National Electric Power Regulatory Authority
Islamic Republic of Pakistan

NEPRA Tower, Attaturk 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

Registrar

No. NEPRA/R/DL/LAG-366/15671-76

September 19, 2017

Mr. Amjad Javed Aftab
Deputy General Manager,
Jauharabad Sugar Mills Limited (JBDSML)
109-A, Street No. 3, Cavalry Ground,
Lahore Cantt.
Phone: +92 42-36670031

Subject: **Grant of Generation Licence No. SGC/121/2017**
Licence Application No. LAG-366
Jauharabad Sugar Mills Limited (JBDSML)

Reference: *Your application vide letter No. JSML/ELECT/LICENSE-2, dated August 20, 2016 (received on August 22, 2016).*

Enclosed please find herewith Generation Licence No. SGC/121/2017 granted by National Electric Power Regulatory Authority (NEPRA) to "Jauharabad Sugar Mills Limited (JBDSML)" for its 21.44 MW Bagasse based Generation Facility/Co-Generation Facility located at 1.5 KM Heavy Industrial Area, Sargodha-Mianwali Road, Jauharabad City, District Khushab, in the province of 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
(SGC/121/2017)

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19/09/17

(Syed Safeer Hussain)

Copy to:

1. Secretary Power Division, Ministry of Energy, A-Block, Pak Secretariat, Islamabad.
2. Chief Executive Officer, NTDC, 414-WAPDA House, Lahore.
3. Chief Executive Officer, CPPA-G, ENERCON Building, Sector G-5/2, Islamabad.
4. Chief Executive Officer, Faisalabad Electric Supply Company Limited, Canal Road, Faisalabad
5. Director General, Environment Protection Department, Government of Punjab, National Hockey Stadium, Ferozpur Road, Lahore.

National Electric Power Regulatory Authority (NEPRA)

Determination of the Authority in the Matter of Application of Jauharabad Sugar Mills Limited for the Grant of Generation Licence

September , 2017
Case No. LAG-366

(A). Background

(i). Jauharabad Sugar Mills Limited (JBDSML) is maintaining and operating a bagasse based Captive Power Plant-CPP at its mill located at 1.5 km-Jauharabad, district Khushab, in the province of Punjab. The existing capacity of the said CPP is 7.00 MW which is being enhanced to 21.44 MW.

(ii). JBDSML offered the concerned distribution company/utility of its area supplying surplus electric power from the above mentioned CPP. According to the Regulation of Generation, Transmission and Distribution of Electric Power Act (the "NEPRA Act"), JBDSML is required having generation licence.

(B). Filing of Application

(i). JBDSML submitted an application on August 22, 2016 for the grant of generation licence in terms of Section-15 of the NEPRA Act read with the relevant provisions of the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 (the "Licensing Regulations").

(ii). The Registrar examined the submitted application and observed that the application lacked some of the required information/documentation. Accordingly, JBDSML was directed for submitting the missing information/documentation and the same was received on September 29, 2016. After the receipt of the required information, the Registrar submitted the matter for the consideration of the Authority for admitting the application or otherwise. The Authority considered the matter and found the form and content of the application in substantial compliance with Regulation-3 of the Licensing Regulations. Accordingly, the Authority admitted the application on October 07, 2016 for consideration of the grant of the generation licence as stipulated in Regulation-7

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of the Licensing Regulations. The Authority approved an advertisement to invite comments of general public, interested and affected persons in the matter as stipulated in Regulation-8 of the Licensing Regulations. Accordingly, notices were published in one (01) Urdu and one (01) English newspapers on October 14, 2016.

(iii). In addition to the above, the Authority approved a list of stakeholders for seeking their comments for the assistance of the Authority in the matter in terms of Regulation-9(2) of the Licensing Regulations. Accordingly, letters were sent to different stakeholders as per the approved list on October 14, 2016, soliciting their comments 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 Ministry of Petroleum and Natural Resources (MoP&NR), National Transmission & Desptach Company Limited (NTDC), Alternative Energy Development Board (AEDB) and Anwar Kamal Law Associates (AKLA). The salient points of the comments offered by the said stakeholders are summarized in the following paragraphs.

