



# National Electric Power Regulatory Authority

## Islamic Republic of Pakistan

**Registrar**

NEPRA Tower, Ataturk Avenue(East), G-5/1, Islamabad  
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Web: www.nepa.org.pk, E-mail: registrar@nepa.org.pk

No. NEPRA/R/LAG-258/12156-61

September 29, 2014

Muhammad Hanif Aziz  
Company Secretary  
Mehran Sugar Mills Limited  
Executive Tower, Dolmen City  
14-B, 14<sup>th</sup> Floor, HC-3, Block-4  
Marine Drive, Clifton  
Karachi-75600

Subject: **Generation Licence No. SGC/106/2014**  
**Licence Application No. LAG-258**  
**Mehran Sugar Mills Limited (MSML)**

Reference: Your letter No. 01 dated April 24, 2014 (received on 05.05.2014).

Enclosed please find herewith Determination of the Authority in the matter of Generation Licence Application of MSML along with Generation Licence No. SGC/106/2014 annexed to this determination granted by the National Electric Power Regulatory Authority to ASMPL for its 14.06 MW Baggasse based generation facility located at Deh Daro Sutha, Tando Adam Road, District Tando Allahyar, Sindh, 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: **Generation Licence**  
**(SGC/106/2014)**



  
(Naweed Hlahi Sheikh)

Copy to:

1. Chief Executive Officer, Alternative Energy Development Board (AEDB), 2<sup>nd</sup> Floor, OPF Building, G-5/2, Islamabad.
2. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore
3. Chief Operating Officer, CPPA, 107-WAPDA House, Lahore
4. Chief Executive Officer, Hyderabad Electric Supply Company (HESCO), WAPDA Water Wing Complex, Hussainabad, Hyderabad
5. Director General, Pakistan Environmental Protection Agency, Plot No. 41, Street No. 6, H-8/2, Islamabad.

**National Electric Power Regulatory Authority**  
**(NEPRA)**

**Determination of the Authority**  
**in the Matter of Generation Licence Application of**  
**Mehran Sugar Mills Limited**

**September 19, 2014**  
**Case No. LAG-258**

**(A). Background**

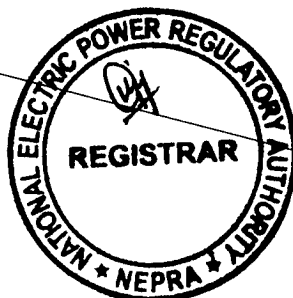
(i). Mehran Sugar Mills Limited (MSML) is Maintaining and Operating a 14.06 MW Captive Power Plant (CPP) as part of its sugar mill, operating on Bagasse which is located at Deh Daro Sutha, Tando Adam Road, District Tando Allahyar in the Province of Sindh.

(ii). MSML offered the Distribution Company of its Area for supplying surplus electric power from its CPP. According to the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the NEPRA Act), MSML is required having a Generation Licence.

**(B). Filing of Generation Licence Application**

(i). MSML in accordance with Section 15 of the NEPRA Act filed an application on May 05, 2014 requesting for the grant of Generation Licence. During the preliminary scrutiny of the application, it was found that the submitted application was deficient in terms of NEPRA Licensing (Application & Modification Procedure) Regulations, 1999 (the Regulations).

(ii). Accordingly, MSML was directed for submitting the missing information/documents as stipulated in the Regulations. MSML, finally completed the submission of the required documentation/information through its correspondence of June 03, 2014. After the completion of the information, the



Authority admitted the application for the consideration of grant of the Generation Licence on June 17, 2014 in terms of Regulation 7 of the Regulations.

(iii). Pursuant to Regulation-8 of the Regulations, a Notice of Admission (NoA) consisting of the brief of the Prospectus and other salient features of the application was published in daily newspapers of June 26-27, 2014, seeking comments from interested/affected parties and general public.

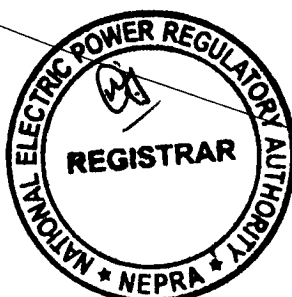
(iv). Apart from the NoA in the press, separate notices were also sent to experts, Government Ministries and Representative Organizations etc. through this office letters dated June 30, 2014 inviting their views and comments in the matter.

**(C). Comments of Stakeholders**

(i). In reply to the above, the Authority received comments from four (04) stakeholders. These included Hyderabad Electric Supply Company Limited (HESCO), Central Power Purchasing Agency (CPPA) of National Transmission & Despatch Company Limited (NTDC), Ministry of Petroleum & Natural Resources (MoP&NR) and Ministry of Water & Power (MoW&P).

(ii). The salient points of the comments offered by the above stakeholders are summarized in the following paragraphs:-

- (a). HESCO submitted that MSML has offered it sale of surplus power to the tune of 5.00 MW. The offered power would be connected with 132 KV Tando Allahyar Grid Station through 11 KV Feeder(s). MSML has assured supplying power using Bagasse as fuel on seasonal basis. HESCO has no reservation to the grant of Generation Licence to MSML;

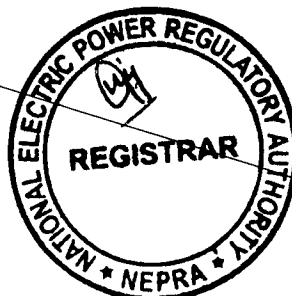


- (b). CPPA supported the request of MSML for grant of Generation Licence as the same would provide comfort to HESCO during prevailing power shortages in the country. CPPA expressed its no reservation for grant of the Generation Licence to MSML subject to meeting of all the conditions laid down in the NEPRA Rules;
- (c). MoP&NR remarked that MSML intends to install Bagasse Fired Thermal Power Station and, as such, no gas is required for utilization in this Project. Therefore, this Ministry has no objections/comments for the grant of Generation Licence to MSML; and
- (d). MoW&P commented that the proposal of MSML is in line with Policy of Govt. of Pakistan therefore, the Authority may process the Generation Licence application as per provisions of the NEPRA Act/Rules"

(iii). The Authority considered the above comments of the stakeholders and found the same supportive. In view of the said, the Authority decided to proceed further in the matter in terms of the Regulations and NEPRA Licensing (Generation) Rules 2000 (the Rules) for the consideration of grant of the Generation Licence.

