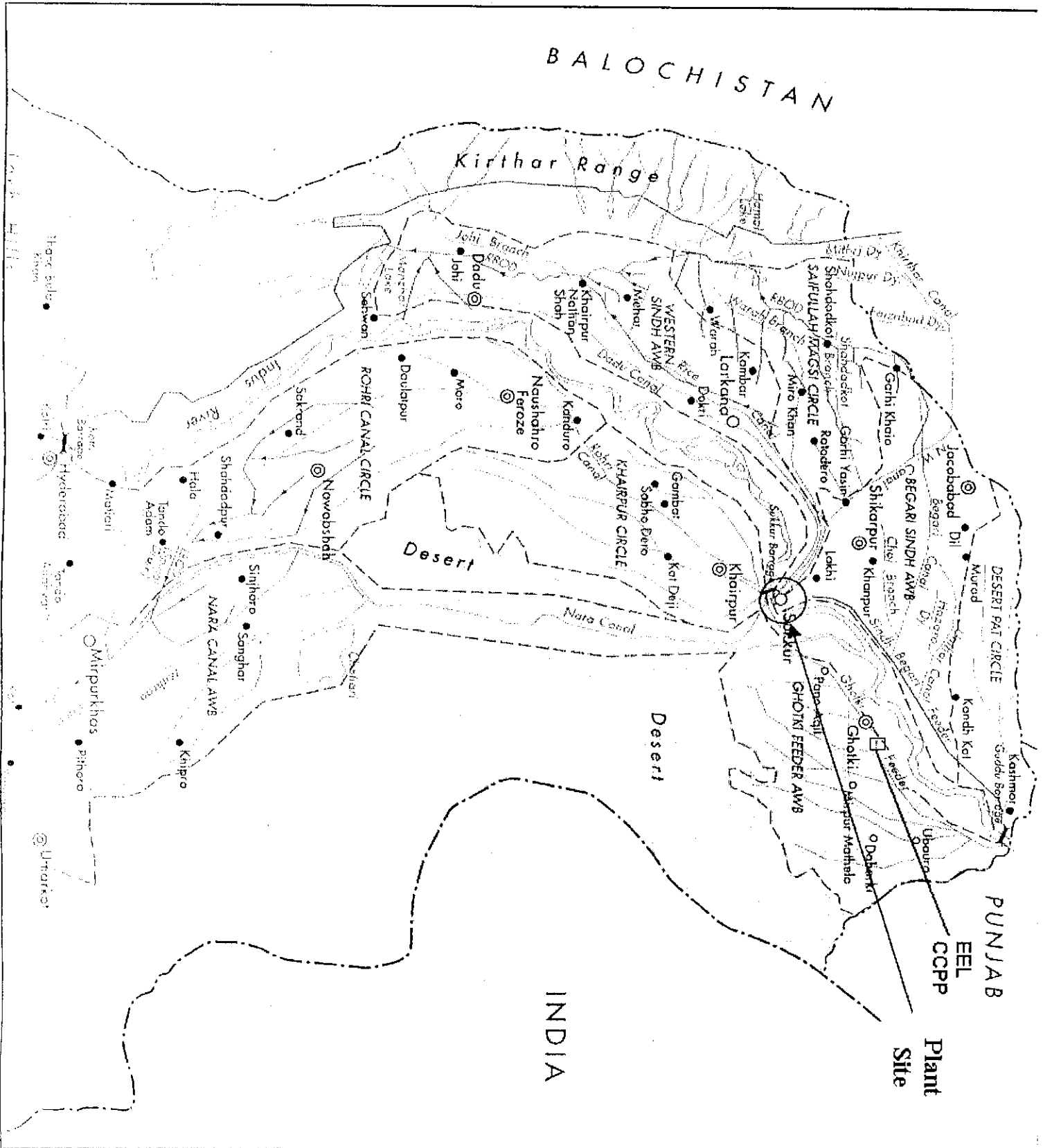


SCHEDULE-I

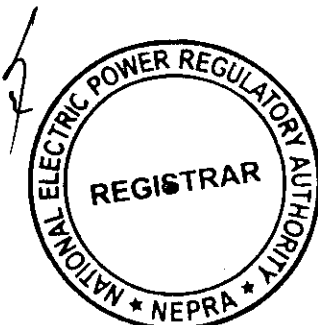
The location, size (capacity in MW) technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the Generation Facilities of the Licensee.

