



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

2nd Floor, OPF Building, G-5/2, Islamabad.
Ph: 9207200, 9205225 Fax : 9210215
E-mail: office@nepra.org.pk

Registrar

No. NEPRA/R/LAG-107/8500-01

June 23, 2008

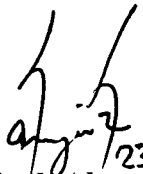
Chief Executive
The Hub Power Company Limited (HUBCO)
Islamic Chamber Building
Block-9, Clifton,
Karachi-75600

Subject: **Generation Licence No. IGSP/19/2008**
Licence Application No. LAG-107
The Hub Power Company Limited (HUBCO)

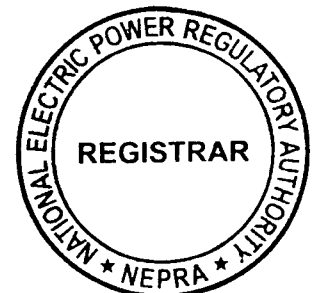
Please refer to your letter no. nil, dated January 14, 2008 to NEPRA for grant of a Generation Licence.

2. Enclosed here is Generation Licence No. IGSP/19/2008 granted by the Authority to The Hub Power Company Limited (HUBCO). 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.

Enclosure: **As above**


23.06.08
(Mahjoob Ahmad Mirza)

1. 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/19/2008

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:

THE HUB POWER COMPANY LIMITED
Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

No. I-00746, Dated August 1, 1991

For its Plant located at 5-KM from Luban Pulli on Main Narowal-Muridke Road (towards Badomalli), District Narowal, Punjab.

(Installed Capacity: 224.79 MW Gross ISO)

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

Given under my hand this 23rd day of June, Two Thousand & Eight, and expires on 30th day of March, 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 the Hub Power Company Limited ;
- (d) "Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000.

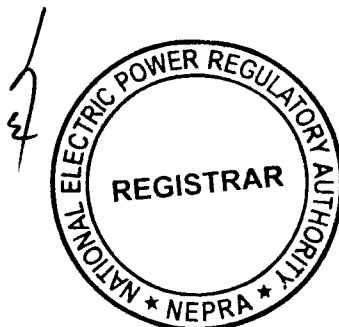
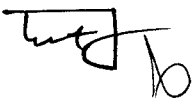
1.2 Words and expressions used but not defined herein bear the meaning given thereto in the Act or in the Rules.

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.

3.4 The Licensee shall ring-fence all its business and power plants in all respects i.e. legally, commercially, technically and financially etc. All the businesses and power plants owned, operated, managed or controlled by the Licensee should be dealt with separately and independently.

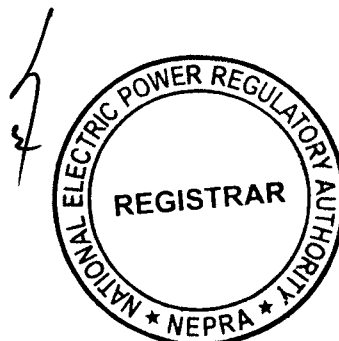
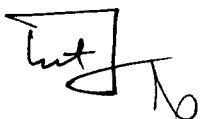
Article-4
Term of Licence

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

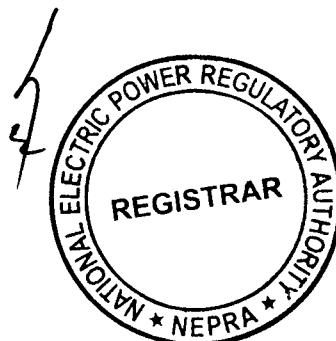
7.1 The Licensee shall participate in such measures as may be directed by the Authority from time to time for development of a Competitive Trading Arrangement. The Licensee shall in good faith work towards implementation and operation of the aforesaid Competitive Trading Arrangement in the manner and 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 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.

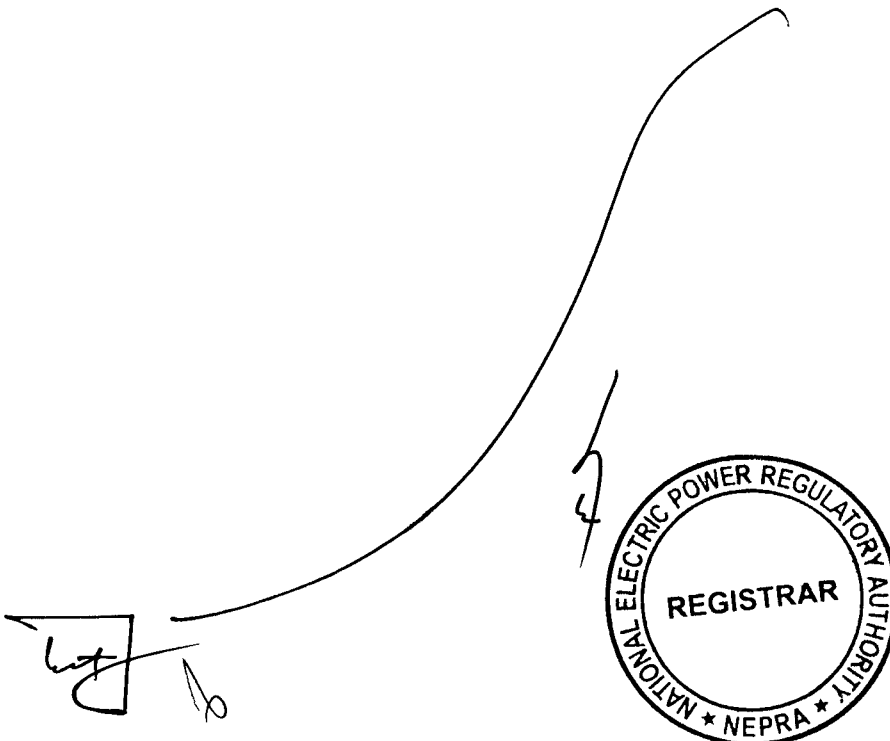
Article-10
Compliance with Environmental Standards

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

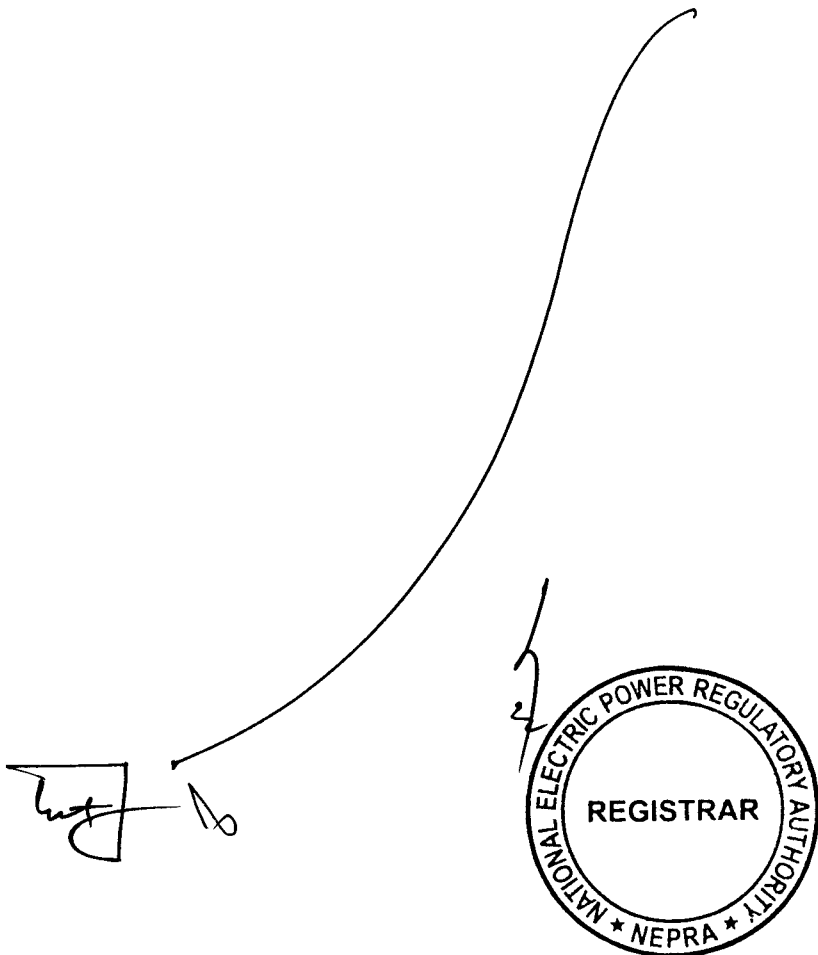
11.1 The obligation of the Licensee to provide information to the Authority shall be in accordance with Section 44 of the Act.

