



National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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Website: www.nepra.org.pk

Registrar

No. NEPRA/R/LAG-73/ 576-77

June 14, 2005

Chief Executive
Star Power Generation Ltd.
2nd Floor, Plot 90 – W,
Razia Sharif Plaza,
Jinnah Avenue, Blue Area,
Islamabad

Subject: **Grant of Generation Licence IGSP/L/02/2005**
Licence Application No. LAG-73
M/s. Star Power Generation Ltd. (SPGL)

Please refer to your application No. ETA/SPG/J/31(1)/005 dated February 17, 2005 to NEPRA for a Generation Licence.

- Enclosed here is Generation Licence No. IGSP/L/02/2005 granted by the Authority to M/s. Star Power Generation Ltd. 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).
- Please quote above mentioned Generation Licence No. in your future correspondence with the Authority.

DA/as above.



Mahjoob Ahmad Mirza
14.06.05.
(Mahjoob Ahmad Mirza)

Copy for information to Director General, Pakistan Environmental Protection Agency,
44-E, Office Tower, Blue Area, Islamabad.

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

GENERATION LICENCE

No. IGSPL/02/2005

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:

Star Power Generation Ltd.
(Installed Capacity: 133.515 MW Gross ISO)

Incorporated under the Companies Ordinance, 1984
Under Certificate of Incorporation

No. 0000003415/20030801 Dated 11-8-2003

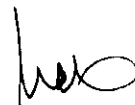
to engage in generation business subject to and in accordance with the Articles of this Licence.

Given under my hand this 14th day of June, Two
Thousand & Five, and expires on 30th day of May, Two
Thousand & Thirty Three.



Registrar





Article 1
Definitions

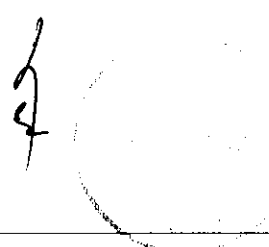
- (1) In this Licence:
- a. "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997);
 - b. "Authority" means the National Electric Power Regulatory Authority constituted under Section 3 of the Act;
 - c. "Licensee" means Star Power Generation Ltd.
 - d. "Rules" means the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000.
- (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

- (1) The location, size, technology, interconnection arrangements, technical limits technical functional specifications and other details specific to the generation facilities of the Licensee are set out in Schedule I to this Licence.
- (2) The net capacity of the generation facilities is set out in Schedule II hereto.



- (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

- (1) The Licence is granted for a term of Twenty Five (25) years after the commercial operation date.
- (2) Unless revoked earlier, the Licensee may, ninety (90) days prior to the expiry of the term of the licence, apply for renewal of the Licence under the Licensing (Application and Modification Procedure) Regulation, 1999.

Article 5

Licence Fee

The Licensee shall pay to the Authority the Licence fee in the amount and manner and at the time specified in the National Electric Power Regulatory Authority (Fee) Rules, 2002.

Article 6

Tariff

The licensee shall charge from its consumers only such tariff which has been approved by the Authority.

Article 7

Competitive Trading Arrangement

- (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 into between the Licensee and another party with the approval of the authority.

- (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

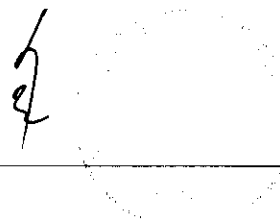
For the purpose of sub-rule (1) of Rule 19 of the Rules, copies of records and data shall be retained in standard and electronic form and all such records and data shall, subject to just claims of confidentiality, be accessible by authorized officers of the Authority.

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.