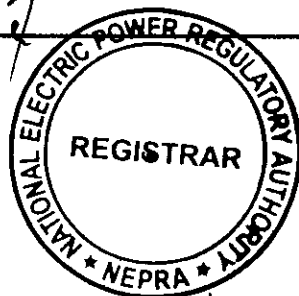
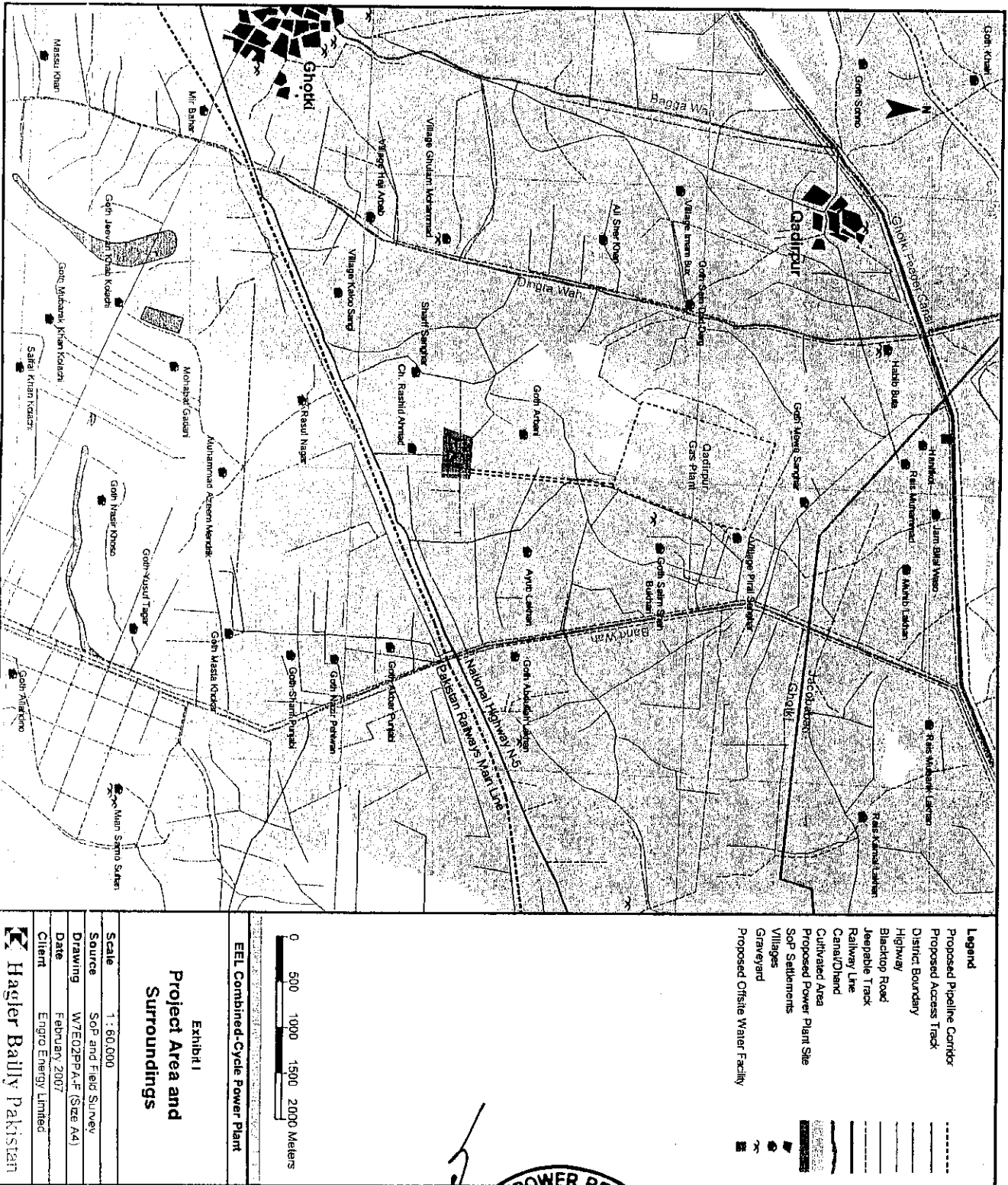
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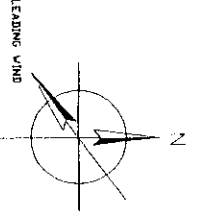
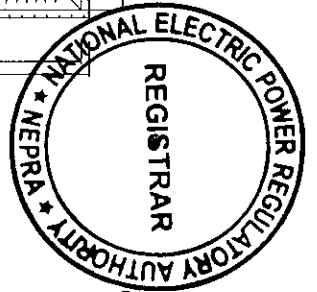
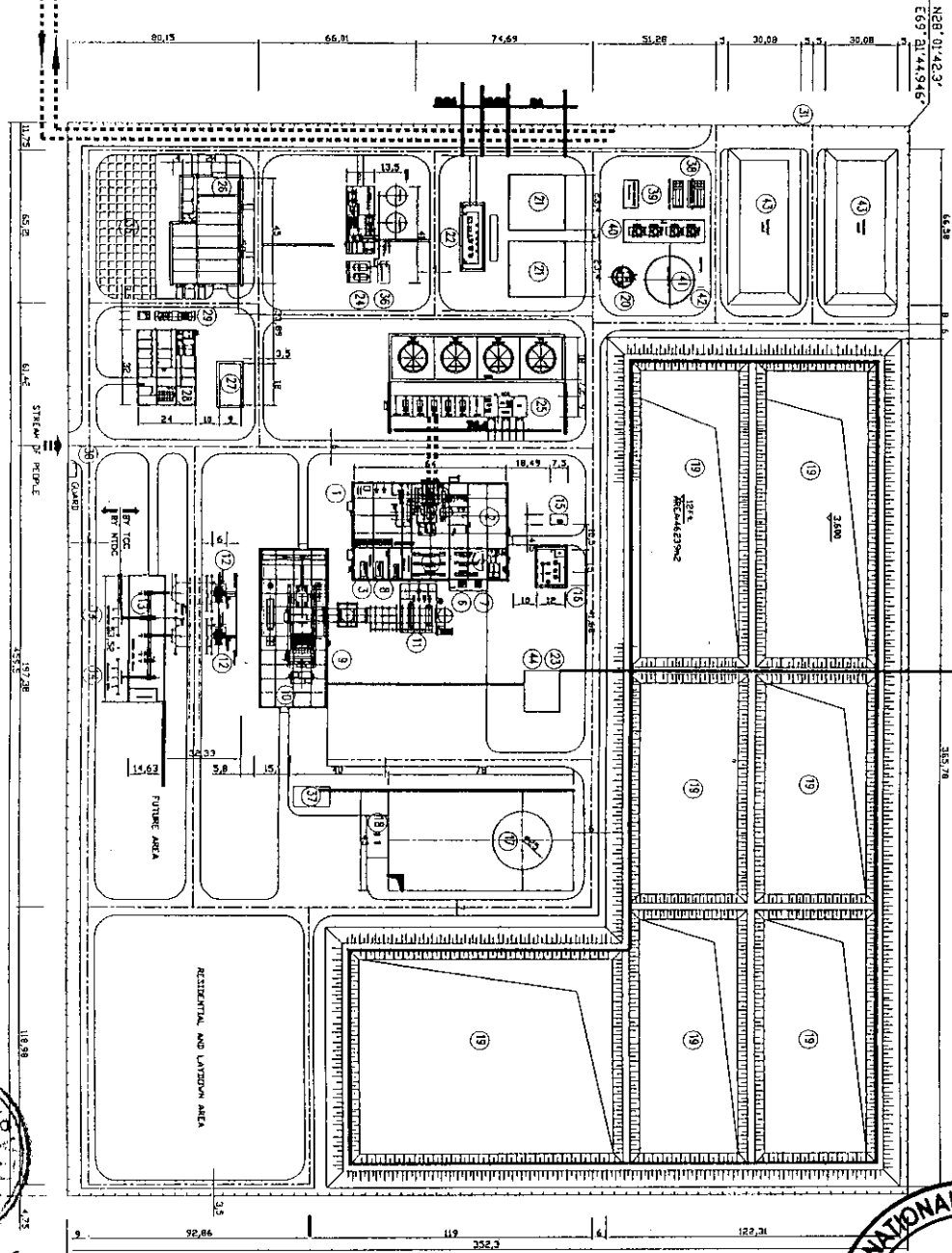
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 Date: 10/11/2011