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.

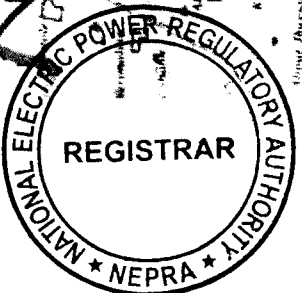
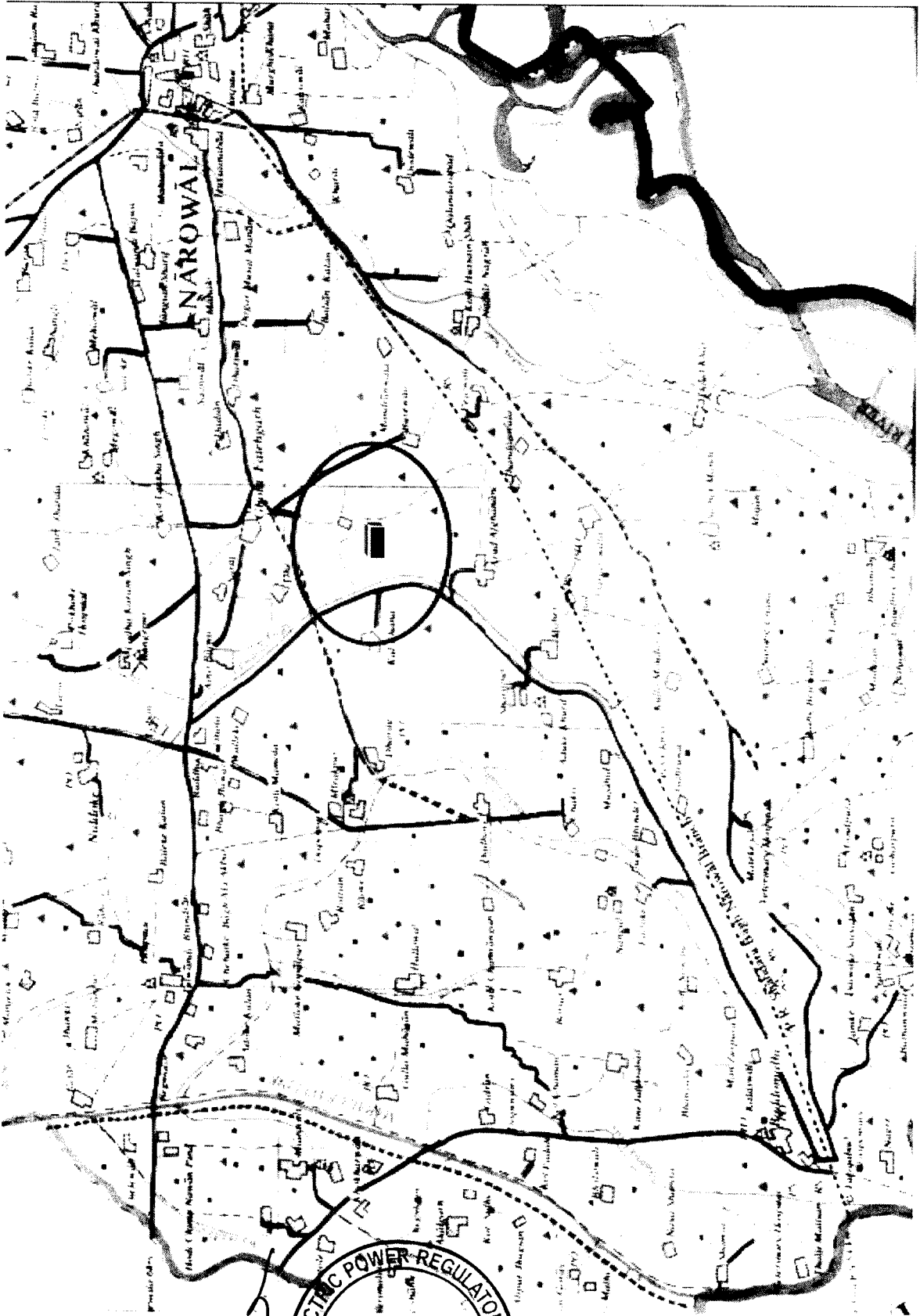


SCHEDULE-I

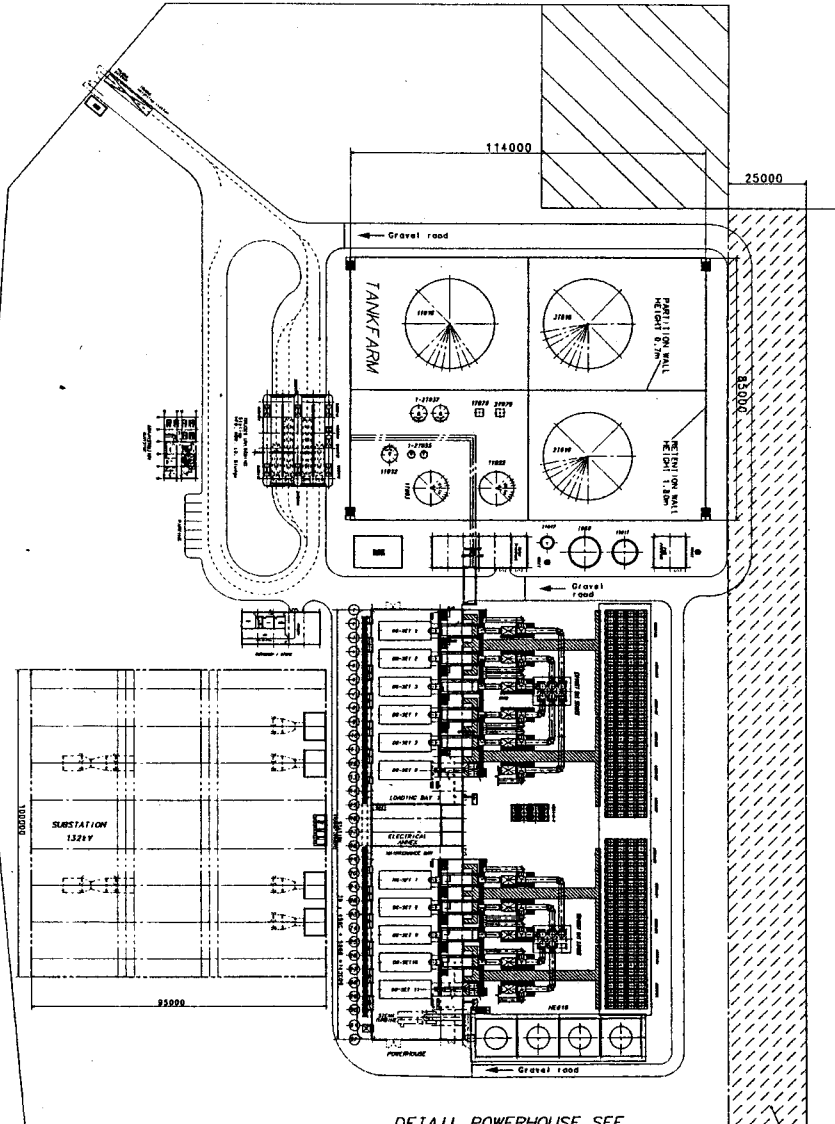
The location, size (capacity in MW) technology, interconnection arrangements, technical limits, technical functional specifications and other details specific to the Generation Facilities of the Licensee.



A handwritten signature is present on the left side of the page. A long, curved line extends from the signature towards the top right. Below the signature is a circular stamp of the National Electric Power Regulatory Authority (NEPRA). The stamp contains the text "NATIONAL ELECTRIC POWER REGULATORY AUTHORITY" around the perimeter, "REGISTRAR" in the center, and "NEPRA" at the bottom. There is a handwritten mark above the stamp.