**(D). Grant of Generation Licence**

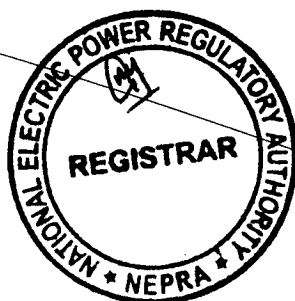
(i). The Authority considers that availability of sufficient electricity at affordable prices with a reasonable mix of Hydel, Thermal and other RE is imperative for the sustainable economic development of the country. The country is currently facing severe shortage of electricity thus hampering the economic activities.



(ii). The Authority is well aware of the fact that installation of new power plants requires a considerable lead time. Therefore, the Authority considers it appropriate that in the short term period, the dormant capacity available with various Industrial Units (including Textile, Chemical and Sugar Mills) is brought into the National Grid. In the present case, MSML has offered to sell upto 5.00 MW Bagasse based surplus electric power from its CPP to HESCO.

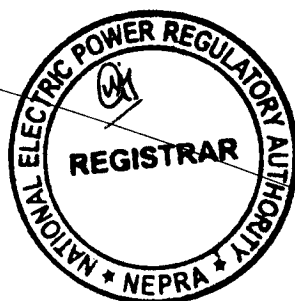
(iii). The Authority considers the above offer of MSML reasonable as significant amount of low cost RE will be available to HESCO in the shortest possible time during the period of low hydel generation. Further, being located close to the cities of Tando Adam, Shahdampur and Hyderabad and its surrounding areas, the proposed arrangement will also help HESCO in mitigating the shortfall of electricity, enabling it supplying electric power to its consumers.

(iv). According to Rule 5(1) of the Rules, except where an applicant for a Generation Licence consents to a shorter term, the term of a Generation Licence shall commensurate with the maximum expected useful life of the units comprised in a generation facility. The facility of MSML consists of five (05) Steam Turbines. The latest unit of the said generation facility of MSML was commissioned in 2012. MSML has estimated the useful life of this unit to be fifty (50) years from Commercial Operation Date (COD) and has requested that this may be taken as a bench mark in determining the term of its proposed Generation Licence. The Authority considers that the normal operating life of a Steam Turbine is taken as 30-35 years based on round the year operation. However, in sugar industry the Steam Turbines are operated upto a maximum of 4-5 months in a year during the crushing season. In view of the said, the Authority is of the considered opinion that a Steam Turbine installed in a sugar industry may have a useful life of more than fifty (50) years if maintained properly. However, MSML has consented to a shorter term therefore, the Authority sets the term of the Generation Licence to twenty (20) years from the date of its issuance.



(v). Regarding the Tariff, it is hereby clarified that under Section 7(3)(a) of the NEPRA Act, the determining of tariff, rate and charges etc. is the sole responsibility of the Authority. In terms of Section 31 of the NEPRA Act read with relevant provisions of the NEPRA (Tariff Standards and Procedure) Rules, 1998 a Generation Company may file a Tariff petition for determination of its Generation Tariff. Further, in terms of Section 32 of the NEPRA Act read with relevant provisions of the NEPRA Interim Power Procurement (Procedures and Standards) Regulations, 2005, a Generation Company may approach a Transmission or Distribution company for filing a Power Acquisition Request (PAR) and for negotiating a Power Acquisition Contract (PAC). In this particular case, MSML has confirmed that after the grant of Generation Licence it will be approaching HESCO for filing a PAR with the Authority. Further, a PAC will be negotiated with and filed with the Authority for its approval. In view of the said, the Authority directs MSML to approach HESCO for filing a PAR. The Authority directs MSML to charge only such tariff from the Power Purchaser which has been determined, approved or specified by the Authority as stipulated in Rule-6 of the Rules.

(vi). The generation facility of MSML for which Licence has been sought, is a Conventional Steam Turbine Power Plant mainly using Baggase as fuel to be burned in low pressure boiler. Baggase is a RE source which does not cause pollution however, the operation of the CPP and the sugar mill may cause some other type of pollution including Soil Pollution, Water Pollution and Noise Pollution. The Authority has considered these aspects and has made MSML obligatory to comply with the required rules and regulation on environment. Further, the Authority instructs MSML for submitting the required No Objection Certificate from Environmental Protection Agency of Govt. of Sindh (EPA, Sindh) in due course of time. In this Regard, the Authority directs MSML for submitting the proof of filing of the Initial Environmental Examination-IEE or Environmental Impact Assessment-EIA with EPA, Sindh within thirty (30) days of issuance of this Determination. Further, the Authority directs MSML to submit a quarterly report

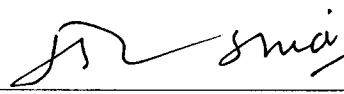


confirming that the operation of its CPP is compliant with required Environmental Standards of the EPA, Sindh.

