



# National Electric Power Regulatory Authority

## Islamic Republic of Pakistan

**Registrar**

NEPRA Tower, Ataturk Avenue(East), G-5/1, Islamabad  
Ph: +92-51-9206500, Fax: +92-51-2600026  
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/R/LAG-253/10374-79

September 10, 2014

Mr. Muhammad Mudassar Iqbal  
Head of Energy Business  
RYK Mills Limited  
75/4-D, Sarfraz Rafiqui Road,  
Lahore Cantt.

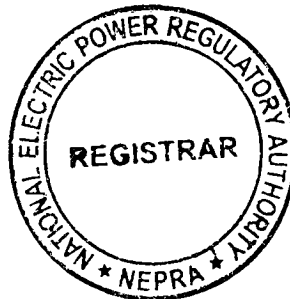
Subject: **Generation Licence No. IGSP/L/44/2014**  
**Licence Application No. LAG-253**  
**RYK Mills Limited**

Reference: Your letter No. nil dated April 17, 2014 (received on 23.04.2014).

Enclosed please find herewith Determination of the Authority in the matter of Generation Licence Application of RYK Mills Limited (RYKML) along with Generation Licence No. IGSP/L/44/2014 annexed to this determination granted by the National Electric Power Regulatory Authority to RYKML for its 30.00 MW Baggasse based generation facility located at Junpur, Tehsil Liaquat Pur, District Rahimyar Khan, Punjab, 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**  
**(IGSP/L/44/2014)**



(Naweed Iqbal 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, Multan Electric Power Company (MEPCO), MEPCO Complex, WAPDA Colony, Khanewal Road, Multan.
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**  
**RYK Mills Limited**

**September 03, 2014**  
**Application No. LAG-253**

**(A). Background**

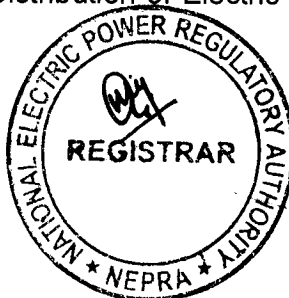
(i). Government of Pakistan (GoP) has set up Alternative Energy Development Board (AEDB) for development of Renewable Energy (RE) resources in the Country. Further, GoP through AEDB formulated "the Policy for Development of Renewable Energy for Power Generation 2006" (hereafter the Policy) for the development of Small Hydro, Wind, and Solar Technologies.

(ii). Later on, the GoP amended the scope of the Policy to include Power Projects based on Bagasse, Biomass, Waste-to-Energy and Bio-Energy, using High-Pressure (minimum 60 bar) Boiler Technology. Further, GoP also extended the applicability of the Policy to be continued for an additional five years w.e.f. March 06, 2013. In accordance with the said amendments, AEDB has issued Letter of Intent (LoI) to different entrepreneurs/ Power Developers including RYK Mills Limited (RYKML), for setting up a Bagasse based Power Project in the Province of Punjab on Fast Track Basis.

(iii). According to the terms and conditions of the LoI and being a Fast Track Project, sponsors of the project were not required to carry out any Feasibility Study (FS) for the project but were directed to approach NEPRA for issuance of Generation Licence and acceptance of the Authority determined Up-front Tariff.

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

(i). RYKML in accordance with the Section 15 of Regulation of Generation, Transmission and Distribution of Electric Power Act 1997 (the NEPRA



Act), filed an application on April 23, 2014 requesting for grant of a Generation Licence. Registrar examined the submitted application and found the same non-compliant with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 ("the Regulations").

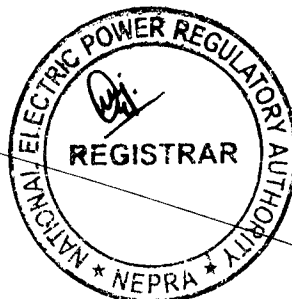
(ii). In view of the above, Registrar directed RYKML for submitting the missing required information/documents as stipulated in the Regulations. RYKML completed the submission of required information/documentation on May 07, 2014. After completion of the required information as required under the Regulations, the Authority admitted the application under Regulation 7 of the Regulations on June 11, 2014 for consideration of grant of a Generation Licence. The Authority approved the draft of the Advertisement/Notice of Admission (NoA) to be published in daily newspapers, for informing and seeking comments of the general public as stipulated in Regulation 8 of the Regulations. The Authority also approved the list of interested/affected parties for inviting comments for assisting the Authority in the matter as stipulated in Regulation 9 (2) of the Regulations.

(iii). Accordingly, Advertisement/NoA was published in one Urdu and one English National Newspaper on June 18, 2014. Further, separate notices were also sent to Individual Experts/Government Ministries/Representative Organizations etc. on June 19, 2014 for submitting their views/comments in the matter for the assistance of the Authority.

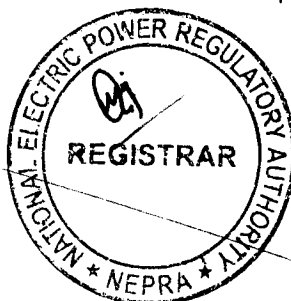
### (c). Comments of Stakeholders

(i). In reply to the above, the Authority received comments from four (04) stakeholders. These included AEDB, Central Power Purchasing Agency (CPPA) of National Transmission and Despatch Company Limited (NTDC), Ministry of Petroleum and Natural Resources (MoP&NR) and Federation of Pakistan Chambers of Commerce and Industry (FPCCI). The salient points of the comments offered by the said stakeholders are summarized in the following paragraphs: -

(a). AEDB confirmed the issuance of Lol to RYKML and supported the issuance of Generation Licence to it;



- (b). CPPA stated that it has filed a Power Acquisition Request (PAR) for acquiring power from RYKML from its proposed Generation Facility. CPPA supported the grant of Generation Licence to RYKML;
- (c). MoP&NR remarked that RYKML intends installing a Bagasse Fired Thermal Power Plant for which there is no requirement for Natural Gas. Therefore, Ministry has no objection for the grant of Generation Licence to RYKML; and
- (d). FPCCI submitted that for sustainable electrification of the Country demands a high Level of local participation at all levels and real impact and sustainability can be obtained through close collaboration of local private and financial sector firms. The energy crisis in Pakistan has several crucial dimensions: Shortage of energy, its price determination mechanism and its downward affects are ultimately transformed in the cost of production of locally manufactured products which affect the competitiveness of Pakistani products in the International and local markets. The FPCCI is an obvious concerned party in this national issue, which has its economic importance and will determine the future of the Industrial competitiveness in the Country. The FPCCI cannot be disassociated with this national issue. Our focal point is to recommend and promote the energy generation activities but not at the cost of environmental hazards. Our founder member (Mr. Mian Mehmood Ahmed) has approached us pointing out that the proposed Project of RYKML would be utilizing Bagasse and the ash of said fuel would be dangerous to the local population and may cause environmental pollution. Therefore, RYKML may be allowed to install the Project subject to the condition that RYKML adopts reasonable/suitable measures to protect the environment.