GENERAL PLAN
 Total area: 161882 sqm

LEGENDS

- ① Steam Turbine Building
- ② Steam Turbine
- ③ Generator
- ④ LV Switch Room
- ⑤ HV Switch Room
- ⑥ LV Auxiliary Transformer
- ⑦ HV Auxiliary Transformer
- ⑧ Control Room
- ⑨ Gas Turbine Building
- ⑩ Gas Turbine
- ⑪ Heat Recovery Steam Generator
- ⑫ Unit Main Transformer
- ⑬ 22 kv High Voltage Switch Station
- ⑭ 22 kv Transmission Line
- ⑮ Steam Station
- ⑯ Air Compressor Dryer
- ⑰ Diesel Fuel Tank
- ⑱ Diesel Fuel Pump
- ⑲ Waste Water Storage
- ⑳ Effluent Pumping Station
- ㉑ Service & Fire Water Reservoir Pump Station
- ㉒ Service & Fire Water Reservoir
- ㉓ Water Station
- ㉔ Natural Gas Recovery
- ㉕ Damit Water Station
- ㉖ Cooling Tower
- ㉗ Workshop and Warehouse
- ㉘ Laboratory
- ㉙ Office/Admin
- ㉚ Domestic Sewage Treatment
- ㉛ Dard
- ㉜ Fence
- ㉝ Effluent Pipe
- ㉞ Raw water pipe
- ㉟ Natural Gas Pipe
- ⓫ Parking Area
- ⓬ Neutralization Pit
- ⓭ HVAC
- ⓮ Precipitation/Clarification Tank
- ⓯ Chemical Precipitator/Flashing house
- ⓰ Filters
- ⓱ Sudge Concentrate
- ⓲ Sudge Pumps
- ⓳ Sudge dry bed
- ⓴ Water Station