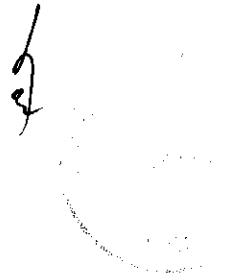
Article 10 Compliance with Environmental Standards

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

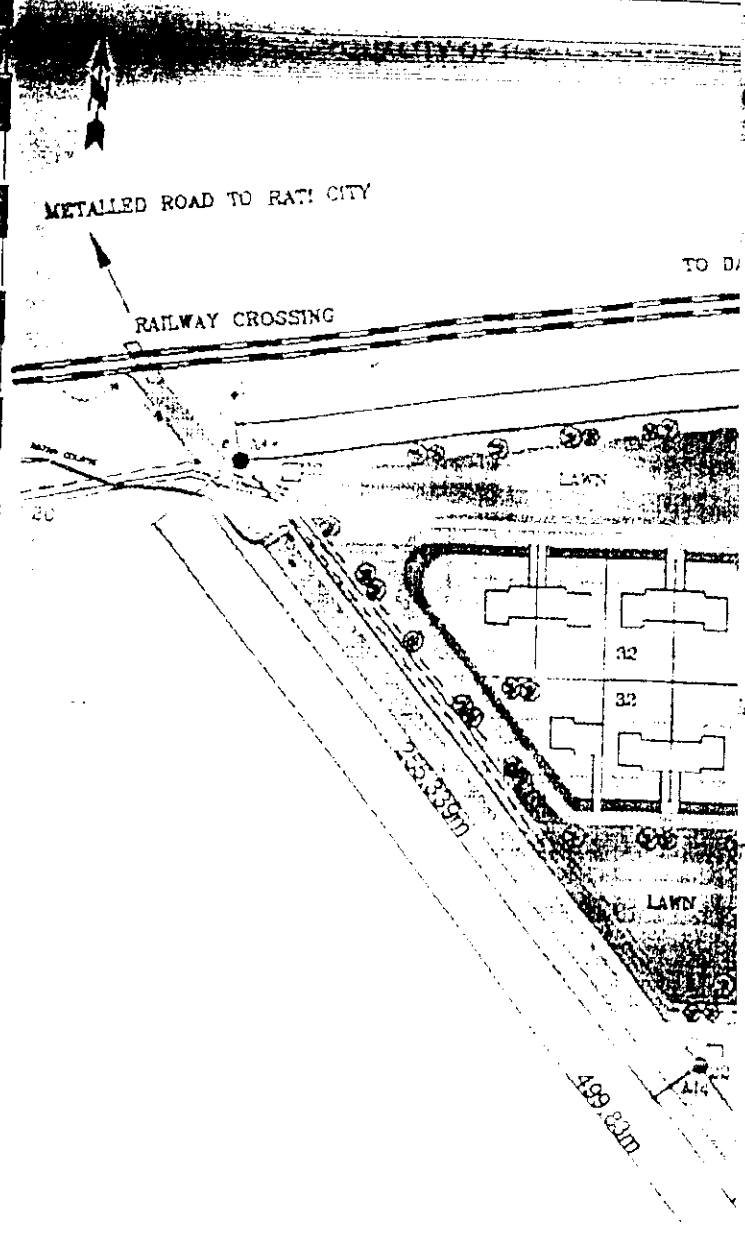
- (1) The obligation of the licensee to provide information to the Authority shall be in accordance with Section 44 of the Act.
- (2) The licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required 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





AMENITIES
 + R-HOUSE
 (29012 Sq. m)

LEGEND:

- 1 GAS TURBINES
- 2 STEAM TURBINE
- 3 MACHINE HALL
- 4 TRANSFORMER
- 5 SWITCHGEAR ROOM
- 6 CONTROL ROOM
- 7 SWITCH YARD
- 8 HSD STORAGE TANKS
- 9 WATER TREATMENT PLANT
- 10 WATER STORAGE TANK
- 11 COOLING TOWERS
- 12 WORK SHOPS
- 12A I & C WORK SHOP
- 13 WARE HOUSE
- 14 GAS STATION
- 15 OFFICE BUILDING
- 16 PARKING
- 17 FIRE FIGHTING
- 18 SERVICE WATER TANK
- 19 WASTE WATER TREATMENT PLANT
- 20 WATER SUPPLY PIPELINE ROUTE
- 21 GAS SUPPLY PIPELINE ROUTE
- 22 SECURITY POST
- 23 OVERHEAD WATER TANK
- 24 WATER BODY / FOUNTAIN
- 25 REST HOUSE
- 26 COMMUNITY CENTRE/OFFICERS' CLUB
- 27 MOSQUE
- 28 SHOPS
- 29 POST OFFICE & TELE. EXCHANGE
- 30 PLANT MANAGER'S RESIDENCE
- 31 SR. OFFICERS' RESIDENCES (3 NOS)
- 32 OFFICERS' RESIDENCES (7 NOS.)
- 33 OFFICERS' HOSTEL (10 ROOMS)
- 34 JUNIOR STAFF HOSTEL (30 ROOMS)
- 35 JUNIOR STAFF QUARTERS (24 NOS)
- 36 COMMUNITY HALL (JR. STAFF)
- 37 COMPRESSOR PLANT
- 38 DIESEL GENERATOR AGGREGATE

Legend:

- Electric Pole
- Water Course
- Road
- Foot Path
- Tree
- Canal

Note:

1. Marii Gas Well No. 65 and 63 are the reference stations for this survey
 Coordinates of Well No. 65 L 62
 Well No. 65 E 2308873296m N 1143714156m Z 72167m
 Well No. 63 E 2309124258m N 1142799352m Z 72167m
 2. Orientation is magnetic north

ETA L.L.C

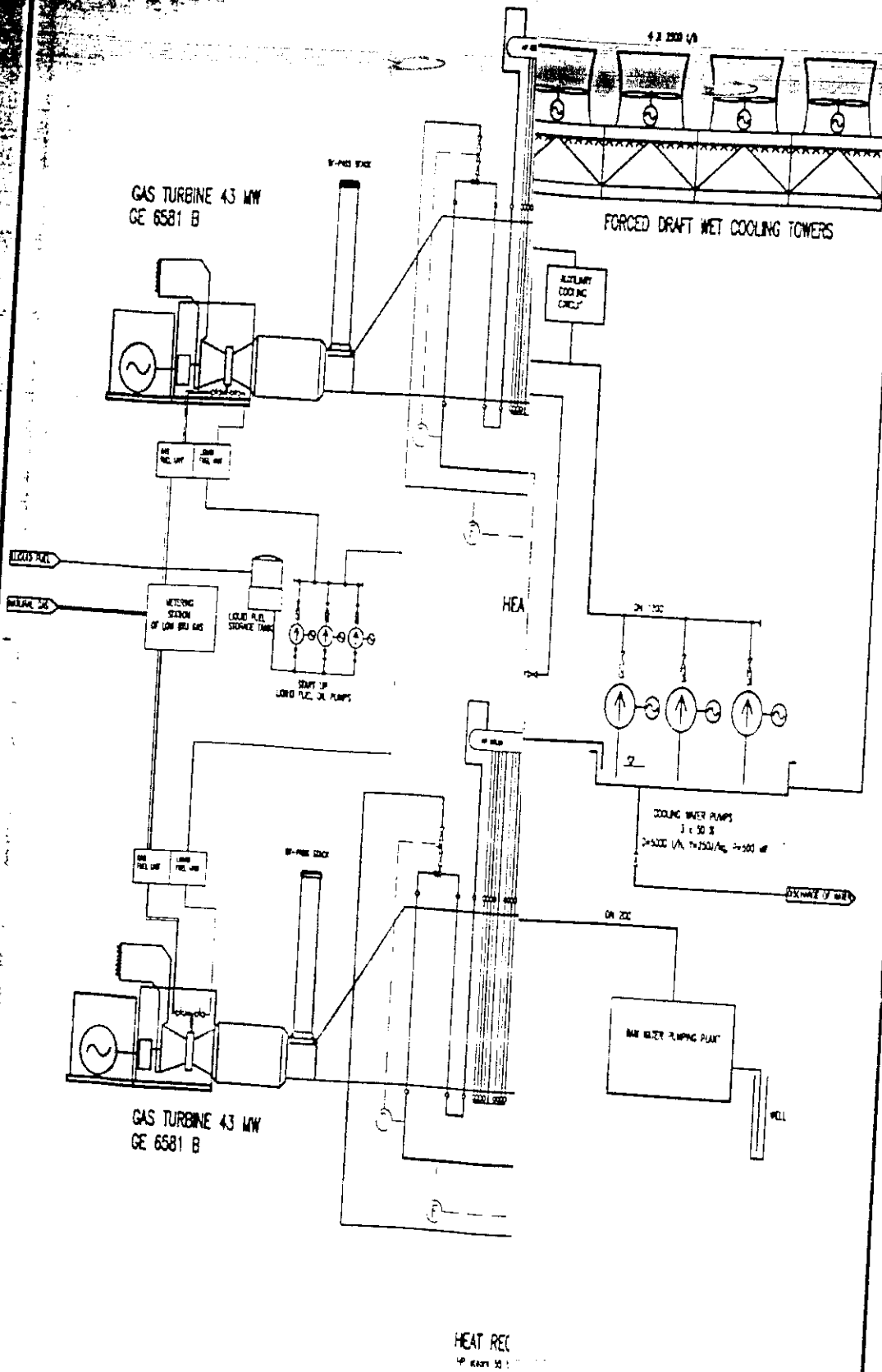
123 MW COMBINED CYCLE POWER PLANT
 BASED ON MARI DEEP GAS