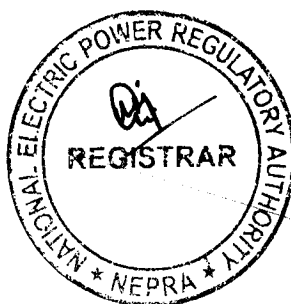
(ii). The Authority considered the above comments of the stakeholders and generally found to be supportive except to the observations of FPCCI that the operation of the proposed Generation Facility may cause environmental problem. In view of the said, the Authority considered it appropriate seeking prospective of RYKML on the comments of FPCCI through a suitable rejoinder in the matter.

(iii). In its rejoinder, RYKML submitted that its proposed Co-Generation Facility/Generation Facility will comply with all the relevant laws on Environment. Further, RYKML clarified that it had already carried out an Initial Environmental Examination-IEE report in terms of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2000. The IEE confirmed that the development of the Project will have no significant adverse environmental impact. RYKML also clarified that based on IEE the Environmental Protection Department of Govt. of Punjab (EPDGoP) has already issued the necessary No Objection Certificate for the Project.

(iv). The Authority deliberated the comments of the stakeholders and the rejoinder of RYKML on the observations of FPCCI. The Authority found the submission appropriate. In view of the said, the Authority considered it appropriate to process the Generation Licence application of RYKML as stipulated in the Regulations and the Rules.

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

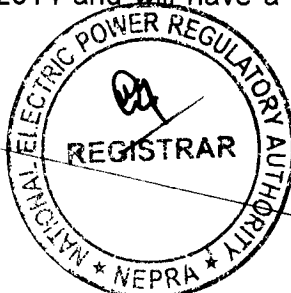
(i). Energy is fundamental input to economic activity, and thus to human welfare and progress. The importance of electricity in the development of the economy of any country is beyond any doubt. The Economic Growth of any country is directly linked with the availability of safe, secure, reliable and cheaper supply of electricity. In view of the said reasons, the Authority is of the considered opinion that for sustainable development all indigenous power generation resources including Coal, Hydel, Wind, Solar and other RE resources must be developed on priority basis in the public and private sector.



(ii). The existing energy mix of the country is heavily skewed towards the costlier thermal power plants, mainly operating on imported furnace oil. The continuously increasing trend in fuel prices is not only creating pressure on the precious foreign exchange reserves of the country but is also an environmental concern. Therefore, in order to achieve sustainable development it is imperative that indigenous RE resources are given priority for power generation and their development is encouraged. The Energy Security Action Plan 2005 (ESAP) of GoP also recognizes this very aspect of power generation through RE and envisages that at least 5% of total national power generation capacity (i.e. 9700 MW) to be met through RE resources by 2030. The Authority considers that the proposed project of RYKML is consistent with the provisions of ESAP. The project will help in diversifying the energy portfolio of the country. Further, it will not only enhance the energy security of the country by reducing the dependence on imported furnace oil but will also help reduction in carbon emission by generating clean electricity, thus improving the environment.

(iii). RYKML is setting up the proposed Co-Generation Facility/Generation Facility/Thermal Power Plant at Janpur, Tehsil Liaquatpur, District Rahimyar Khan, in the Province of Punjab. The proposed Generation Facility will have a Total Installed Capacity of 30.00MW consisting 1 x 15.00 MW Back Pressure Steam Turbine and the other 1 x 15.00 MW Extraction Steam Turbine. The proposed Generation Facility will be utilizing Bagasse (from its own Sugar Mill) as the sole fuel. RYKML has confirmed that during the Crushing Season, both the Extraction and Back Pressure Steam Turbines will remain in operation and it will be supplying around 19.00 MW to the National Grid after meeting its captive energy requirements. Whereas, during the Off-Season, only ~~Extraction~~ Steam Turbine will remain in operation and it will be providing upto a maximum of 12.20 MW (Max.) of Electric Power to National Grid.

(iv). The Term of a Generation Licence under the Rules is to be commensurate with the maximum expected life of the units comprised in a generating facility. RYKML has confirmed that its proposed Generation Facility consisting of two (02) Steam Turbines will be achieving the Commercial Operation Date (COD) on November 30, 2014 and will have a useful life of more than thirty

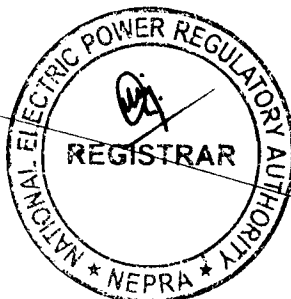


(30) years from its COD. In this regard, RYKML has requested that the term of its proposed Generation Licence may be fixed to thirty (30) years in consistent with the term of the proposed Energy Purchase Agreement (EPA) to be signed with Power Purchaser. The Authority considers that information provided by RYKML about the useful life of the Steam Turbine and its subsequent request of RYKML to fix the term of the Generation Licence is rational. Therefore, the Authority sets the term of the Generation Licence to thirty (30) years from COD of the Co-Generation/Generation Facility.

(v). Regarding the Tariff, it is clarified that in terms of Rule 6 of the Rules, for the provision of electric power, the Licensee is allowed to charge only such tariff as may be determined, approved or specified by the Authority. The Authority on the request of RYKML for unconditionally accepting the Up-Front Tariff, through its Determination No. NEPRA/TRF-265/RYKML-2014/7043-45, dated June 25, 2014 has allowed the Up-Front Tariff for RYKML for its proposed Co-Generation Facility/Generation Facility/Thermal Power Plant. The Authority directs RYKML to strictly adhere to the terms and conditions of the proposed Generation Licence and the Up-front Tariff in letter and spirit without any exception.

(vi). The proposed Co-Generation Power Plant/Generation Facility of RYKML will be using RE Resource for Generation of Electric Power. Therefore, the project may qualify for the Carbon Credit under the Kyoto Protocol (for RE projects coming into operation upto 2020). In view of the said, the Authority directs RYKML to initiate the process in this regard at the earliest so that proceeds for the Carbon Credits are materialized. RYKML shall be required to share the proceeds of the Carbon Credits with the Power Purchaser as stipulated in Article 13 of its Generation Licence.

(vii). The proposed Co-Generation Power Plant/Generation Facility of RYKML for which Generation Licence has been sought, is a Conventional Steam Turbine Power Plant using Bagasse as fuel to be burned in the High Pressure boilers. Bagasse is a RE source which does not cause pollution however, the operation of the Generation Facility may cause some other type of pollution



including Soil Pollution, Water Pollution and Noise Pollution. The Authority has considered these aspects and has made RYKML obligatory to comply with the required rules and regulation on environment. Further, the Authority directs RYKML to submit a quarterly report confirming that its operation is compliant with required Environmental Standards of the EPDGoP.