- DESIGNED ROAD
- DESIGNED FENCE
- DESIGNED BUILDING
- DESIGNED WATER POND

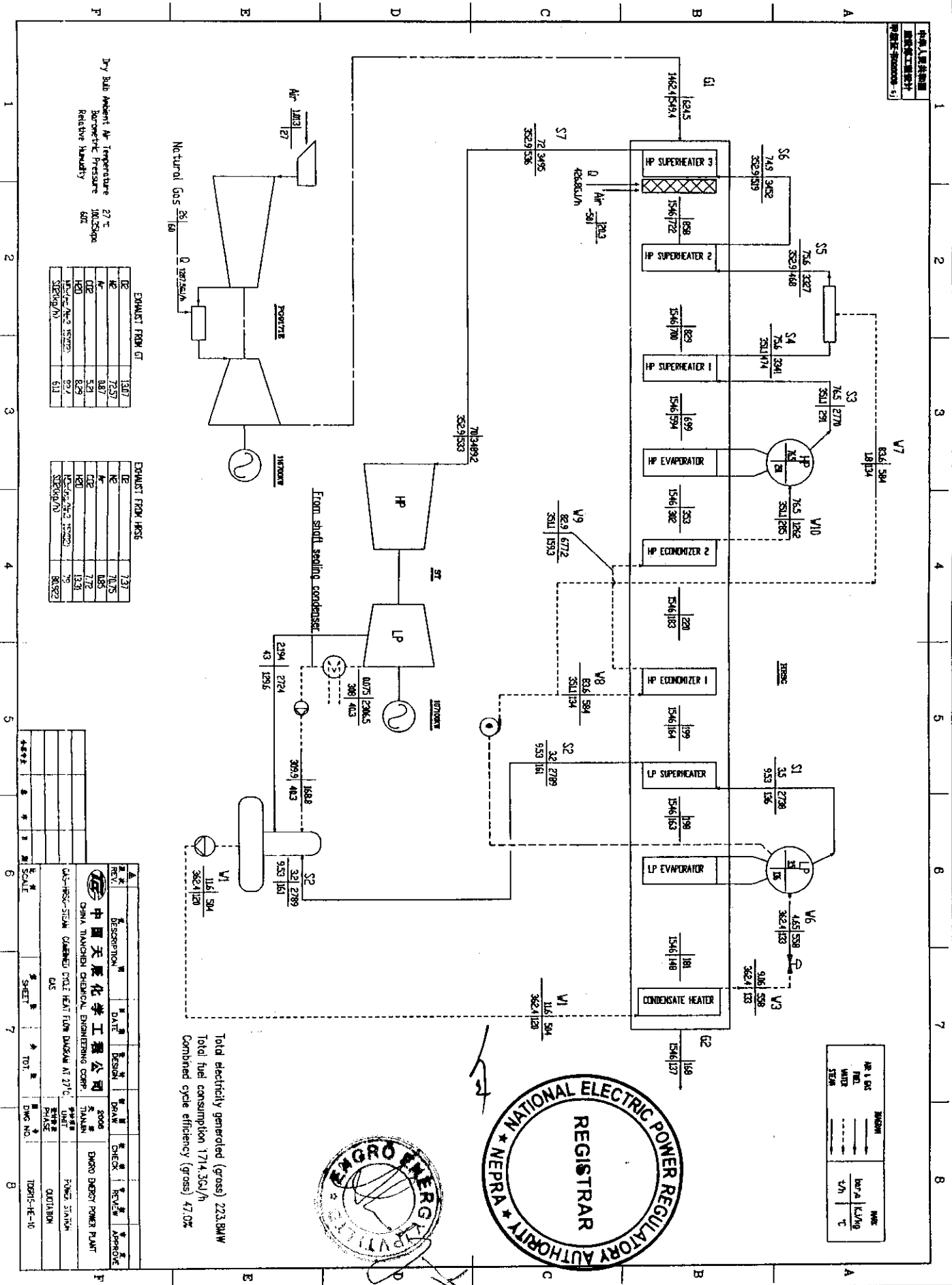


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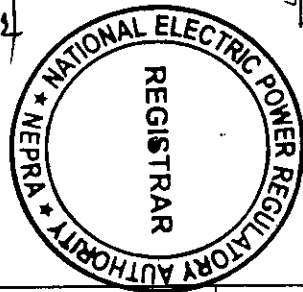
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Client	Engro Energy (Pvt) Limited
Project	Qadirpur Power Station
Scale	1:1000
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Checked by	[Signature]
Approved by	[Signature]

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Total electricity generated (gross) 223.8MW
 Total fuel consumption 1714.35GJ/h
 Combined cycle efficiency (gross) 47.0%

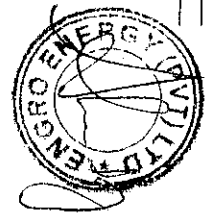
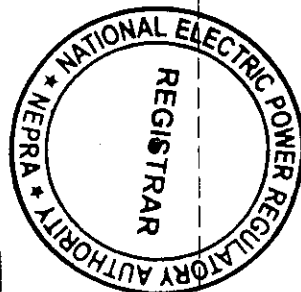
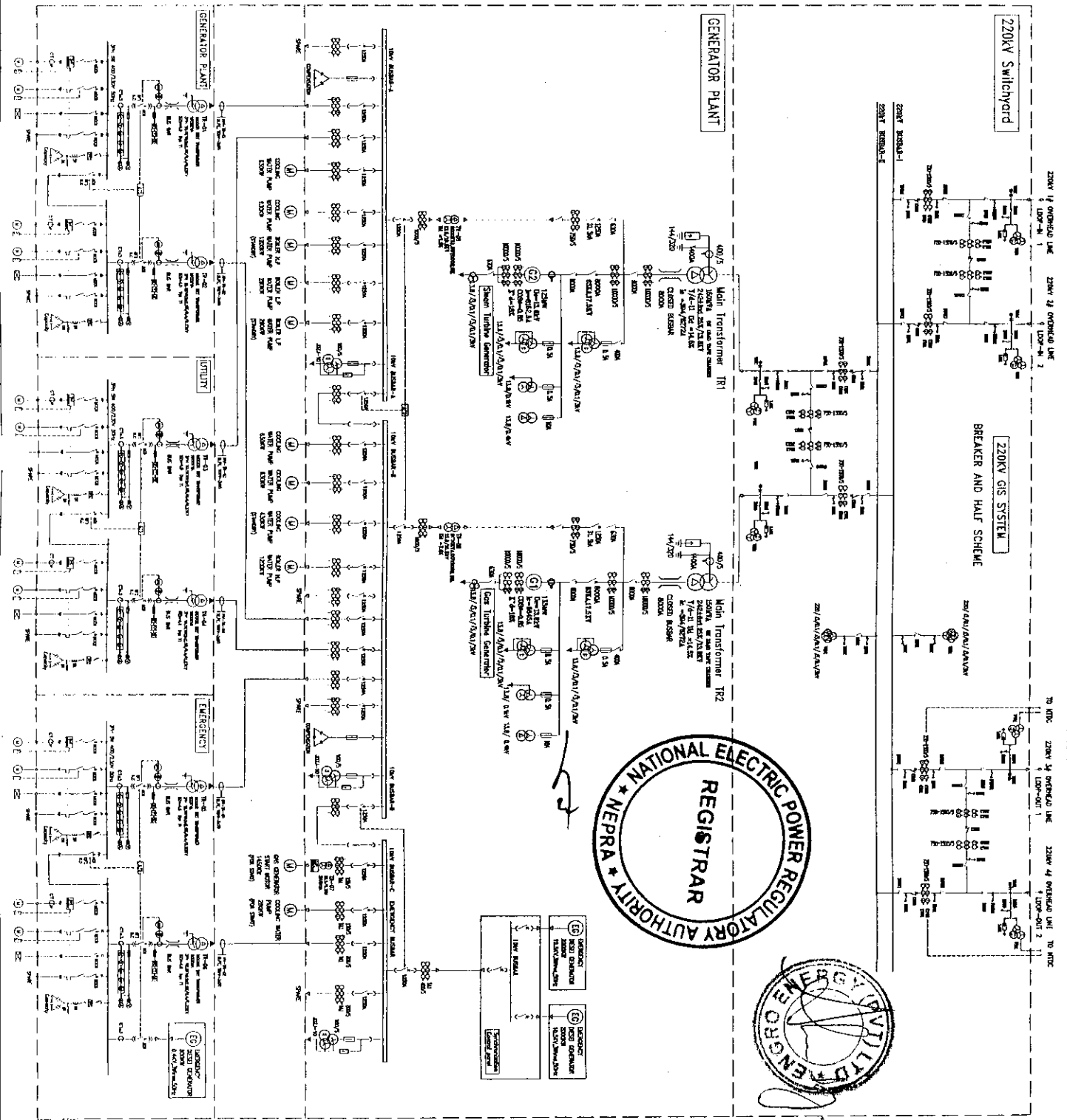