GENERAL LAYOUT PLAN

PAKISTAN ENGINEERING SERVICES (PVT.) LTD.
 IN ASSOCIATION WITH
 FICHTNER CONSULTING ENGINEERS, GERMANY
 198 T. COMMERCIAL AREA, PHASE-III, D.H.A. LAHORE

DESIGNED BY	DATE	SCALE
CHECKED BY	DATE	SCALE
APPROVED BY	DATE	SCALE

FIG. 8.12

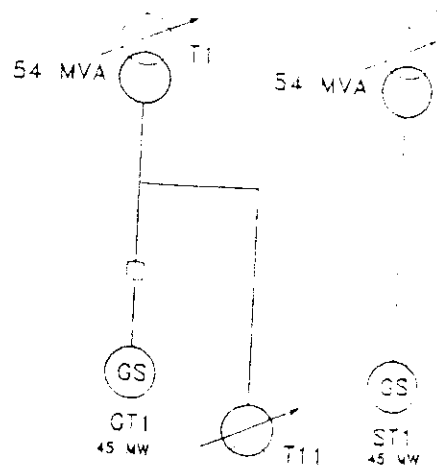


Flow Diagram

POWER SUPPLY TO RESIDENTIAL COLONY
 CAPACITY OF UNIT TRANSFORMERS T1, T2 & T3
 CLOSE TO 54 MW IN VIEW OF CAPACITY OF
 PRODUCTS .

RECOMMENDATION

DA'S 11KV DISTRIBUTION SYSTEM.