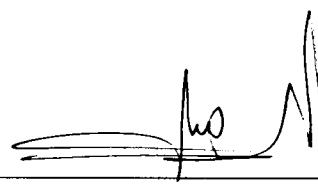
(viii). In view of the above, the Authority hereby decides to approve the grant of Generation Licence to RYKML on the terms set out in the Generation Licence annexed to this determination. The grant of Generation Licence will be subject to the provisions contained in the NEPRA Act, relevant rules and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

**Authority**

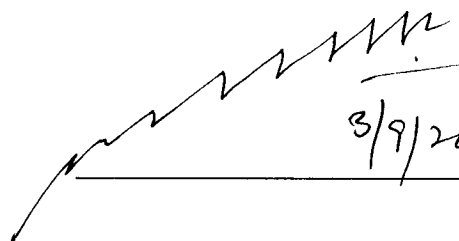
Maj. Retd. Haroon Rashid  
Member

  
9/9/14

Khawaja Muhammad Naeem  
Member

  
23/9/14

Habibullah Khilji  
Member/Vice Chairman

  
3/9/2014





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

**GENERATION LICENCE**

**No. IGSPL/44/2014**

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:

**RYK MILLS LIMITED**

Incorporated under the Companies Ordinance, 1984 Under Certificate of Incorporation No. 00000018183/20070602, dated June 05, 2007

for its Baggage based Generation Facility/Co-Generation Power Plant  
Located at Junpur, Tehsil Liaquat Pur, District Rahimyar Khan, in the  
Province of Punjab

(Installed Capacity: 30.00 MW Gross Total)

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

Given under my hand this 10<sup>th</sup> day of September Two Thousand & Fourteen and expires on 29<sup>th</sup> day of November Two Thousand & Forty Four.

  
Registrar

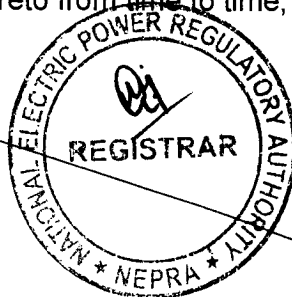
10/09/14



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

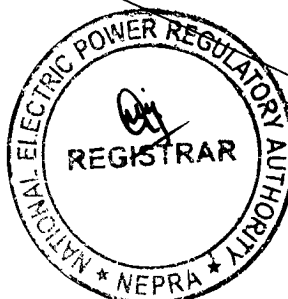
1.1 In this Licence

- (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 energy by the generation facility and other environmental air quality credits and related emissions reduction credits or benefits (economic or otherwise) related to the generation of energy by the generation facility, which are available or can be obtained in relation to the generation facility after the COD;
- (e). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility of the Licensee is Commissioned;
- (f). "CPPA" means the Central Power Purchasing Agency of NTDC or any other entity created for the like purpose;
- (g). "Energy Purchase Agreement" means the energy purchase agreement, entered or 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;



- (h). "Grid Code" means the grid code prepared by NTDC and approved by the Authority, as it may be revised from time to time by NTDC with any necessary approval by the Authority;
- (i). "IEC" means "the International Electro-technical Commission and its successors or permitted assigns;
- (j). "IEEE" means the Institute of Electrical and Electronics Engineers and its successors or permitted assigns;
- (k). "Licensee" means RYK Mills Limited and its successors or permitted assigns;
- (l). "MEPCO" means Multan Electric Supply Company Limited and its successors or permitted assigns;
- (m). "NTDC" means National Transmission and Despatch Company Limited and its successors or permitted assigns;
- (n). "Policy" means "the Policy for Development of Renewable Energy for Power Generation, 2006" of Government of Pakistan as amended from time to time;
- (o). "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;

W.A.



(p). "Rules" mean "the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000";

(q). "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**

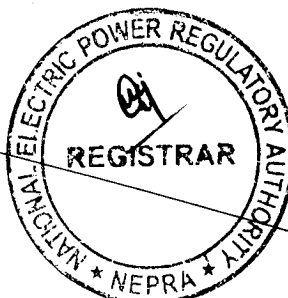
3.1 The location, size (capacity in MW), technology, interconnection arrangements, technical limits, technical and functional specifications and other details specific to the generation facility of the Licensee are set out in Schedule-I of this Licence.

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

3.3 The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility before its COD.

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

4.1 The Licence is granted for a term of thirty (30) years from the COD of the generation facility.



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**  
**Licence fee**

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

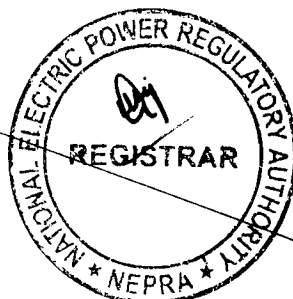
**Article-6**  
**Tariff**

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 Standards**

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

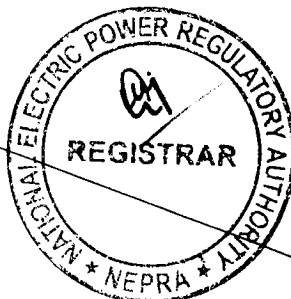
**Article-11**  
**Power off take Point and Voltage**

The Licensee shall deliver electric power to the Power Purchaser at the outgoing Bus Bar of its generation facility. The up-gradation (step up) of generation voltage up to 132 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



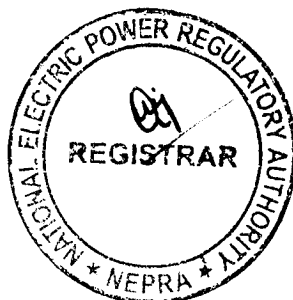
be required from time to time by the Authority and which is or ought to be or has been in the control or possession of the Licensee.

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

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

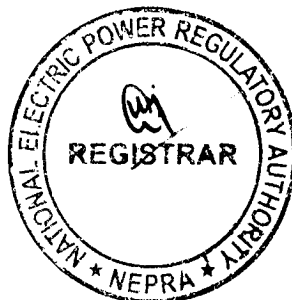
**Article-14**  
**Design & Manufacturing Standards**

The generation facilities of the Licensee shall be designed, manufactured and tested according to the latest IEC standards or other equivalent standards. All plant and equipment shall be un-used/brand new and of relevant IEC/IEEE standard.