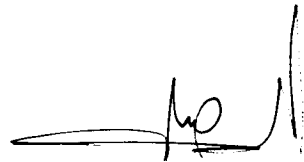
(vii). In view of the above, the Authority hereby decides to approve the grant of the Generation Licence to MSML on the terms and conditions set out in the Generation Licence annexed to this determination. The grant of Generation Licence will be subject to the provisions contained in the NEPRA Act, relevant rules and regulations framed there under.

**Authority**

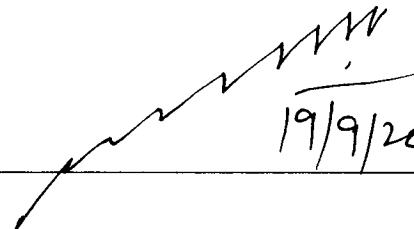
Maj. (R) Haroon Rashid  
Member

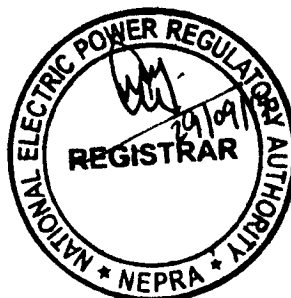
 19/9/14

Khawaja Muhammad Naeem  
Member

 22/9/14

Habibullah Khilji  
Member/Vice Chairman

 19/9/20/4



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

**GENERATION LICENCE**

**No. SGC/106/2014**

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, the Authority hereby grants a Generation Licence to:

**MEHRAN SUGAR MILLS LIMITED**


Incorporated under the Companies Act 1913  
Certificate of Incorporation No. KAR. 1908 of 1965-1966,  
dated December 22, 1965

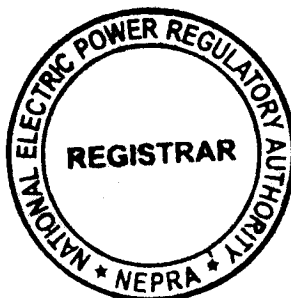
for its Bagasse based Generation Facility Located at Deh Daro Sutha, Tando  
Adam Road, District Tando Allahyar in the Province of Sindh

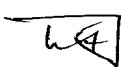
(Installed Capacity: 14.06 MW Gross Total)

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

Given under my hand this 29<sup>th</sup> day of September Two Thousand & Fourteen and expires on 28<sup>th</sup> day of September Two Thousand & Thirty Four.

  
Registrar 29/09/14









**Article-1**  
**Definitions**

1.1 In this Licence

- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997;
- (b). "Authority" means the National Electric Power Regulatory Authority constituted under section 3 of the Act;
- (c). "Bus Bar" means a system of conductors in the generation facility of the Licensee on which the electric power of all the generators is collected for supplying to the Power Purchaser;
- (d). "Carbon Credits" mean the amount of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases not produced as a result of generation of electric power by the generation facility of the Licensee and other environmental air quality credits and related emissions reduction credits or benefits (economic or otherwise) related to the generation of electric power by the generation facility, which are available or can be obtained in relation to the generation facility;
- (e). "CPPA" means "the Central Power Purchasing Agency of NTDC" or any other entity created for the like purpose;
- (f). "Energy Purchase Agreement" means the energy purchase agreement to be entered into by and between the Power Purchaser and the Licensee, for the purchase and sale of electric energy generated by the generation facility, as may be amended by the parties thereto from time to time;



- (g). "HESCO" means "Hyderabad Electric Supply Company Limited and its successors or permitted assigns;
- (h). "Licensee" means **Mehran Sugar Mills Limited** and its successors or permitted assigns;
- (i). "NTDC" means "the National Transmission and Despatch Company Limited and its successors or permitted assigns";
- (j). "Policy" means "the Policy for Development of Renewable Energy for Power Generation, 2006 of Government of Pakistan" as amended from time to time;
- (k). "Power Purchaser" means NTDC (through CPPA) on behalf of XW-DISCOs or any XW-DISCO which purchases electricity from the Licensee, pursuant to an Energy Purchase Agreement for procurement of electricity;
- (l). "Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000; and
- (m). "XW DISCO" means "an Ex-WAPDA distribution company engaged in the distribution of electric power"

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 generation facility of the Licensee are set out in Schedule-I of this Licence.

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

**Article-4**  
**Term of Licence**

4.1 This Licence is granted for a term of twenty (20) years from the date of its issuance.

4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of this Licence under the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 (as amended or replaced from time to time), within ninety days (90) days prior to the expiry of the term of this Licence.

**Article-5**  
**Annual Licence Fee**

After the grant of the Generation Licence, the Licensee shall pay to the Authority annual licence fee, in the amount, manner and at the time set out in the National Electric Power Regulatory Authority (Fees) Rules, 2002.

**Article-6**  
**Tariff**

The Licensee shall charge only such tariff which has been determined, approved or specified by the Authority in terms of Rule-6 of the Rules.



**Article-7**  
**Competitive Trading Arrangement**

7.1 The Licensee shall participate in such manner 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.

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 comply with the relevant provisions of the National Electric Power Regulatory Authority Performance Standards (Generation) Rules 2009 as amended from time to time.

**Article-10**  
**Compliance with Environmental & Safety Standards**

The Licensee shall comply with the environmental and safety standards as may be prescribed by the relevant competent authority from time to time.



**Article-11**  
**Power off take Point and Voltage**

The Licensee shall deliver power to the Power Purchaser at the outgoing bus bar of its generation facility at 11 KV voltage. The up-gradation (step up) of generation voltage up to 11 KV will be the responsibility of the Licensee.