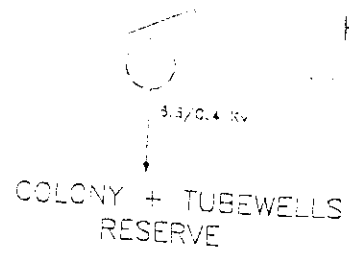


COMMISSIONING OF 123 MW CCPP
 SERVICES THROUGH OPTION 1 OR 2
 OPTION 1 IS PREFERABLE

3 PHASE 50 Hz, 6.6KV

132 KV.
 11-11.5 KV.
 6.6 KV.

HOME CON



123MW CCPP MARI DEEP

SINGLE LINE DIAGRAM

PAKISTAN ENGINEERING SERVICES PRIVATE LTD

EYED SHANAR KHAN
 MANZOOR AHMED KHAN
 JAMIL ANWER

FIGURE NO.
 3.15

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PLANT DETAILS

- | | | |
|----|-------------------|---------------------------------------|
| 1. | Name of Applicant | Star Power Generation Ltd. |
| 2. | Registered Office | H. No. 6-A, St. 42, F-7/1, Islamabad. |
| 3. | Plant Location | Near Daharki, Sindh |
| 4. | Type of Facility | Thermal (Combined Cycle) |

Plant Configuration

- | | | |
|-----|----------------------|--|
| 5.a | Plant size | 133.515 MW(GROSS ISO) |
| 5.b | Type of Technology | Combined Cycle Technology |
| 5.c | Number of Units/Size | (i) Two Gas Turbines (44.122 MW each)

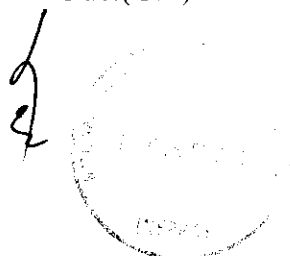
(ii) One Steam Turbine (45.271MW) |
| 5.d | Unit Make and Model | (i) Gas Turbines: PG 6581 B General Electric Make

(ii) Steam Turbine: GE Make |
| 5.e | Commissioning Date | Anticipated in May 2008 |

Fuel Use

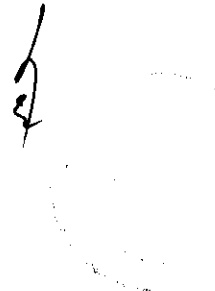
- | | | |
|------|-----------------------------|---|
| 6.a. | Fuel Type | Low BTU Gas |
| 6.b | Fuel (imported/ indigenous) | Indigenous |
| 6.c | Fuel Supplier | Mari Gas Company Ltd. |
| 6.d | Supply Arrangement | Supply from the Gathering Station in the vicinity of Deep Well No. 6. |
| 6.e | No. of Tanks | Not Applicable for Primary Fuel(Gas) |

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Plant Characteristics

14.a	Generation Voltage	At 11 kV to step up to 132 kV for interconnection
14.b	Frequency	50 Hz
14.c	Power Factor	0.8 - 0.9
14.d	Automatic Generation Control	To be discussed as part of PPA
14.e	Ramping Rate	To be discussed as part of PPA
14.f	Alternative Fuel	Fuel availability is throughout the year. No alternative fuel is required.
14.g	Auxiliary Consumption	4.0651 MW (at ISO condition)
14.h	Time Required to Synchronize to Grid	Preliminary Estimate: 30 minutes