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BY NEDC
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Plant Details*

1. General Information

i.	Name of Applicant	Engro Energy (Private) Limited
ii.	Registered/Business Office	7 th Floor, PNSC Building M.T. Khan Road, Karachi.
iii.	Plant Location	Qadirpur, District Ghotki, Sindh
iv.	Type of Generation Facility	Thermal Generation (Combined Cycle)

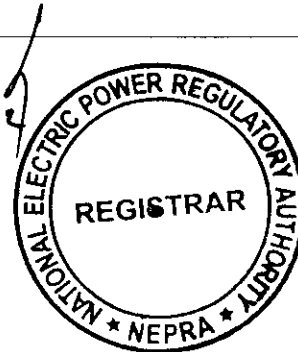
2. Plant Configuration

i.	Plant Size Installed Capacity (Gross ISO)	226.52 MW
ii.	Type of Technology	Combined Cycle Power Plant (with Supplementary firing)
iii.	Number of Units/Size (MW)	1 x 126.57 MW (Gas Turbine)
		1 x 99.95 MW (Steam Turbine)
iv.	Unit Make & Model	Gas Turbine – GE PG9171E
		Steam Turbine – Harbin Turbine Machine
v.	De-rated Capacity (at Mean Site Conditions)	223.80 MW
vi.	Auxiliary Consumption	7.00 MW
vii.	Commissioning and Commercial Operation date	October 31, 2009
viii.	Expected Life of the Facility from Commercial Operation Date	25 Years

* As provided by the Applicant







3. Fuel Details

i.	Primary Fuel	Low Btu Permeate Gas (565 – 625 Btu/Scf)
ii.	Alternate/Back-up Fuel	High Speed Diesel (HSD)
iii.	Fuel Source (Imported/Indigenous)	Indigenous (Qadirpur field)
iv.	Fuel Supplier	Sui Northern Gas Pipeline Limited (SNGPL)
v.	Supply Arrangement	Through a Gas Pipeline with an approximate length of 2 Kilometer from Qadirpur gas treatment facilities
vi.	No of Storage Tanks of Alternate/Backup Fuel (HSD)	01
vii.	Storage Capacity of HSD Tank	8500 m ³
viii.	Gross Storage of HSD	8500 m ³ (Net Storage)

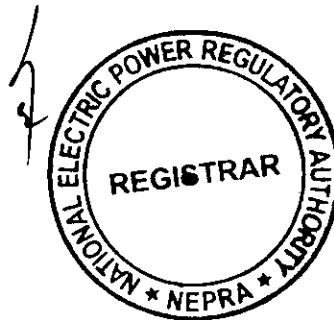
4. Emission Values

i.	SO _x	Natural Gas	High Speed Diesel (HSD)
		54 mg/ Nm ³	400 mg/ Nm ³
ii.	NO _x	79 mg/ Nm ³	143 mg/ Nm ³
iii.	CO	103.3 mg/ Nm ³	86.7 mg/ Nm ³
iv.	PM ₁₀	53.3 mg/ Nm ³	43.3 mg/ Nm ³

5. Cooling System

i.	Cooling Water Source/Cycle	Canal (Primary) and Well (back up)/ Closed Cycle
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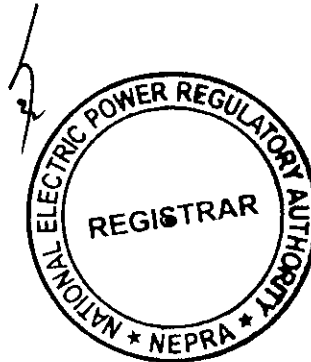
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6. Plant Characteristics

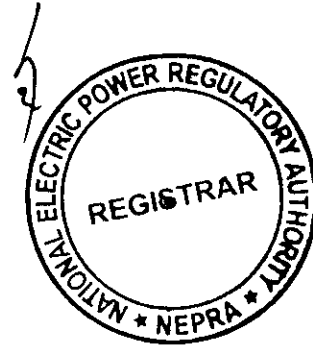
i.	Generation Voltage	13.8 kV
ii.	Frequency	50 Hz
iii.	Power Factor	0.8 Lagging – 0.9 Leading
iv.	Automatic Generation Control	Yes
v.	Ramping Rate	10 MW/Minutes above minimum load. The figure is indicative and will be confirmed after engineering design of the plant.
vi.	Time required to Synchronize to Grid and loading the complex to full load.	7 hours and 40 minutes for cold start. The figure is indicative and will be confirmed after engineering design of the plant.

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SCHEDULE-II

The net capacity of the Licensee's Generation Facilities



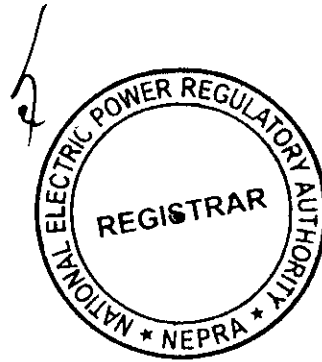
SCHEDULE-II*

1.	Installed Capacity Gross ISO	226.52 MW
2.	De-rated Capacity Mean at Site Conditions	223.80 MW
3.	Auxiliary Consumption	7.00 MW
4.	Net Capacity of the Plant at Mean Site Conditions	216.80 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.