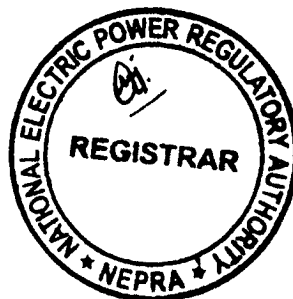
**Article-12**  
**Provision of Information**

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

12.2 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.

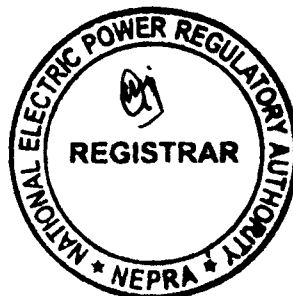
**Article-13**  
**Carbon Credits**

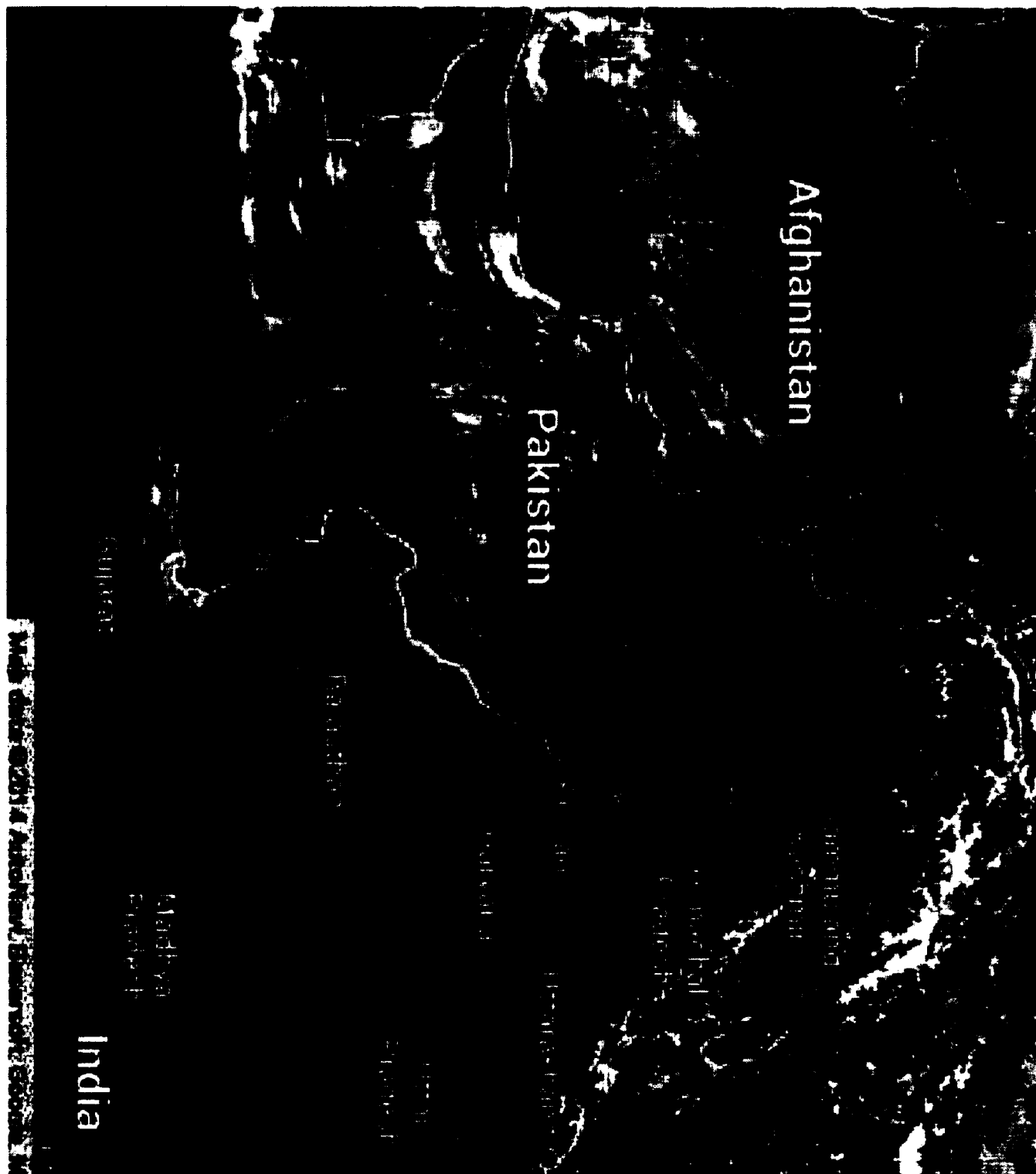
The Licensee shall process and obtain emissions/Carbon Credits expeditiously and credit the proceeds to the Power Purchaser as per the Policy.



## **SCHEDULE-I**

The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.





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Generation Licence  
Mehran Sugar Mills Limited  
Deh Daro Sutha, Tando Adam Road  
District Tando Allahyar  
in the Province of Sindh