PRELIMINARY



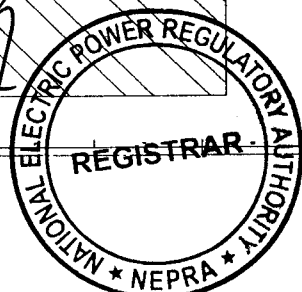
DETAIL POWERHOUSE SEE
 DRW 11730002165

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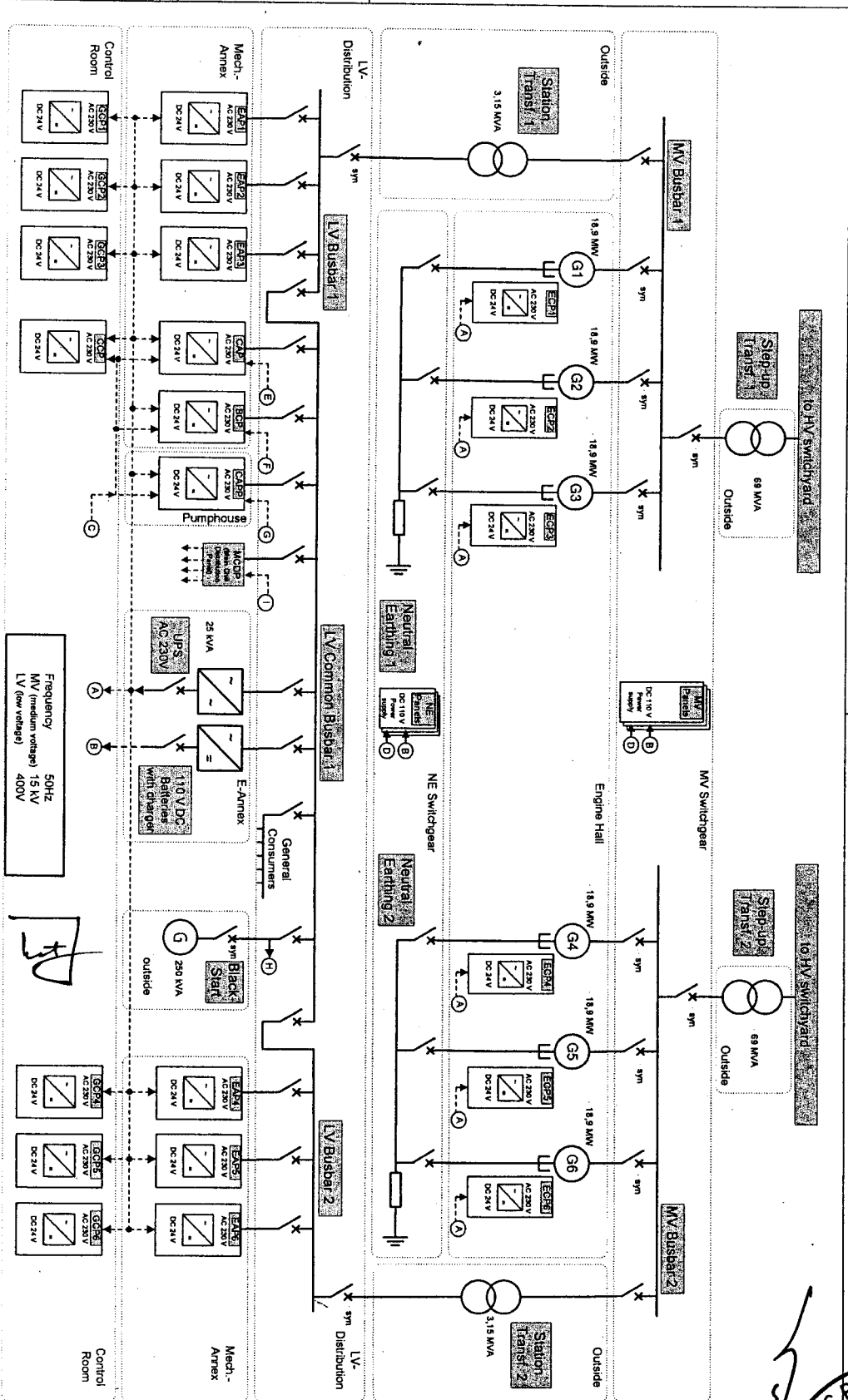
213 MW POWER-PLANT OUTPUT
 11 x 181v. 48/60.
 +16.4 MW Steam Turbine
 RADIATOR COOLING
 30 DAYS FHO STORAGE
 max. steam boiler
 oil latched pumps

Sl. No.	Particulars	Quantity	Unit	Rate	Total	Description
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MAN
 11730000985
 SITE PLAN
 HUBCO POWER, 6MW STEAM
 DISTRICT NAROWAL, PUNJAB



SLD HV/MV/LV Switchgear HUBCO (Rev. 0) v04



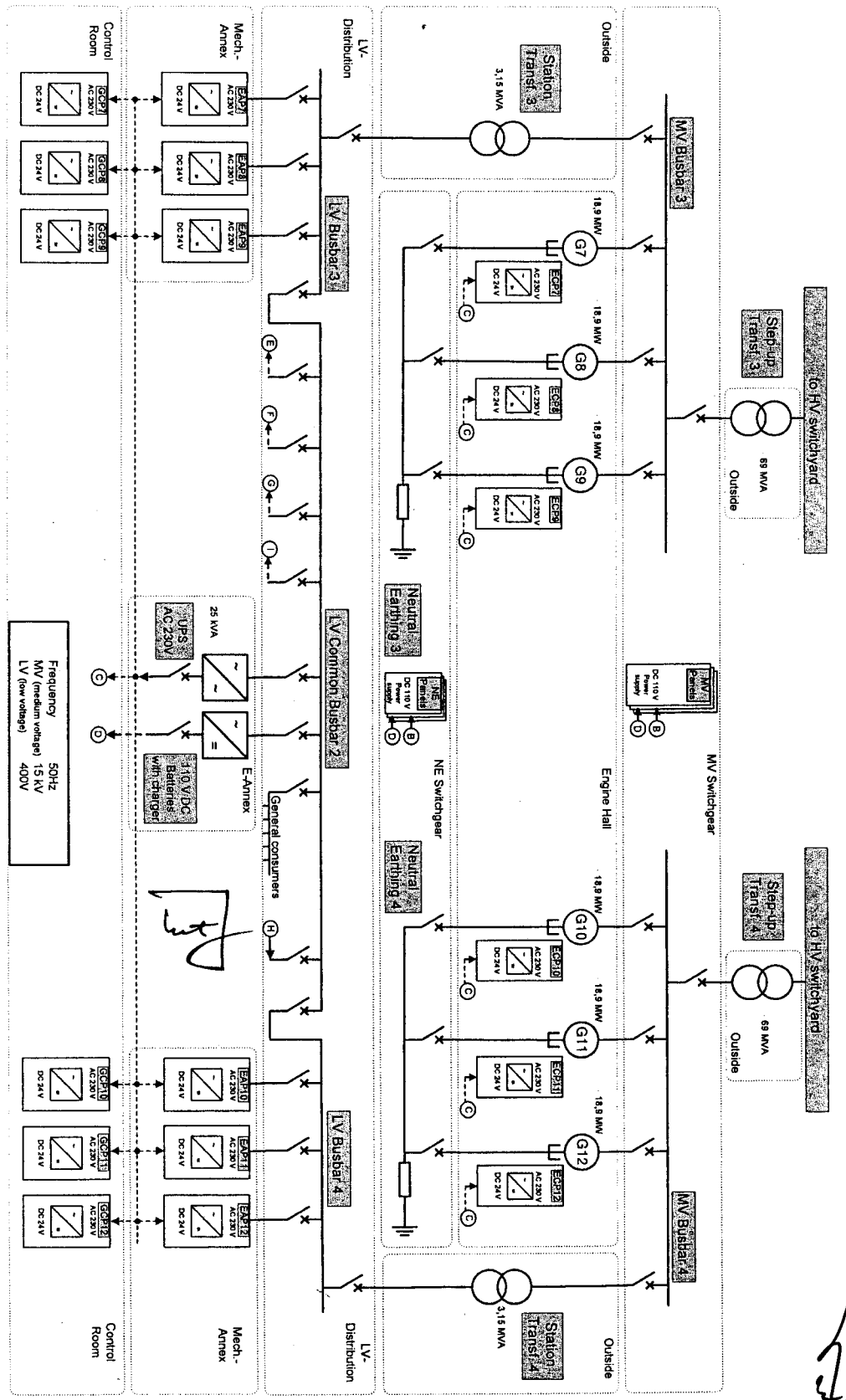
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A	16.07.07	HB	04.01.08	Berdinwether
B	18.09.07	HB		
C	04.02.08	HB		
D			PE+Aug	

Single Line Diagram
 11 x 18V48/60 + 1 x Steam Turbine
 MV+LV Overview

Project Name	HUBCO, Pakistan
Project No.	5300162
Drawing No.	11_99233-0125
Page	1 / 9