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* As provided by the applicant

INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT

The power of the power plant shall be dispersed to system directly within HESCO load center at 220/132 KV voltage level as follows:-

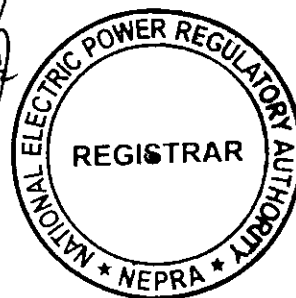
- 220 KV D/C transmission line for making In-Out of the proposed Daharki CCPP-Rohri New 220 KV D/C transmission line at Engro Energy CCPP. The approximate length of the Double Circuit transmission line will be (5+5) 10 KM on twin Bundled Rail Conductor.
- 220 KV Rohri new-Shikarpur D/C transmission line, (approximately 50 KM long) on twin Bundled Rail Conductor.
- 132 KV Rohri New (220 KV Grid Station)-Gambat SDT transmission line, (approximately 53 KM long), on Rail Conductor.

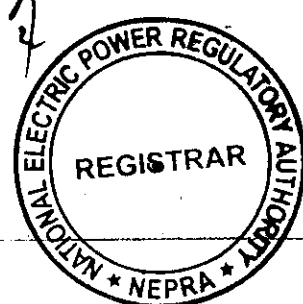
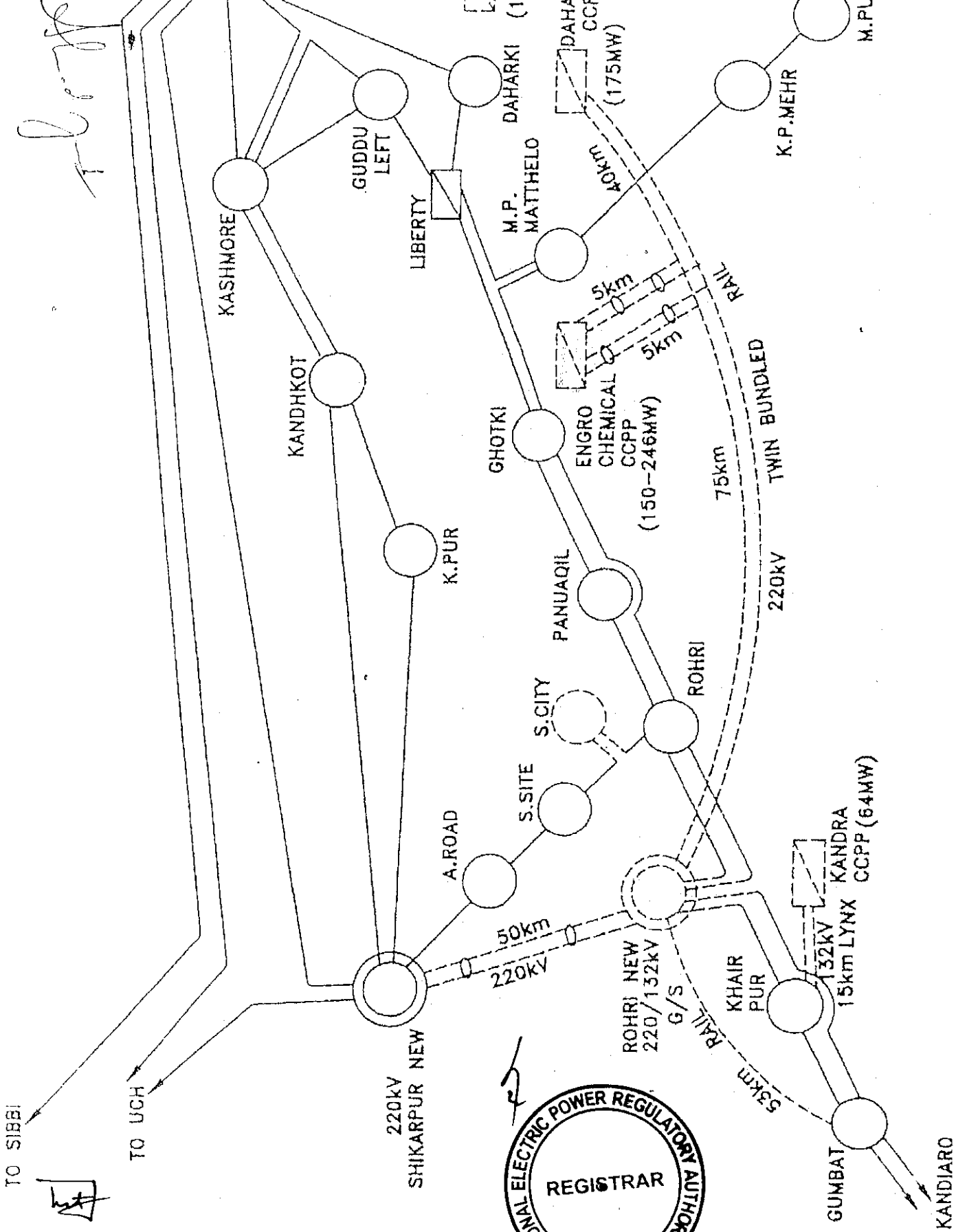
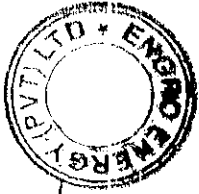












National Electric Power Regulatory Authority
NEPRA

Determination in the Matter of
Grant of Generation Licence to
Engro Energy Private Limited

July 26, 2007
Application No. LAG-95

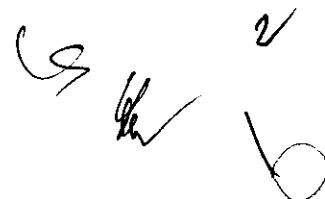
Background

Private Power Infrastructure Board (PPIB) pre-qualified Engro Chemical Pakistan Limited (ECPL), for setting up of a 150 to 250 MWe, Combined Cycle Power Plant (CCPP), by utilizing the low BTU gas (a by product of the membrane processing facility, presently being flared to the atmosphere) of the Qadirpur gas field, located at District Ghotki, in the province of Sindh.