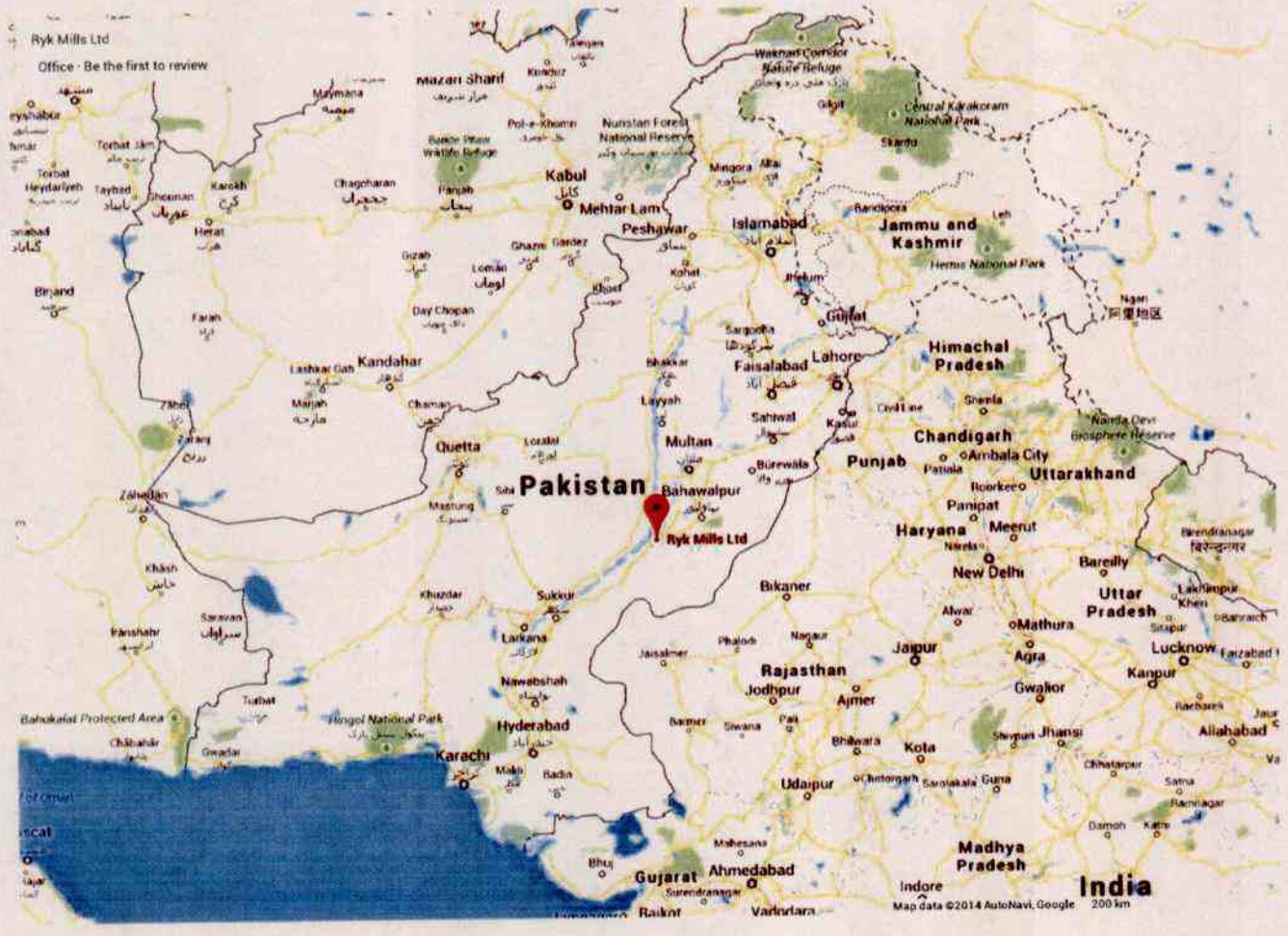


## **SCHEDULE-I**

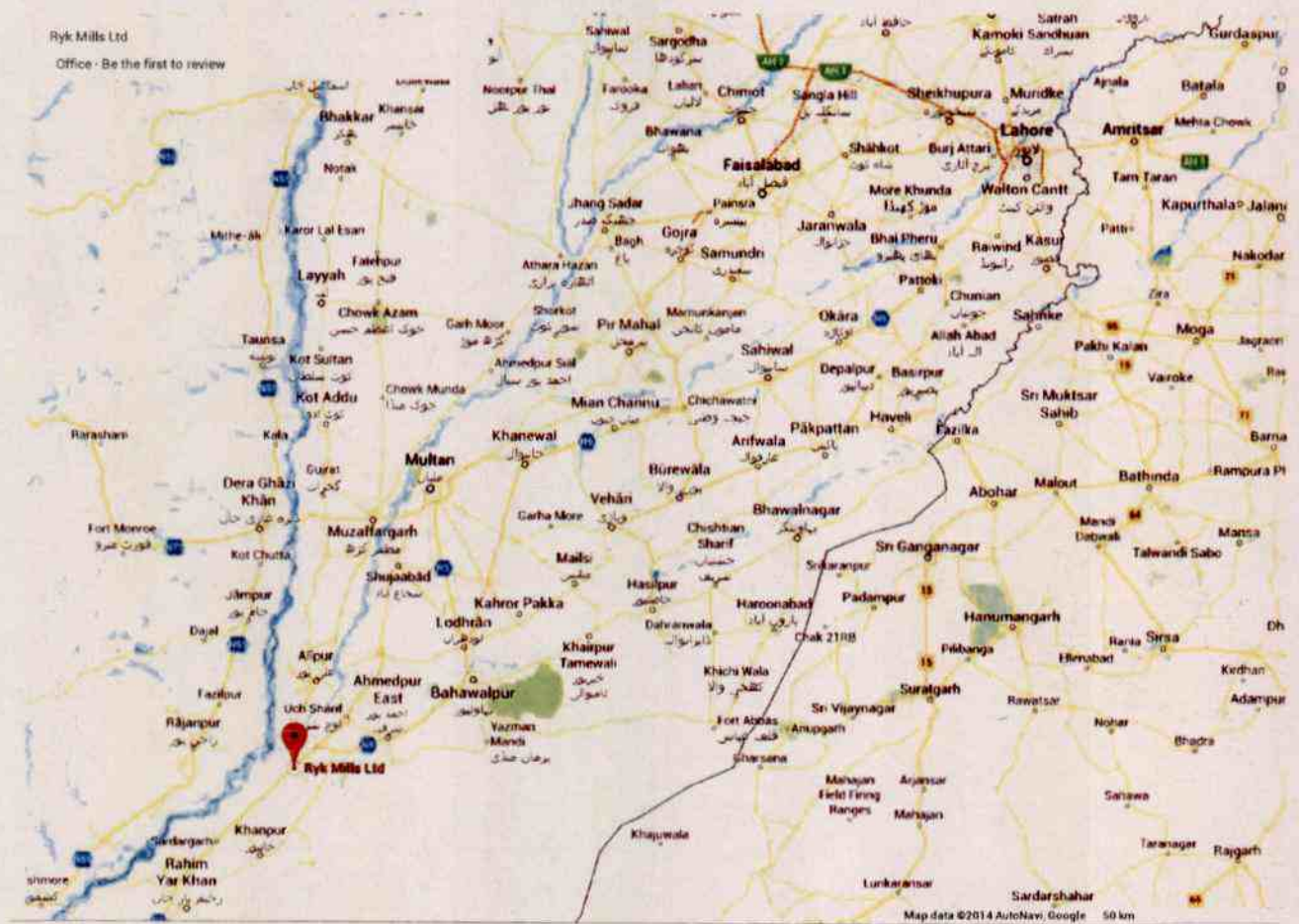
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule