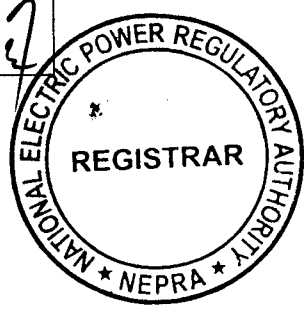


SLD:HV-MV+LV Switchgear HUBCO (Rev. 0) vnd

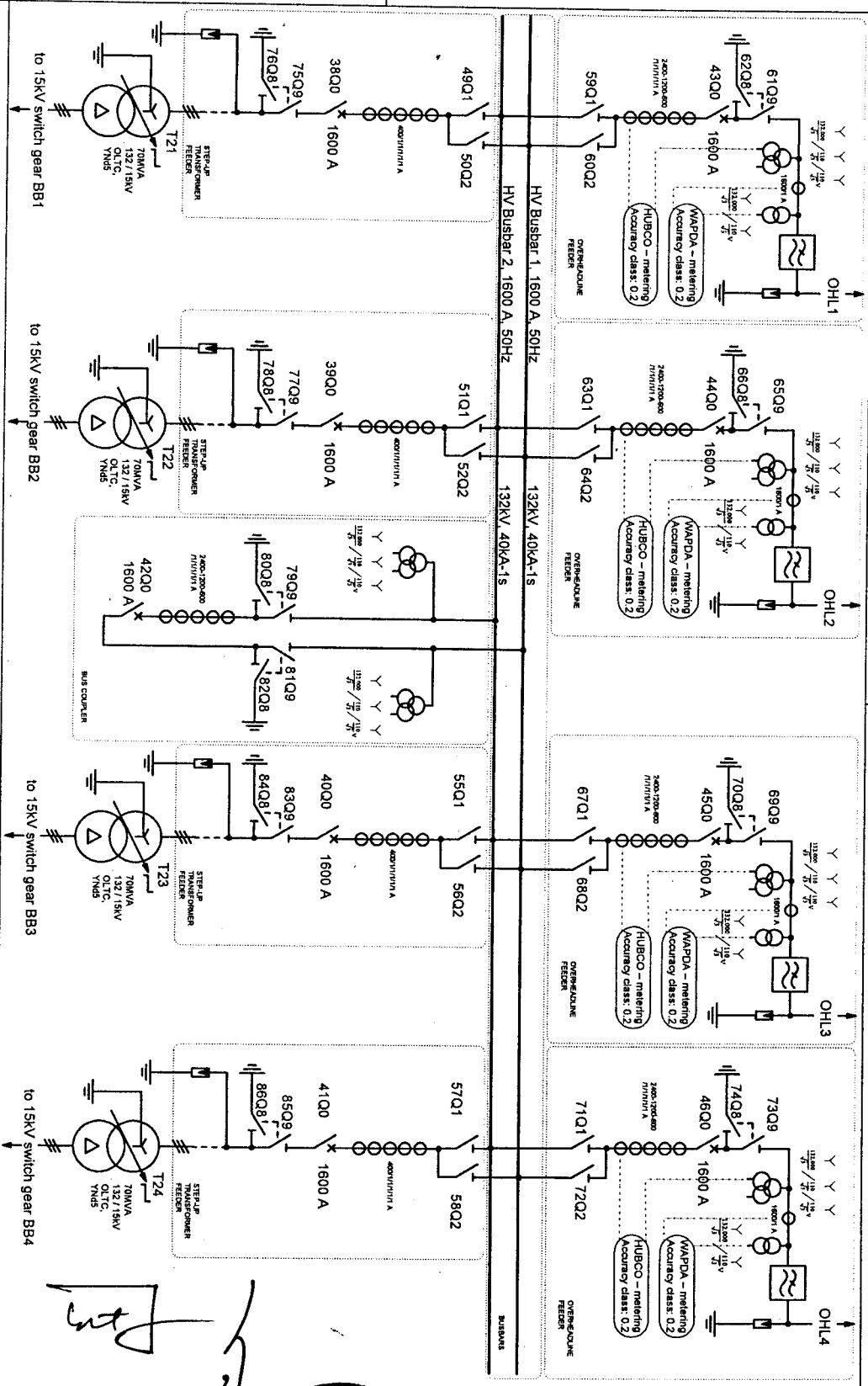


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A	Initial release	16.07.07	HB	
B	Revised version	19.08.07	HB	
C	Revised version	04.02.08	HB	
D			FC+AVG	

Project Name		HUBCO, Pakistan	
Project No.	5300162	Drawing No.	11.99233-0125
Single Line Diagram 11 x 18V48/60 + 1 x Steam Turbine MV+LV Overview		Page 2 / 9	

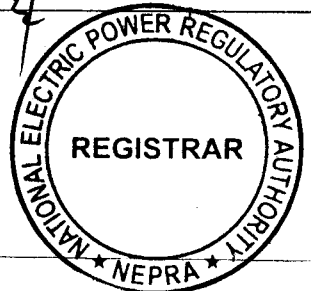


SLD HV/MV/LV Switchgear HUBCO (Rev. C) v02

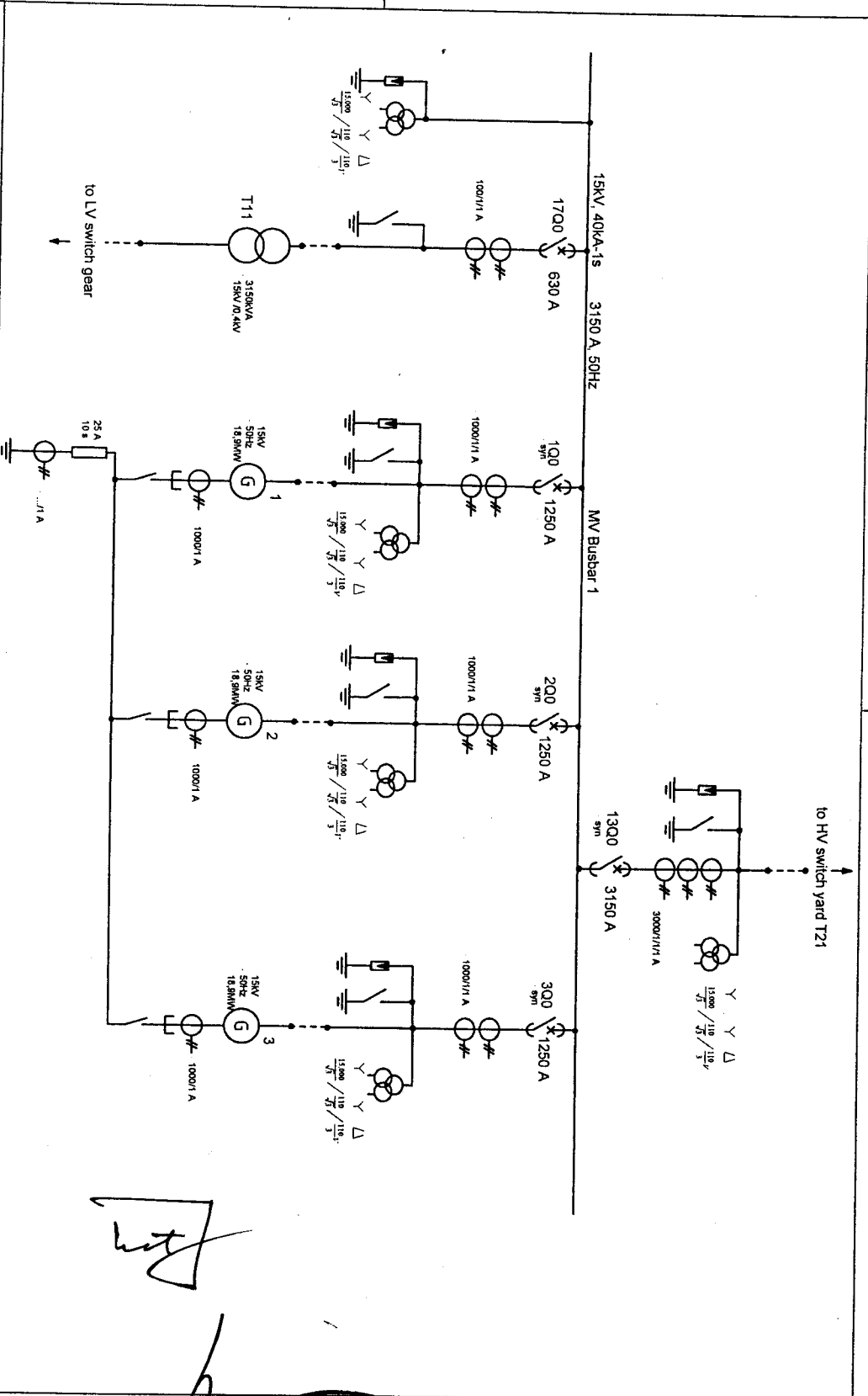


Revision	Date	Init	Date	By	Remarks
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B	Revised version	19.09.07	19.09.07	HB	
C	Revised version	04.02.08	04.02.08	HB	
D				PELAUG	