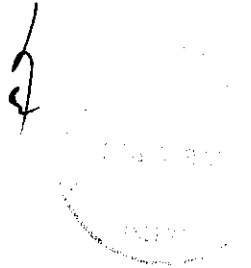


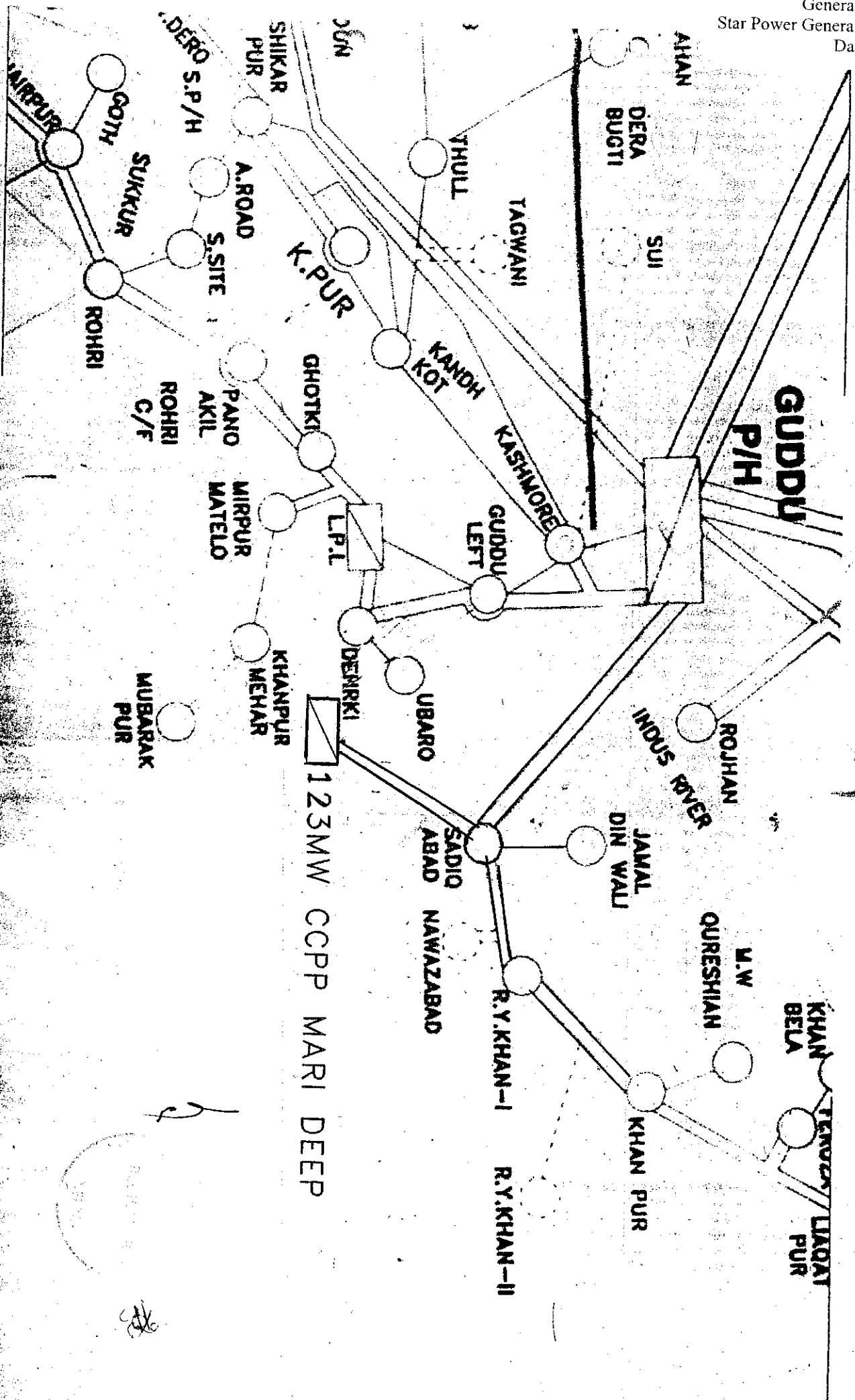
INTERCONNECTION SCHEME FOR THE POWER DISPERSAL OF THE PLANT

The power of the power plant shall be dispersed to system 132 kv voltage level as follows

“A direct 132 kv double circuit transmission line (approximately 60 km long) on ‘Rail’ conductor from Jarwar power plant to Sadiqabad grid station.”

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SCHEDULE –II

- The net capacity of the licensee's generation facilities

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SCHEDULE II

1.	GROSS INSTALLED CAPACITY (MW)	=	133.515 MW
2.	DERATED CAPACITY (MW)	=	129.72 MW
3.	AUXILIARY CONSUMPTION (MW)	=	4.0651 MW
4.	NET CAPACITY OF THE PLANT (MW)	=	125.84 MW

Note: Net Capacity - These are indicative figures only 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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