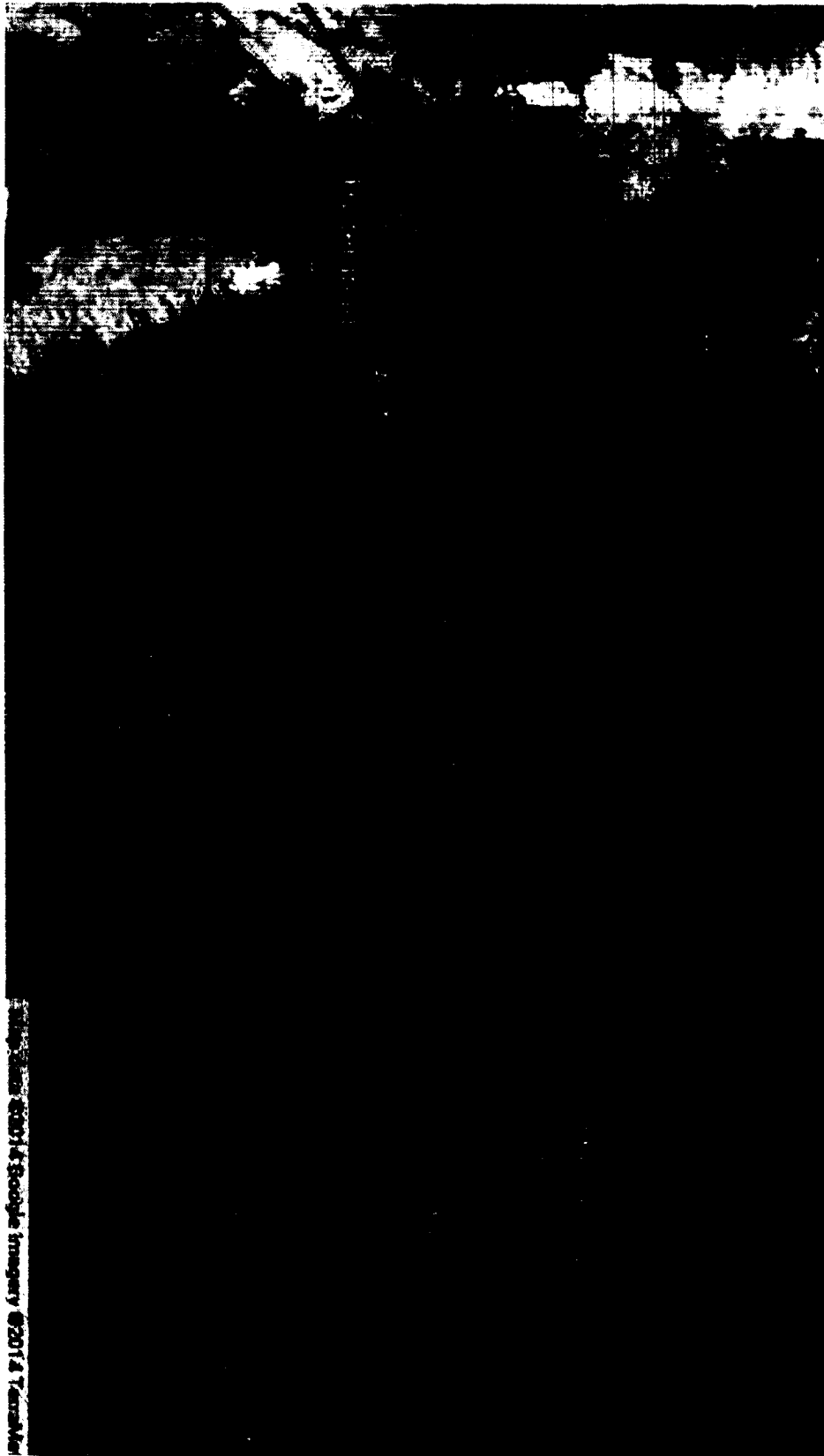


Image taken from Google Imagery ©2014 TerraMetrics

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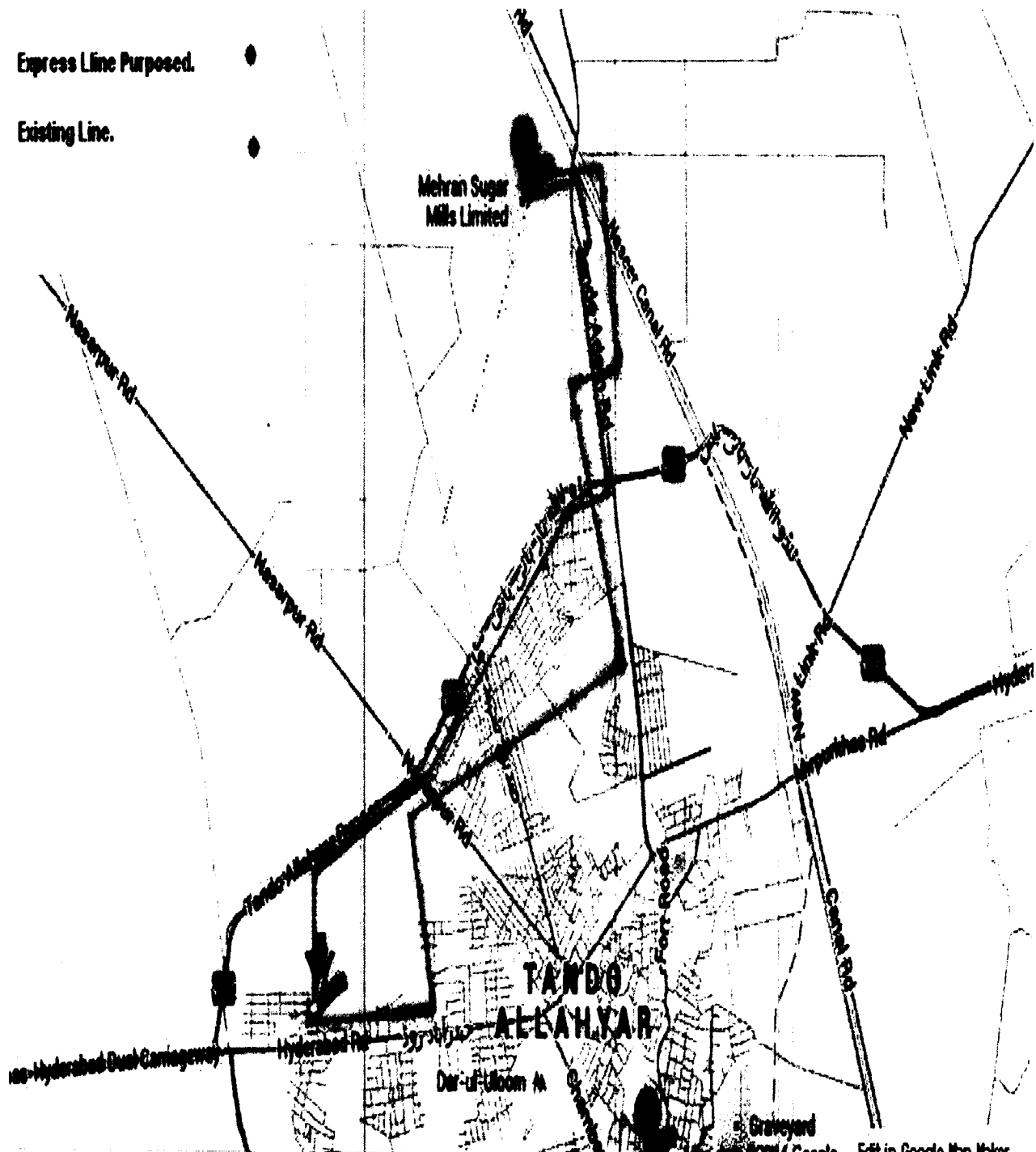