Single Line Diagram 11 x 18V/48/60B + 1 x Steam Turbine 132 kV Switchyard	
Project Name	HUBCO, Pakistan
Order No.	5300162
Drawing No.	11.99233-0125
Page	3 / 8



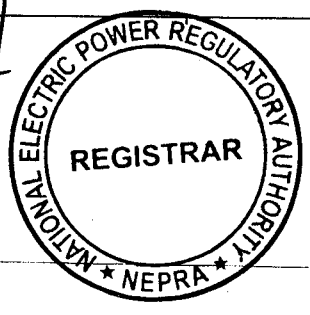
SLD-HV/MV-LV Switchgear HUBCO (Rev. C) v02



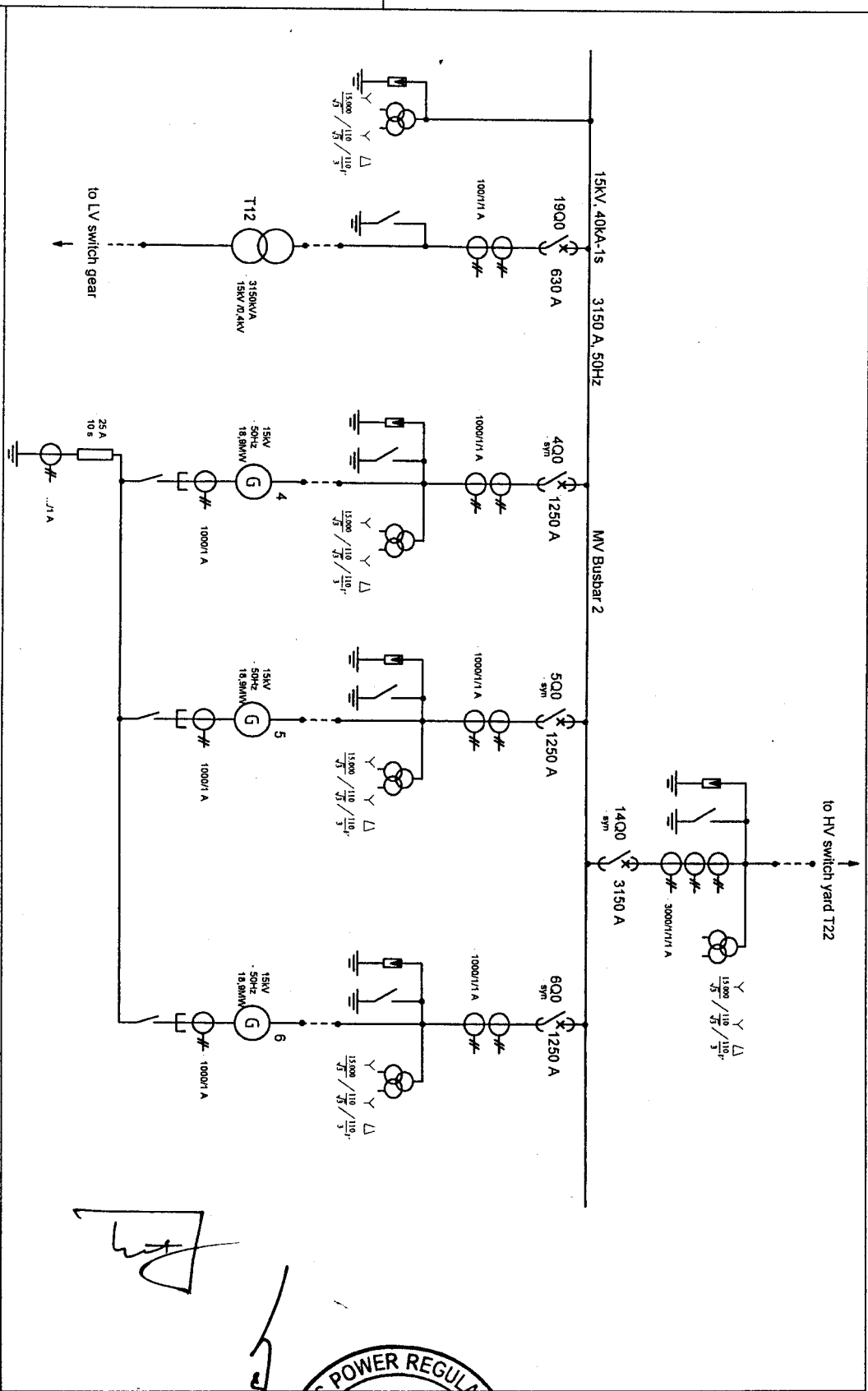
Revision	Date	Init	Date	Name
A	16.07.07	HB		
B	19.08.07	HB	04.02.08	Barchandehar
C	04.02.08	HB		
D				

Single Line Diagram
 11 x 18V/48/60B + 1 x Steam Turbine
 Detail: 15 kV switch gear busbar 1

Project Name
HUBCO, Pakistan
 Order No. 5300162
 Drawing No. 11.99233-0125
 Page 4/8



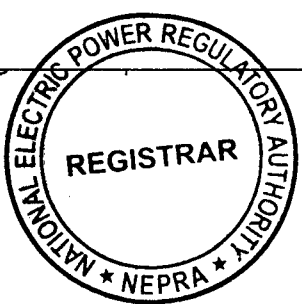
SLD HV/MV/LV Switchgear HUBCO (Rev. 0).vxd



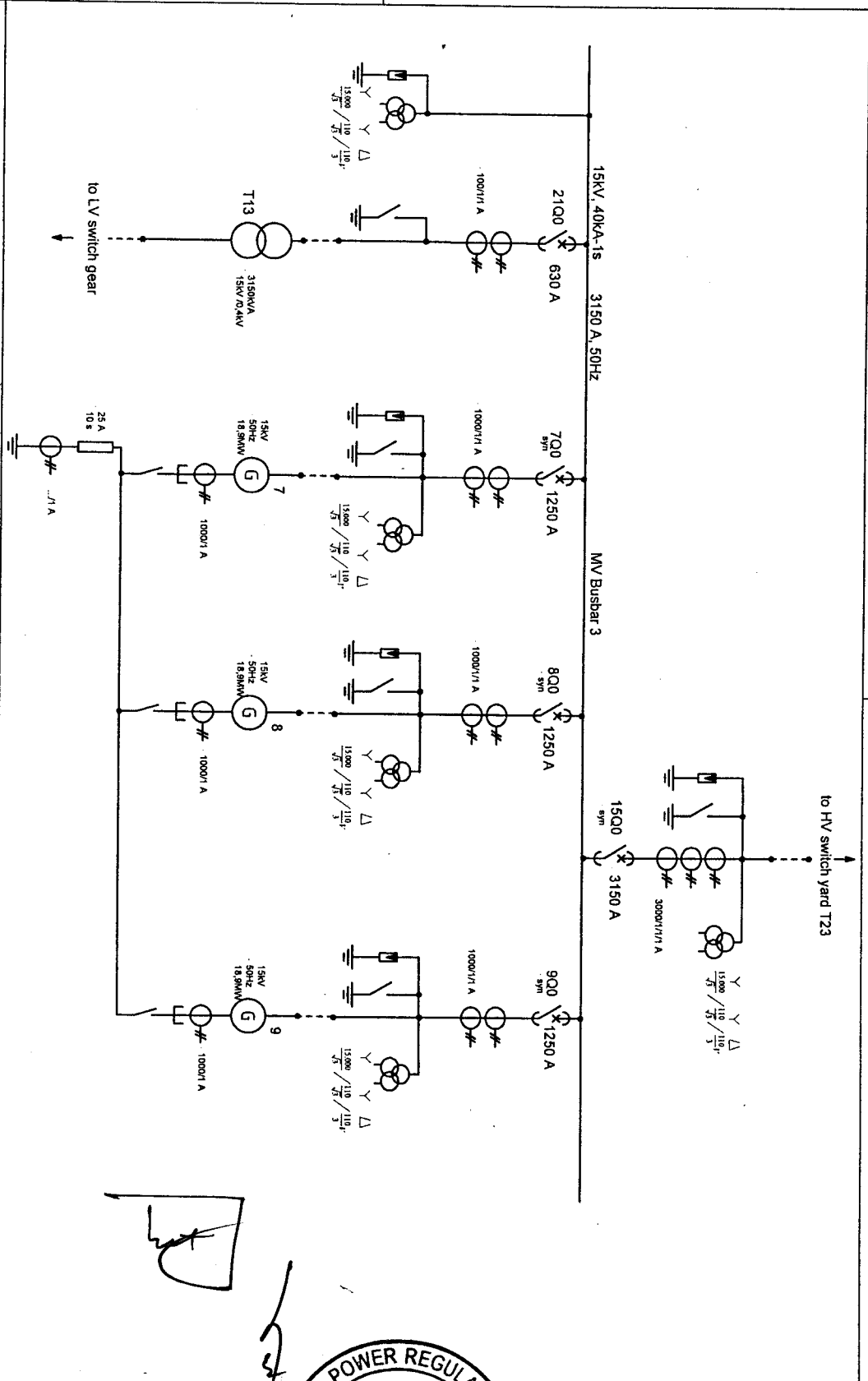
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A	Initial release	16/07/07	HB
B	Revised version	19/09/07	HB
C	Revised version	04/02/08	HB
D	Revised version	04/02/08	PE4-AUG