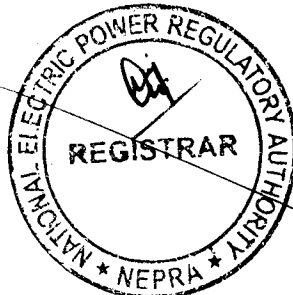
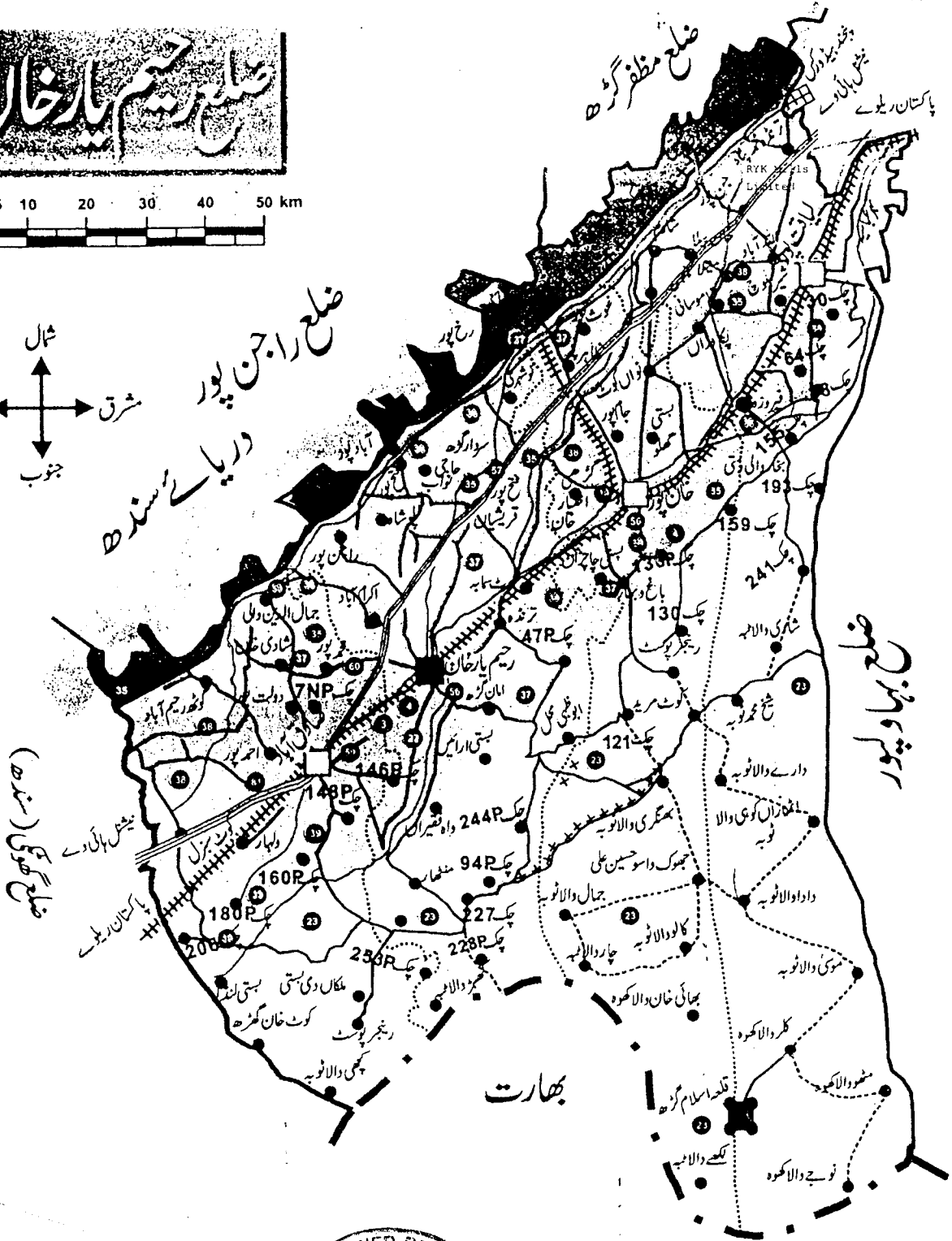
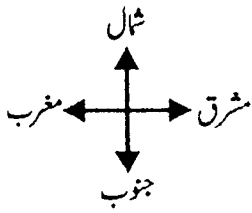




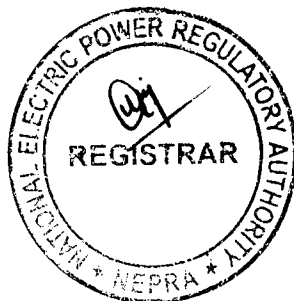
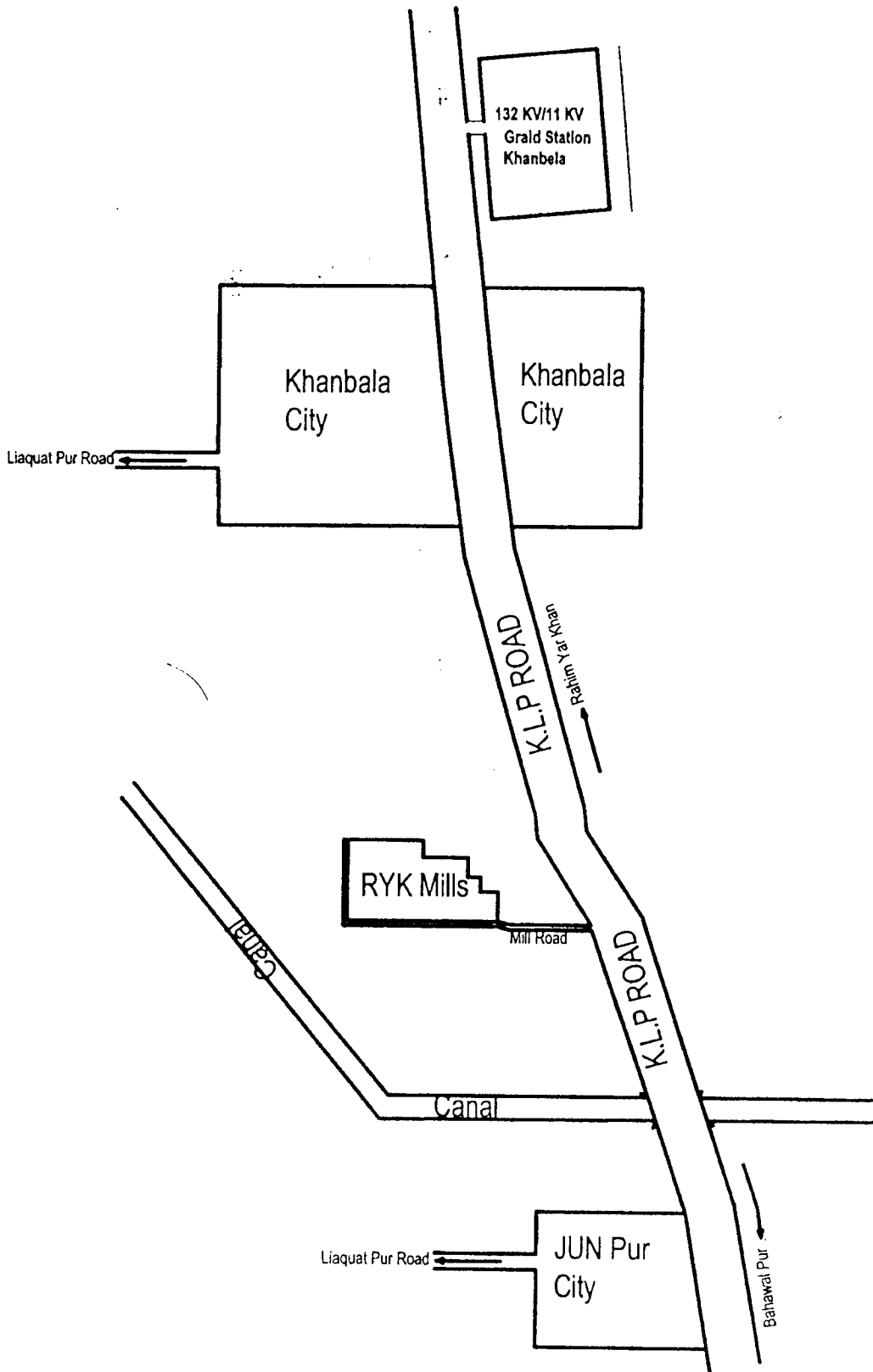