2. PPIB issued a Letter of Interest (LOI) to ECPL on January 6, 2006. In order to, carry out the project implementation, ECPL incorporated a separate company in the name of Engro Energy (Private) Limited (EEPL). EEPL appointed Fichtner GmbH & Co. KG, Stuttgart, Germany, to carry out the detailed feasibility study. The Panel of Experts (POE) approved the feasibility study on September 20, 2006 subsequently PPIB advised EEPL to approach NEPRA for the grant of Generation Licence.

Filing of Generation Licence Application

3. EEPL, in accordance with Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), filed an application on February 9, 2007, for the grant of a Generation Licence. Authority admitted the application of EEPL for the grant of Generation Licence on February 22, 2007.



4. Pursuant to Regulation-8 of the NEPRA Licensing (Application and Modification Procedure) Regulation 1999, a brief of Prospectus and Notices of Admission were published in daily newspapers of February 24, 2007, for seeking comments from the interested/affected parties and general public.

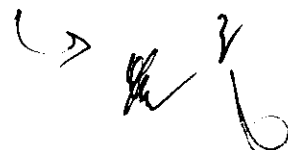
5. After considering the comments received, the Authority decided to hold a hearing/conference on March 14, 2007 in Karachi, which was attended by the representatives of the applicant and other organizations including representatives of PPIB, NTDC, Ministry of Privatization & Investment (Privatization Commission) and Environmental Protection Agency (EPA-Sindh).

Proceedings of Hearing

6. During the hearing, EEPL presented salient features of the project and explained that the proposed plant would consist of one (01) Gas Turbine (1 x 126.57 MW), one (01) Heat Recovery Steam Generator (HRSG) and one (01) Steam Turbine (1 x 99.95 MW) with a total installed capacity of 226.52 MW (gross) at ISO conditions.

7. It was explained that the power generated from the proposed power plant would be acquired by National Transmission and Dispatch Company (NTDC) on behalf of the Ex-WAPDA DISCOs. Further, the power generated by the proposed power plant would be disbursed by making an In-Out arrangement from the proposed 220 KV D/C Foundation Power CCPP –Rohri T/Line at Engro Energy Limited and another 220 KV T/Line from New Rohri (220 KV) Grid station to Shikarpur.

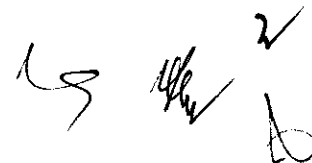
8. It was also informed that NTDC vide its letter No. COO/CPA/CE-II/14364-65, dated December 11, 2006 had already requested for authorization of procurement of power from EEPL to the extent of 215 MW on behalf of Ex-WAPDA DISCOs and Authority had granted the permission vide its decision of December 28, 2006. Regarding the anticipated Commercial Operation Date of



the plant, EEL affirmed that the project would be operational by the end of October 2009.

9. The applicant presented its case and other participants/interested persons and NTDC were also heard during the hearing. The participants proffered their comments and submitted arguments supporting their stance. The following relevant salient points were discussed during the hearing and commented on by other participants:

- The ISO, De-rated Capacity of the plant (at Mean Site Conditions) commensurate with low heating value of Permeate gas and efficiency of plant.
- The option of Supplementary firing in HRSG to avoid flaring of permeate gas resulting in increase the capacity of the power plant but lowering the efficiency of the proposed Combined Cycle Power Plant.
- Plant Availability and part load operation.
- Low BTU Gas proposition as back-up and depletion in allocated gas supply.
- Special arrangements to comply with environmental standards on account of the fact that the Permeate gas has high Sulphur contents (320 ppm).
- Availability of cooling water for plant.
- Interconnection Facility/Transmission Facility (IF/TF) financing and simultaneous completion of IF/TF and plant.

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- Confirmation of the Gas supplier about the gas reserves of the field to cater the requirement of power plant for its entire term of PPA. Payment for alternate fuel in case of shortfall of gas.
- Expiry of the Leased Site and the term of the PPA

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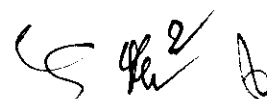
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Grant of Generation Licence.

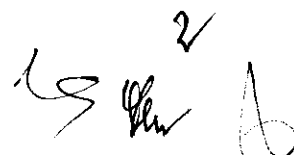
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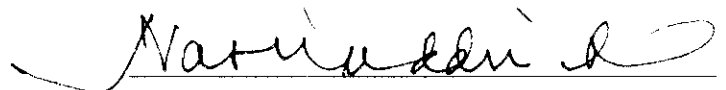
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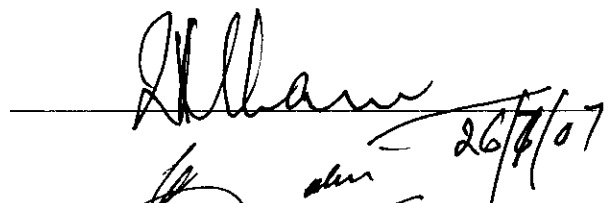
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Authority