Single Line Diagram
11 x 18V48/60B + 1 x Steam Turbine
Detail: 15 kV switch gear busbar 2

Project Name	HUBCO, Pakistan
Order No.	5300162
Drawing No.	11.99233-0125
Page	5/8



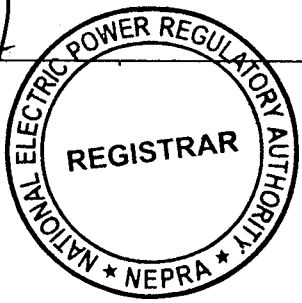
S/D: HV/MV+LV Switchgear HUBCO (Rev. C) v.04



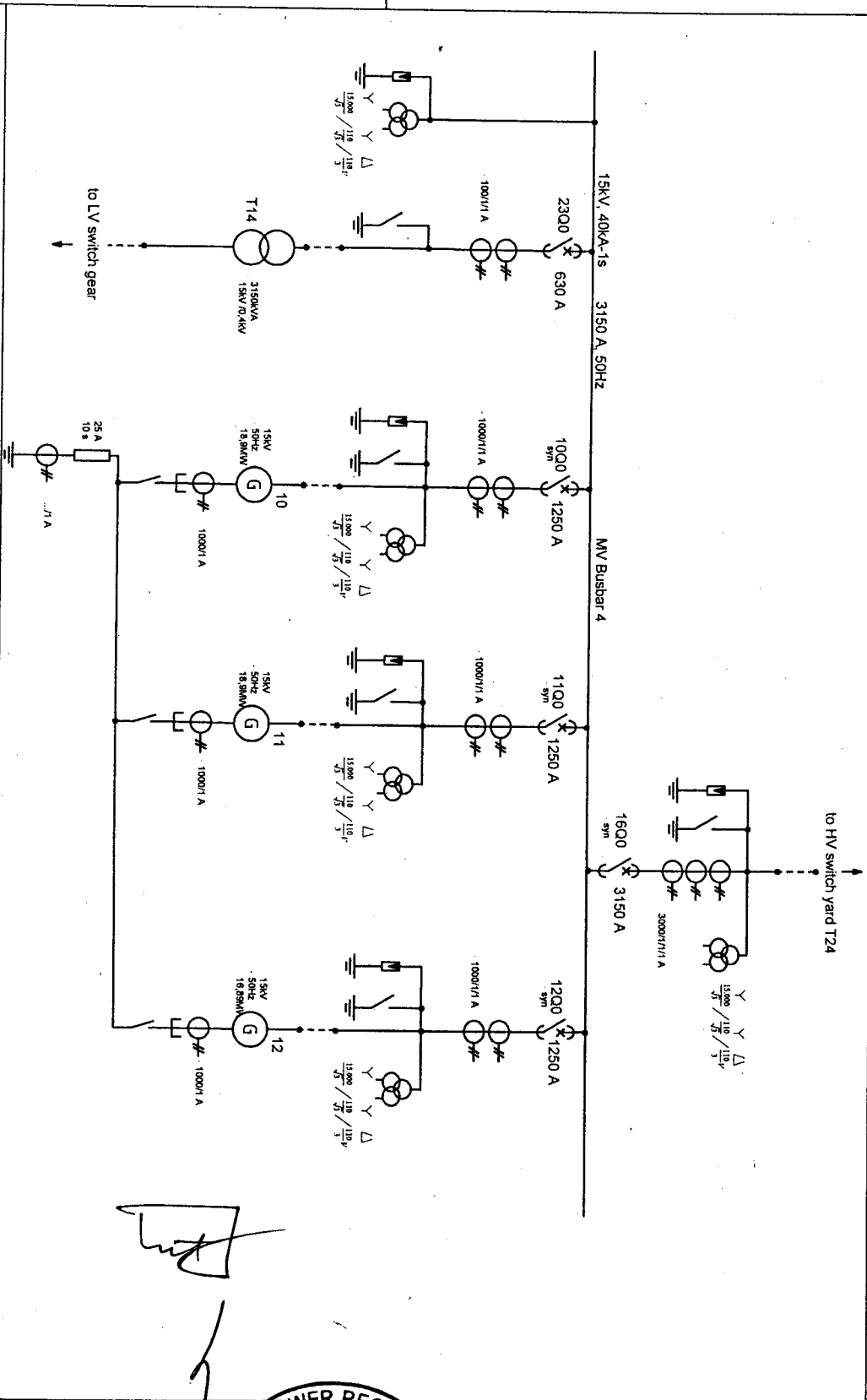
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A	Initial release	16/07/07		HB
B	Revised version	19/08/07	04/02/08	HB
C	Revised version	04/02/08		HB

Project Name: HUBCO, Pakistan
 11 x 18V/48/60B + 1 x Steam Turbine
 Detail: 15 kV switch gear busbar 3

Order No.	5300162	Drawing No.	11.99233-0125	Page	6/9
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S/D H.V./M.V.-LV Switchgear HUBCO (Rev. Cl. yard)