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Express Line Purposed.

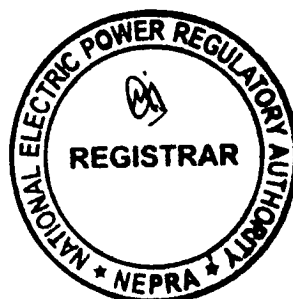
Existing Line.



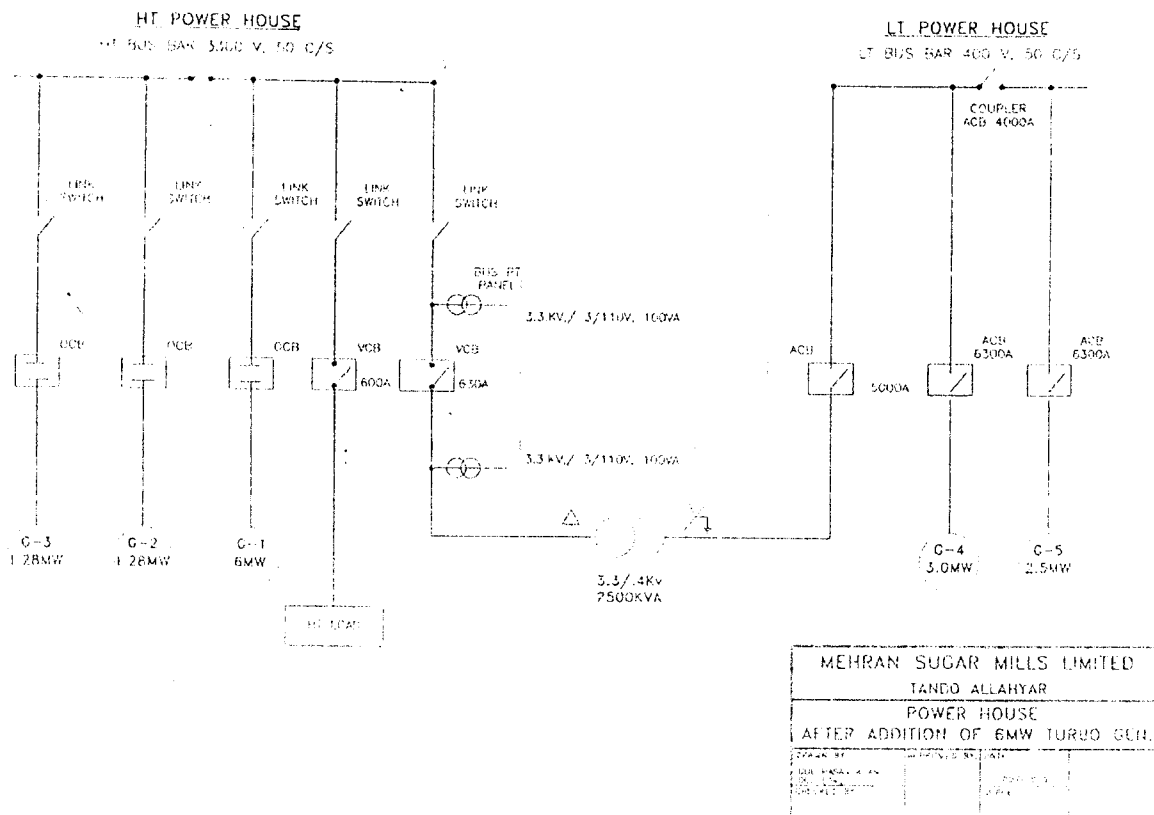
Generation Licence  
Mehran Sugar Mills Limited  
Deh Daro Sutha, Tando Adam Road  
District Tando Allahyar  
in the Province of Sindh



WZ



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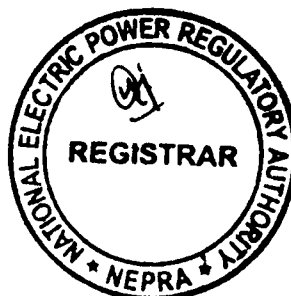