Nasiruddin Ahmed
Member



Zafar Ali Khan
Member



Abdul Rahim Khan
VC/Member



Lt. Gen. (R) Saeed uz Zafar
Chairman



National Electric Power Regulatory Authority
NEPRA

Determination in the Matter of
Grant of Generation Licence to
Engro Energy Private Limited

July 26, 2007
Application No. LAG-95

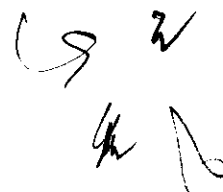
Background

Private Power Infrastructure Board (PPIB) pre-qualified Engro Chemical Pakistan Limited (ECPL), for setting up of a 150 to 250 MWe, Combined Cycle Power Plant (CCPP), by utilizing the low BTU gas (a by product of the membrane processing facility, presently being flared to the atmosphere) of the Qadirpur gas field, located at District Ghotki, in the province of Sindh.

2. PPIB issued a Letter of Interest (LOI) to ECPL on January 6, 2006. In order to, carry out the project implementation, ECPL incorporated a separate company in the name of Engro Energy (Private) Limited (EEPL). EEPL appointed Fichtner GmbH & Co. KG, Stuttgart, Germany, to carry out the detailed feasibility study. The Panel of Experts (POE) approved the feasibility study on September 20, 2006 subsequently PPIB advised EEPL to approach NEPRA for the grant of Generation Licence.

Filing of Generation Licence Application

3. EEPL, in accordance with Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), filed an application on February 9, 2007, for the grant of a Generation Licence. Authority admitted the application of EEPL for the grant of Generation Licence on February 22, 2007.



4. Pursuant to Regulation-8 of the NEPRA Licensing (Application and Modification Procedure) Regulation 1999, a brief of Prospectus and Notices of Admission were published in daily newspapers of February 24, 2007, for seeking comments from the interested/affected parties and general public.

5. After considering the comments received, the Authority decided to hold a hearing/conference on March 14, 2007 in Karachi, which was attended by the representatives of the applicant and other organizations including representatives of PPIB, NTDC, Ministry of Privatization & Investment (Privatization Commission) and Environmental Protection Agency (EPA-Sindh).

Proceedings of Hearing

6. During the hearing, EEPL presented salient features of the project and explained that the proposed plant would consist of one (01) Gas Turbine (1 x 126.57 MW), one (01) Heat Recovery Steam Generator (HRSG) and one (01) Steam Turbine (1 x 99.95 MW) with a total installed capacity of 226.52 MW (gross) at ISO conditions.

7. It was explained that the power generated from the proposed power plant would be acquired by National Transmission and Dispatch Company (NTDC) on behalf of the Ex-WAPDA DISCOs. Further, the power generated by the proposed power plant would be disbursed by making an In-Out arrangement from the proposed 220 KV D/C Foundation Power CCPP –Rohri T/Line at Engro Energy Limited and another 220 KV T/Line from New Rohri (220 KV) Grid station to Shikarpur.

8. It was also informed that NTDC vide its letter No. COO/CPA/CE-II/14364-65, dated December 11, 2006 had already requested for authorization of procurement of power from EEPL to the extent of 215 MW on behalf of Ex-WAPDA DISCOs and Authority had granted the permission vide its decision of December 28, 2006. Regarding the anticipated Commercial Operation Date of

the plant, EEL affirmed that the project would be operational by the end of October 2009.

9. The applicant presented its case and other participants/interested persons and NTDC were also heard during the hearing. The participants proffered their comments and submitted arguments supporting their stance. The following relevant salient points were discussed during the hearing and commented on by other participants:

- The ISO, De-rated Capacity of the plant (at Mean Site Conditions) commensurate with low heating value of Permeate gas and efficiency of plant.
- The option of Supplementary firing in HRSG to avoid flaring of permeate gas resulting in increase the capacity of the power plant but lowering the efficiency of the proposed Combined Cycle Power Plant.
- Plant Availability and part load operation.
- Low BTU Gas proposition as back-up and depletion in allocated gas supply.
- Special arrangements to comply with environmental standards on account of the fact that the Permeate gas has high Sulphur contents (320 ppm).
- Availability of cooling water for plant.
- Interconnection Facility/Transmission Facility (IF/TF) financing and simultaneous completion of IF/TF and plant.

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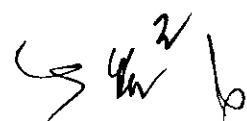
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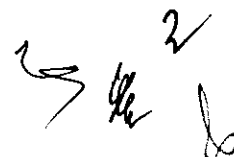
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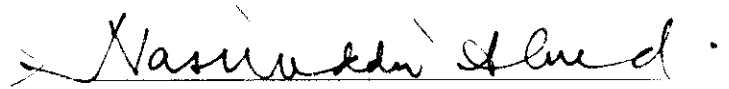
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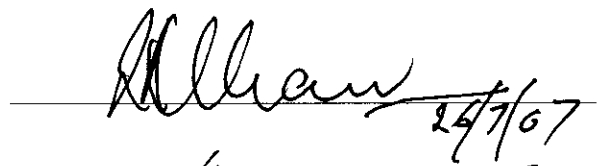
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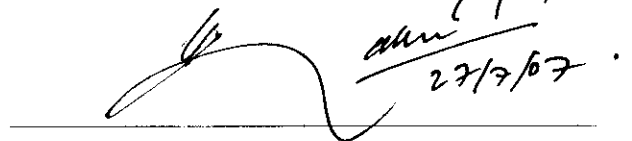
Nasiruddin Ahmed
Member



Zafar Ali Khan
Member

 24/7/07

Abdul Rahim Khan
VC/Member

 27/7/07

Lt. Gen. (R) Saeed uz Zafar
Chairman