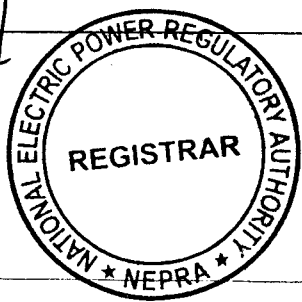


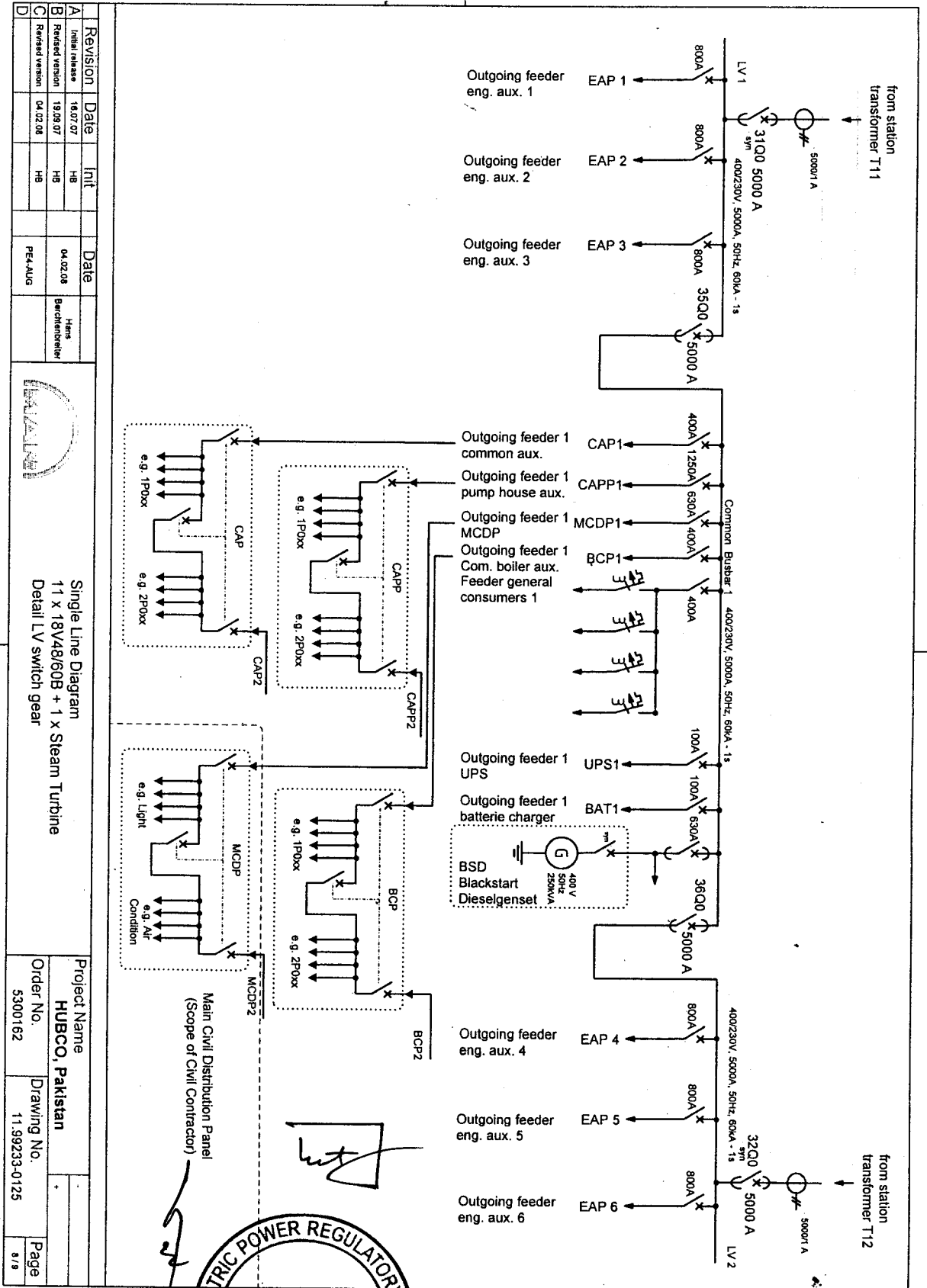
REVISION	Date	Int	Date	Hans
A	Initial release 16.07.07	HB	04.02.08	Berechenhelfer
B	Revised version 19.06.07	HB		
C	Revised version 04.02.08	HB		
D				

Single Line Diagram
 11 x 18V48/60B + 1 x Steam Turbine
 Detail: 15 kV switch gear busbar 4

Project Name	HUBCO, Pakistan
Order No.	5300162
Drawing No.	11.99233-0125
Page	7/8

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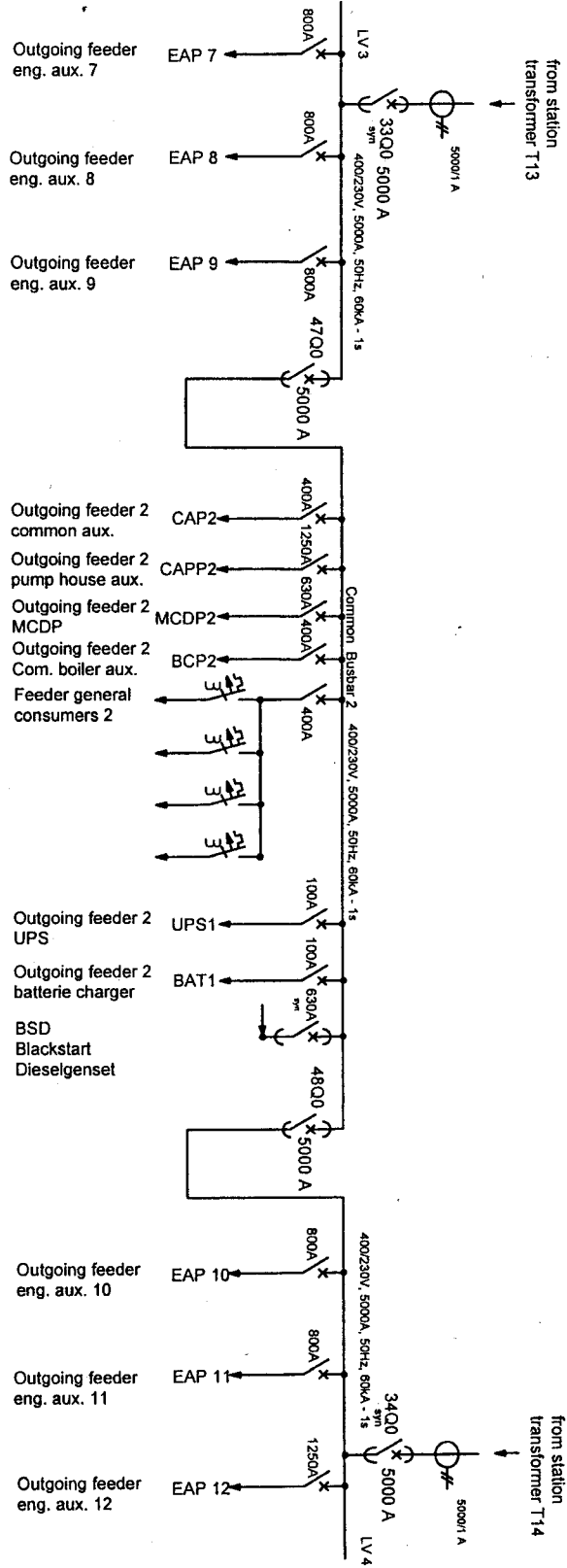
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B	19.08.07	HB	04.02.08	Revised version
C	04.12.08	HB		Revised version
D			PE+Aug	Revised version

Single Line Diagram
11 x 18V48/60B + 1 x Steam Turbine
Detail LV switch gear

Project Name	HUBCO, Pakistan	Order No.	5300162	Drawing No.	11.99233-0125	Page	8/8
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SID:HV-MV-LV-Switchgear-HUBCO (Rev. 0) v8d

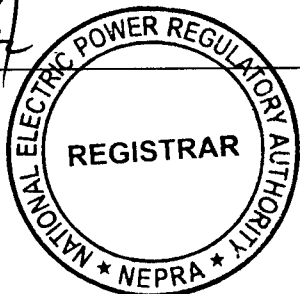


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A	Initial release	16.07.07	HB	
B	Revised version	18.08.07	HB	
C	Revised version	04.02.08	HB	
D	Revised version	04.02.08	PE+Aug	



Single Line Diagram
11 x 18V/48/60B + 1 x Steam Turbine
Detail LV switch gear

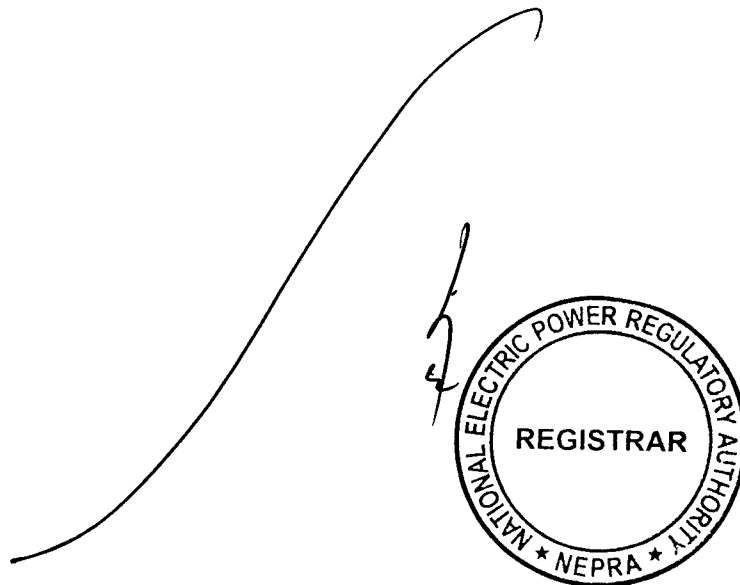
Project Name	HUBCO, Pakistan
Order No.	5300162
Drawing No.	11.99233-0125
Page	9/8



INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT*

The Power of the Power Plant shall be dispersed to system directly within GEPCO load center at 132 KV voltage level as follows:-