**Interconnection Arrangement/  
Transmission Facilities for Dispersal of Power  
from the Generation Facility/Power Plant**

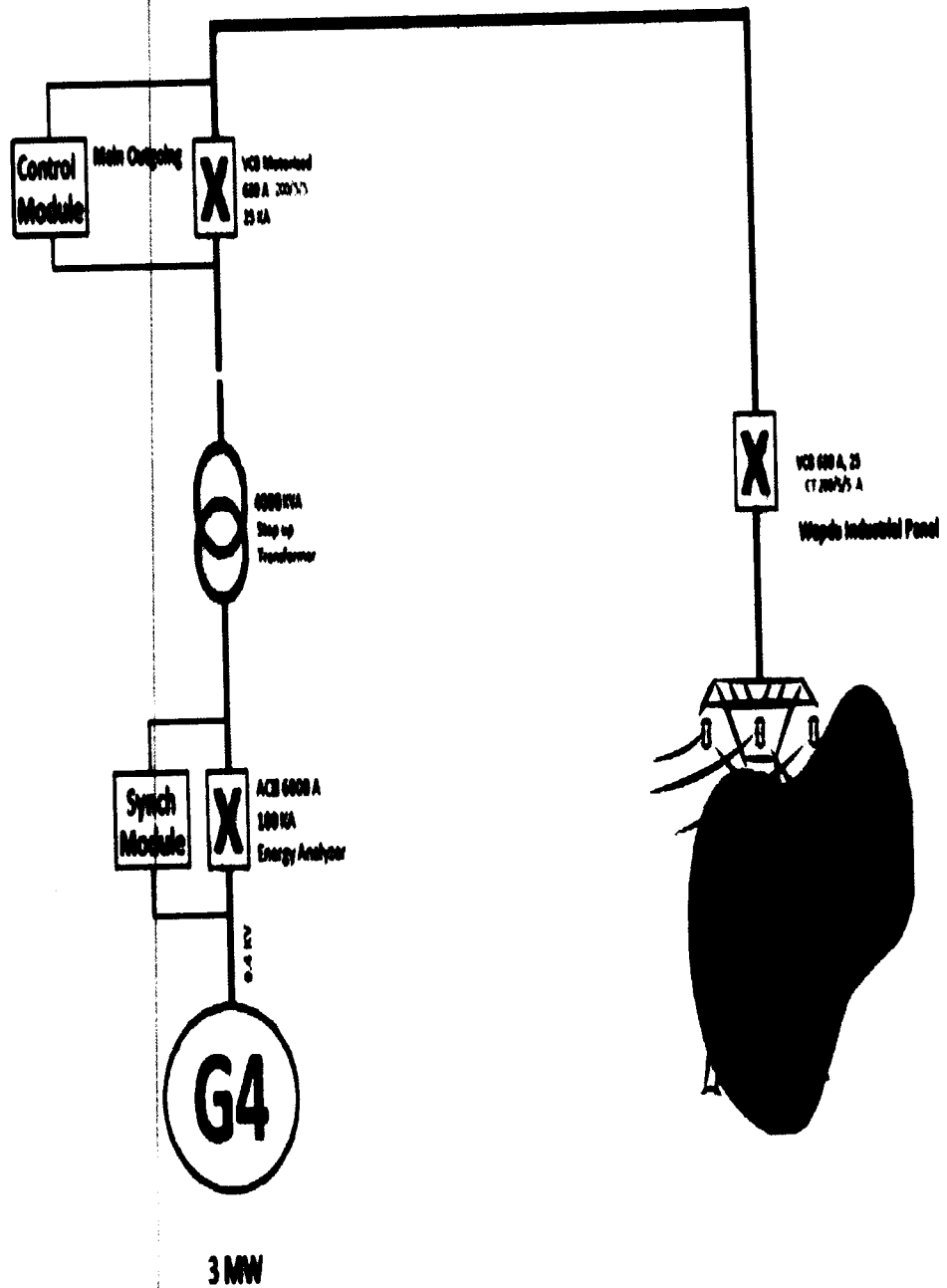
The electric power generated by Mehran Sugar Mills Limited (MSML) from its Bagasse based Thermal Power Generation Facility shall be dispersed to the Load Center of HESCO.

(2). The Interconnection/Transmission Arrangement for the above mentioned facilities will be at 11 KV voltage connecting the generation facility of MSML to 132 KV Grid Station of Tando Allahyar through overhead feeder(s).

(3). Any change in the above Interconnection Arrangement/Transmission Facilities as agreed by MSML and HESCO shall be communicated to the Authority in due course of time.



Final Option



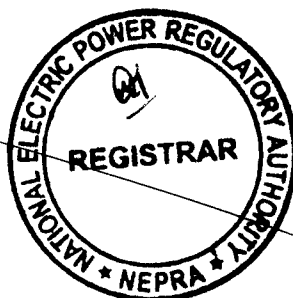
## Detail of Generation Facility/Power Plant

### (A). General Information

(i).	Name of the Licensee/Company	Mehran Sugar Mills Limited
(ii).	Registered/Business Office	14 <sup>th</sup> Floor 14-B HC-3 Executive Tower, Dolmen City Marine Drive Clifton Karachi
(iii).	Plant Location	Deh Daro Sutha, Tando Adam Road, District Tando Allahyar, in the Province of Sindh
(iv).	Type of Generation Facility	Bagasse Fired Thermal Power Station.