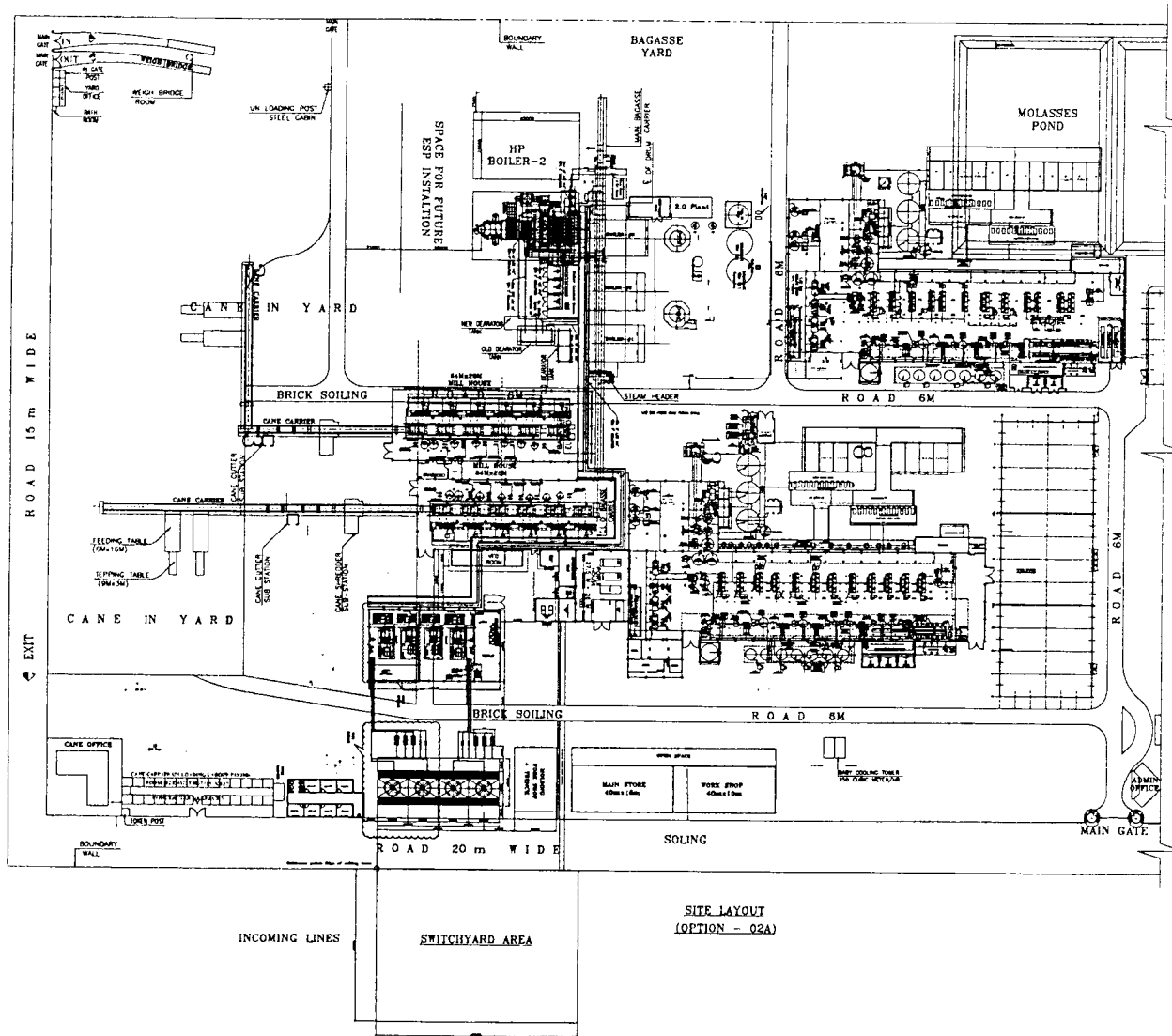
ضلع رحیم یار خان

km 0 5 10 20 30 40 50 km



## PLANT LOCATION

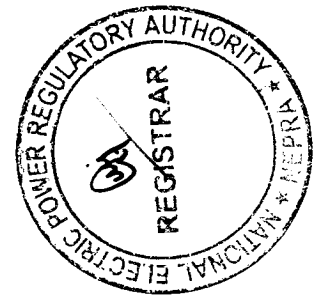
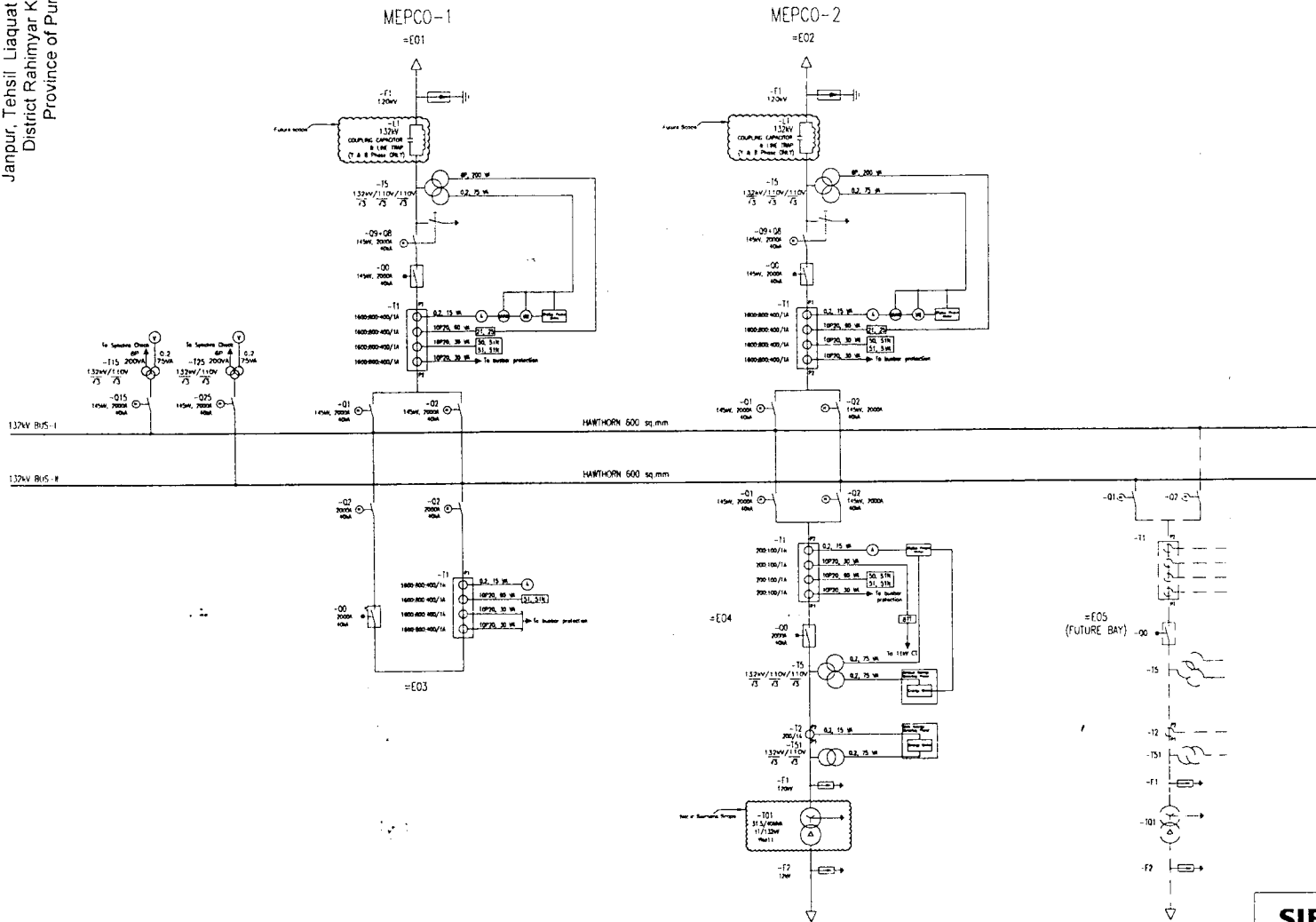




NOTES:-

- 1- ALL DIMENSIONS ARE IN "MM" UNLESS OTHERWISE SPECIFIED.
- 2- \_\_\_\_\_ DESIGN SCOPE.
- 3- \_\_\_\_\_ CLIENT SCOPE.
- 4- \_\_\_\_\_
  - A = PRESENT WORKING
  - B = FUTURE EXTENSION
- 6- EXISTING OIL & CONDENSATE TANKS & PUMPS WILL BE RELOCATE FOR FUTURE PHASE 2

[illegible]



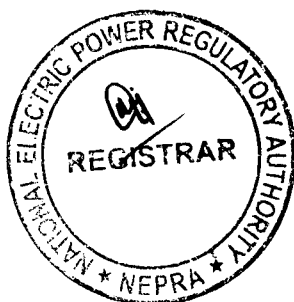
<b>SIEMENS</b>		<b>RYK</b> RYK MILLS LTD	
11/132kV Switchyard at RYK Mills Ltd at Rahimyar Khan			
FOR APPROVAL		Single Line Diagram	
Date: 18-03-2015		Time: 12:45	
By: [Signature]		For: [Signature]	
Siemens		IT 676091-AS14-S002-0	

**Interconnection Facilities/  
Transmission Arrangements for Dispersal of Power from  