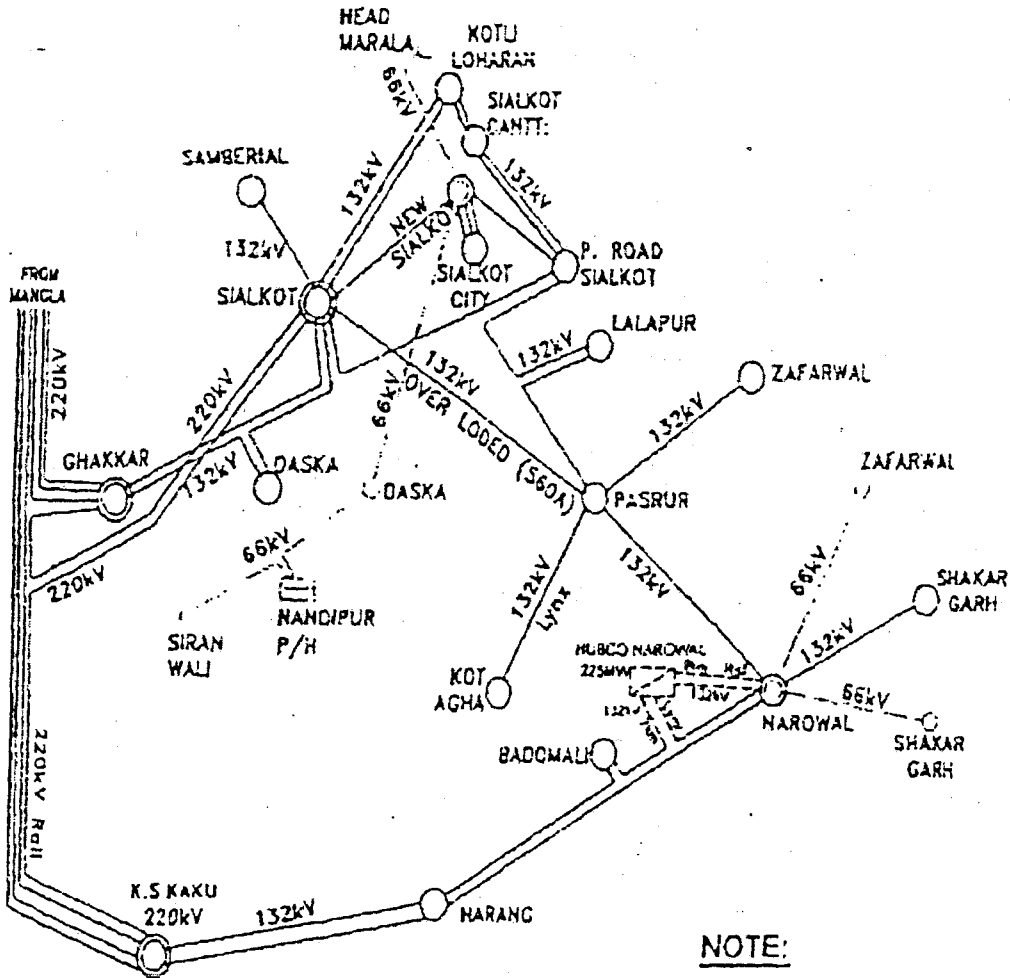
- 132 KV D/C Transmission Line (measuring approximately 9-Km on ACSR Rail Conductor) from HUBCO Power Plant to Narowal Grid Station.
- 132 KV D/C Transmission Line (measuring approximately 2-Km on ACSR Lynx Conductor) for making In-Out of one circuit of existing 132 KV Narowal-Badomali Transmission Line at HUBCO Power Plant.



* As provided in the Interconnection Study (dated November, 2007) for Power Dispersal of HUBCO Narowal carried out by Planning (Power) Department of NTDC and submitted by HUBCO with the Generation Licence application.



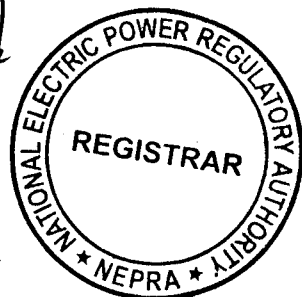
Interconnection Arrangements for Dispersal of Power from the HUBCO Narowal



NOTE:
DOTTED LINES INDICATE SCOPE OF
PROPOSED INTERCONNECTION OPTIONS

ht

2



Plant Details[†]

1. General Information

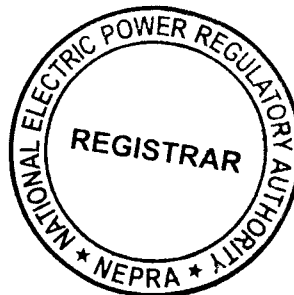
i.	Name of Applicant	The Hub Power Company Limited
ii.	Registered Office	C/o Ferguson Associates (Pvt.) Limited, 27 Capital Shopping Centre, 1 st Floor, G-11 Markaz, Islamabad, Pakistan.
iii.	Business Office	3 rd Floor, Islamic Chamber Building, Block-9, Clifton, Karachi.
iv.	Plant Location	5-KM from Luban Pulli on Main Narowal-Muridke Road (towards Badomalli), District Narowal, Punjab.
v.	Type of Generation Facility	Thermal (Combined Cycle)

2. Plant Configuration

i.	Plant Size Installed Capacity (Gross ISO)	224.79 MW	
ii.	Type of Technology	Reciprocating Engines	
iii.	Number of Units/Size (MW)	Reciprocating Engine	11 x 18.9 MW
		Steam Turbine	1 x 16.89 MW
iv.	Unit Make & Model	Reciprocating Engine	MAN Diesel SE Germany/18V48/60B
		Steam Turbine	G.E./Peter Brotherhood U.K.
v.	De-rated Capacity at Mean Site Conditions	219.15 MW	
vi.	Auxiliary Consumption	5.55 MW	
vii.	Commissioning and Commercial Operation Date (COD)	March 31, 2010	
viii.	Expected Life of the Facility from COD	25 years	

[†] As provided by the Applicant

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3. Fuel Details

i.	Primary Fuel	Residual Fuel Oil (RFO)	
ii.	Back-up Fuel (emergency/Start Up Only)	Light Diesel Oil (LDO)	
iii.	Fuel Source (Imported/Indigenous)	Imported/Indigenous	
iv.	Fuel Supplier	PSO/Shell/Bakri Trading Company Limited	
v.	Supply Arrangement	Through Oil Tankers	
vi.	No of Storage Tanks	Primary Fuel	Back-up Fuel
		3 Tanks	1 Tank
vii.	Storage Capacity of each Tank	Primary Fuel	Back-up Fuel
		10,000 Tons	1,000 Tons
viii.	Gross Storage (total)	Primary Fuel	Back-up Fuel
		30,000 Tons	1,000 Tons

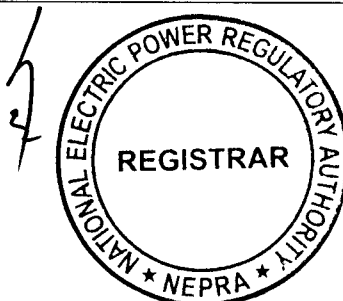
4. Emission Values

i.	SO _x	RFO	LDO
		0.35 Tons/day MW _e	N/A
ii.	NO _x	2,000 mg/Nm ³	-do-
iii.	CO	90 ppm	-do-
iv.	PM ₁₀	70 ppm	-do-

5. Cooling System

i.	Cooling Water Source/Cycle	Underground water from tube well/Closed loop.
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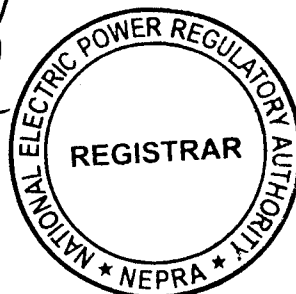


6. Plant Characteristics

i.	Generation Voltage	15 kV
ii.	Frequency	50 Hz
iii.	Power Factor	0.8 lagging to 0.90 leading
iv.	Automatic Generation Control	Yes
v.	Ramping Rate	To be provided later
vi.	Time required to Synchronize to Grid and loading the complex to full load.	To be provided later

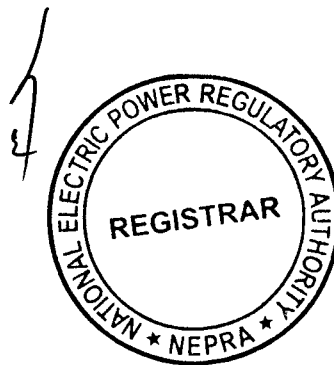
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SCHEDULE-II

The net capacity of the Licensee's Generation Facilities

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SCHEDULE-II*

1.	Installed Capacity Gross ISO	224.79 MW
2.	De-rated Capacity at Mean Site Conditions	219.15 MW
3.	Auxiliary Consumption	5.55 MW
4.	Net Capacity of the Plant at Mean Site Conditions	213.60 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