### (B). Plant Configuration

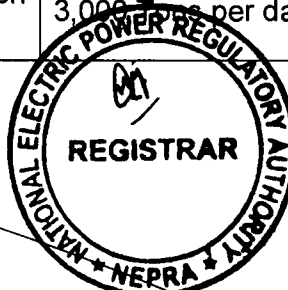
(i).	Plant Size Installed Capacity	14.06 MW				
(ii).	Type of Technology	Conventional Steam Turbine based Power Plant				
(iii).	Number of Units/Size (MW)	Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
		1.28 MW	1.28 MW	2.50 MW	3.00 MW	6.00 MW
(iv).	Unit Make/ Model & Year of Manufacture	Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
		EBARA	EBARA	Peter Brotherhood	Peter Brotherhood	Shinko
(v).	Commissioning/ Commercial Operation date of each Unit of the Generation Facility	Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
		1980	1988	1990	1992	2012



(vi).	Expected Useful Life of the each Unit of the Generation Facility from its Commercial Operation/ Commissioning Date	Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
		50 Years	50 Years	50 Years	50 Years	50 Years
(vii).	Expected Remaining useful Life of each Unit of the Generation Facility (at the time of grant of General Licence)	Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
		16 Years	24 Years	26 Years	28 Years	48 Years
(viii).	Term of the Generation Licence of the Generation Facility	20 Years				

**(C). Fuel/Raw Material Details**

(i).	Primary Fuel	Bagasse	
(ii).	Alternate Fuel	Furnace Oil	
(iii).	Fuel Source (Imported/ Indigenous)	Primary Fuel	Alternate Fuel
		Indigenous	Indigenous
(iv).	Fuel Supplier	Primary Fuel	Alternate Fuel
		Mehran Sugar Mills Limited	Pakistan State Oil Limited/Shell Pakistan Limited
(v).	Supply Arrangement	Primary Fuel	Alternate Fuel
		Through Conveyor Belts/Loading Trucks/Tractor Trolleys etc.	Through Oil Tankers
(vii).	Sugarcane Crushing Capacity	10,000 Ton Crushing Per Day	
(viii).	Bagasse Generation Capacity	3,000 Tons per day	



(ix).	Fuel Storage facilities	Primary Fuel	Alternate Fuel
		Bulk Storage	1 Tank
(x).	Capacity of Storage facilities	Primary Fuel	Alternate Fuel
		25,000 Tons Bulk Storage	1,70,000 Gallons
(xi).	Gross Capacity Storage	Primary Fuel	Alternate Fuel
		25,000 Tons Bulk Storage	1,70,000 Gallons

(D). **Emission Values**

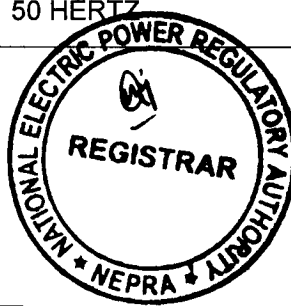
		Primary Fuel	Alternative Fuel
(i).	SO <sub>x</sub> (mg/Nm <sup>3</sup> )	NA	< 400mg/m <sup>3</sup>
(ii).	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	115	< 400mg/m <sup>3</sup>
(iii).	CO <sub>2</sub>	13.5	12% ~ 13%
(iv).	CO (mg/Nm <sup>3</sup> )	2080	< 3%
(v).	PM <sub>10</sub>	N.A	0.107mg/m <sup>3</sup>

(E). **Cooling System**

(i).	Cooling Water Source/Cycle	Condensate water, Ground Water Turbine with Cooling Tower/Closed Loop Cycle
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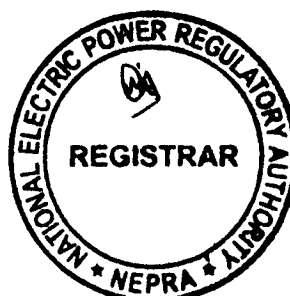
(F). **Plant Characteristics**

		Unit No. -1	Unit No. -2	Unit No. -3	Unit No. -4	Unit No. -5
(i).	Generation Voltage	3.3 KV	3.3 KV	0.40 KV	0.40 KV	3.3 KV
(ii).	Frequency	50 HERTZ				





(iii).	Power Factor	0.8 Lagging-0.95 Leading
(iv).	Automatic Generation Control (AGC)	YES
(v).	Ramping Rate	3.1 kW per second
(vi).	Time required to Synchronize to Grid	2 Hours for Cold start and 60 seconds to synchronize with Grid.



## **SCHEDULE-II**

The Installed/ISO Capacity (MW), De-Rated Capacity At Mean Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity At Mean Site Conditions (MW) of the Generation Facilities of Licensee is given in this Schedule



## SCHEDULE-II

(1).	Total Gross Installed Capacity of the Generation Facility (1 x 1.28 MW + 1 x 1.28 MW + 1 x 2.50 MW + 1 x 3.00 MW + 1 x 6.00 MW)	14.06 MW
(2).	De-rated Capacity of the Generation Facility at Mean Site Conditions (1 x 0.910 MW + 1 x 0.910 MW + 1 x 1.78 MW + 1 x 2.13 MW + 1 x 4.27 MW)	10.00 MW
(3).	Auxiliary Consumption of the Generation Facility (1 x 0.018 MW + 1 x 0.018 MW + 1 x 0.035 MW + 1 x 0.040 MW + 1 x 0.089 MW)	00.20 MW
(4).	Net Capacity of the of the Generation Facility at Mean Site Conditions (1 x 0.892 MW + 1 x 0.892 MW + 1 x 1.745 MW + 1 x 2.09 MW + 1 x 4.181 MW)	09.80 MW

### Note

All the above figures are indicative as provided by the Licensee. The Net Capacity available to Power Purchaser for dispatch will be determined through procedure(s) contained in the Energy Purchase Agreement or any other applicable document(s).