the Generation Facility/Co-Generation  
Power Plant**

The electric power from the bagasse based generation facility/co-generation power plant of RYK Mills Limited (RYKML) will be will be dispersed to the load center of MEPCO.

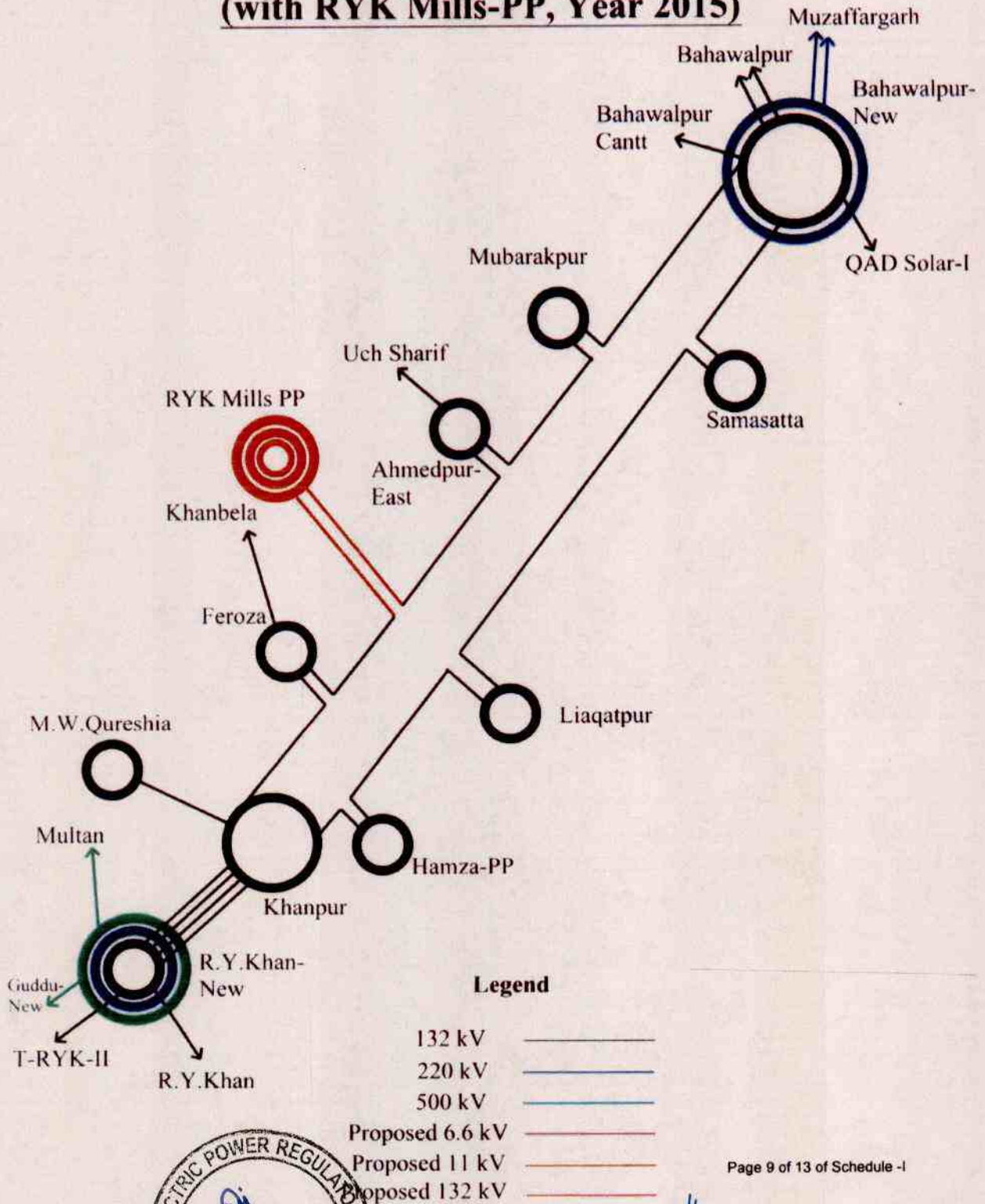
(2). The Interconnection Facilities (IF)/Transmission Arrangements (TA) for supplying to MEPCO from the above mentioned generation facility shall be at 132 kV level. The dispersal/interconnection arrangement for supplying to MEPCO will be consisting of a 132 KV Double Circuit (D/C) Transmission Line (on ACSR LYNX Conductor) measuring about twenty (20) Kilometer for making an In-Out of existing 132 D/C Ferozea-Ahmedpur East Transmission Line at the generation facility/co-generation power plant of RYKML.

(3). Any change in the above mentioned IF/TA for dispersal of electric power as agreed by the Licensee and the Power Purchaser shall be communicated to the Authority in due course of time.





**Network Around Proposed Site of RYK Mills Ltd. PP**  
**(with R.Y.Khan 500/220/132 kV G/S)**  
**(with RYK Mills-PP, Year 2015)**





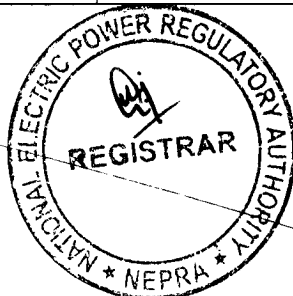
## Detail of Generation Facility/Co-Generation Power Plant

### (A). General Information

(i).	Name of Applicant	RYK Mills Limited (RYKML)
(ii).	Registered /Business Office	75/4-D, Sarfraz Rafiqui Road, Lahore Cantt, Lahore in the Province of Punjab.
(iii).	Plant Location	Janpur, Tehsil Liaquat Pur, District Rahimyar Khan in the Province of Punjab.
(iv).	Type of Generation Facility	Bagasse based, high-pressure Co-Generation Thermal power Plant.

### (B). Plant Configuration

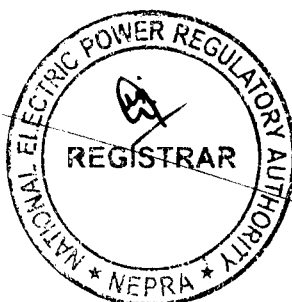
(i).	Plant Size Installed Capacity	30.00 MW.	
(ii).	Type of Technology	Conventional Steam Turbine based Power Plant (with 1 Backpressure Type and 1 Extraction cum condensing Steam Turbine with 67 bar (kg/cm <sup>2</sup> ) Boiler.	
(iii).	Number of Units/Size (MW)	Steam Turbines	2 x 15.00 MW
(iv).	Unit Make/Model/ Type & Year of Manufacture Etc.	Steam Turbines	Hangzhou Steam Turbine Company Limited (Model – NG40/40 & ENK40/56)
		Boiler	Dumping Grate Type Boiler of 140 TPH Capacity and 67 Bar (kg/cm <sup>2</sup> ) Pressure/DESCON Engineering Limited, Pakistan



(v).	Commercial Operation Date (COD) of the Generation Facility	November 30, 2014
(vi).	Expected Useful Life of the Generation Facility from COD	30 Years (Minimum)

**(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/Imported
(iv).	Fuel Supplier	Primary Fuel	Alternate Fuel
		RYK Mills Limited	Pakistan State Oil (PSO)/Shell Pakistan Limited (Shell)
(v).	Supply Arrangement	Primary Fuel	Alternate Fuel
		Through Conveyor Belts/Loading Trucks/Tractor Trolleys etc	Through Oil Tankers
(vi).	Sugarcane Crushing Capacity of RYKML	12,000 Ton Crushing Per Day	



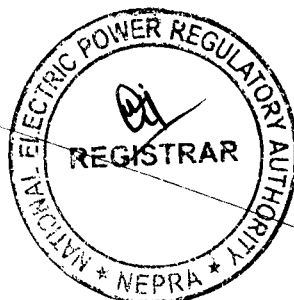
(vii).	Bagasse Generation Capacity of RYKML	3,600 Tons per day		
(viii).	Fuel Storage facilities	Primary Fuel	Alternate Fuel	
		Bulk Storage	2 Tank	
(ix).	Capacity of Storage facilities	Primary Fuel	Alternate Fuel	
		150,000 Metric Tons bulk storage	Tank-1	Tank-2
			500 Metric Tons	40 Metric Tons
(x).	Gross Storage Capacity	Primary Fuel	Alternate Fuel	
		150,000 Metric Tons Bulk Storage	540 Metric Tons	

(D). **Emission Values**

		Primary Fuel	Alternative Fuel
(i).	SO <sub>x</sub>	0%	To be provided
(ii).	NO <sub>x</sub>	2%~5%	-Do-
(iii).	CO <sub>2</sub>	12%~13%	-Do-
(iv).	CO	2%~3%	-Do-
(v).	PM <sub>10</sub>	Nil	-Do-

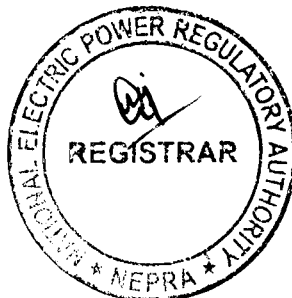
(E). **Cooling System**

(i).	Cooling Water Source/Cycle	Condensate water of Ground Water Turbine Installed at Generation Facility/Co-Generation Power Plant/Closed Loop.
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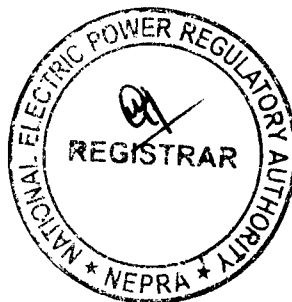
(F). **Plant Characteristics**

(i).	Generation Voltage	11.00 KV
(ii).	Frequency	50 Hz
(iii).	Power Factor	0.80 lagging - 0.90 leading
(iv).	Automatic Generation Control (AGC)	Yes
(v).	Ramping Rate	5KW/Sec
(vi).	Time required to Synchronize to Grid	5 Hours for Cold Start/30 Second for synchronization



## **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

		<u>During Crushing Season Operation</u>	<u>During Off Crushing Season Operation</u>
(1).	Total Gross Installed Capacity of the Generation Facility	30.00 MW	15.00 MW
(2).	De-rated Capacity of Generation Facility at Reference Site Conditions	27.60 MW	14.00 MW
(3).	Auxiliary Consumption of the Generation Facility	04.20 MW	1.80 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Condition	23.40 MW	12.20 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).