(a). MoP&NR stated that JBDSML intends to install CPP based on bagasse as fuel and as such, no gas is required for utilization in this project. Therefore, the Ministry has no objection/comments for grant of generation licence to JBDSML for its bagasse based CPP;

(b). NTDC submitted that Grid Interconnection Study (GIS) for CPP has not been received which is a requirement for the grant of generation licence;

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(c). AEDB commented that JBDSML approached it for the development of an 18.00 MW generation facility/Co-generation facility based on high pressure boiler technology. Accordingly, a Letter of Intent (LoI) was issued to the Special Purpose Vehicle (SPV) of the sponsors in the name of Radiant Power (Pvt.) Limited under the relevant Renewable Energy (RE) policy in vogue. AEDB supported the grant of generation licence to JBDSML as per the provision of the relevant regulation and rules; and

(d). AKLA highlighted different issues pertaining to the Power Sector of the country including (a). surplus capacity; (b) underutilization of power plants; and (c). induction of new power plants on "take or pay" basis etc. Further, AKLA contested that RE power plants are not viable financially and economically due to higher upfront tariff and "must run condition". AKLA also questioned the induction of RE projects in the current scenario (i.e. reduction in oil prices, RLNG contract with Qatar, upcoming coal power projects and introduction of competitive market etc.), affordability vs. availability of electric power and long term Power Purchase Agreements (PPAs) on "take or pay" basis etc. AKLA stated that it is not against setting up of new power plants and in this regard a very careful estimate of required generation capacities should be made or the licences should be granted on "take and pay" basis.

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(ii). The Authority considered the above comments of the stakeholders and in view the observations of NTDC, AEDB and AKLA considered it appropriate seeking the perspective of JBDSML. On the observations of NTDC, it was submitted that services of Power Planners International were hired for carrying out the required GIS. The said study had been completed and submitted to the

Faisalabad Electric Supply Company Limited (FESCO) for its approval. Regarding the comments of AEDB, it was submitted that JBDSML once planned to set up a 18.00 MW high pressure boiler based generation facility but later on the idea was dropped and the project was accordingly shelved for which AEDB has also been informed. It was clarified that JBDSML is now only pursing its plan to supply surplus to the tune 8.00 MW-10.00 MW to FESCO from its existing CPP.

(iii). About the observations of AKLA, it was stated that JBDSML has approached the Authority for grant of the generation licence as it intends supplying surplus electric power to distribution utility from its CPP. In this regard, it is envisaged that PPA or Energy Purchase Agreement (EPA) will be made on "take and pay" basis meaning thereby that the company will be paid for the unit supplied to the utility without any capacity payment. In view of the above, JBDSML requested the Authority to disregard the comments which are completely irrelevant and have no specific implication on its application for the grant of generation licence.

(iv). The Authority considered the above submissions and considered it appropriate to proceed further in the matter of application of JBDSML for the consideration of grant of generation licence as stipulated in the Licensing Regulations and NEPRA Licensing (Generation), Rules 2000 (the "Generation Rules").

(D). Evaluation of the Case

(i). The Authority has considered the submissions of JBDSML including the information provided in its application for the grant of generation licence including GIS and the relevant rules & regulations. The observations of the Authority in the matter are explained in the following paragraphs.

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(ii). JBDSML is a pioneer in the sugar industry and was originally incorporated under the Companies Act, VII of 1913 vide No. C 68/LR of 1968-1969 dated December 31, 1968 in the name of "Kohinoor Sugar Mills Limited". It is a public limited company listed on Pakistan Stock Exchange Limited and has been in operation for almost fifty years. The company is involved in the business of production of sugar and allied products i.e. molasses, bagasse and

mud etc. The company is a going concern and as per latest balance sheet has a total assets of Rs. 5.75 billion.

(iii). The sugar mill currently has crushing capacity of 7000 Tons of sugar cane per day (TCD) which produces a bagasse of around 2100 Tons. In order to utilize the said generated bagasse, JBDSML has set up a 7.00 MW CPP which is now being enhanced to 21.44 MW. The said CPP consists of three (03) back pressure steam turbines. In this regard, JBDSML has informed that it intends supplying around 8.00-10.00 MW of surplus power to FESCO on "Take and Pay" basis.

(iv). In consideration above, JBDSML has got completed GIS whereby it has been determined that the CPP will be connected to the Jauharabad grid station of FESCO through 11 KV Double Circuit (D/C) feeder (on ACSR Osprey conductor measuring about 2-KM in length). Apart from the said, JBDSML has also carried out the Initial Environmental Examination (IEE) for the project and obtained approval of the Environment Protection Department, Government of the Punjab (EPDGoPb) in the matter.

(v). In terms of Rule-3 of the Generation Rules, the Authority may grant a generation licence to any person to engage in the generation business. In the particular case under consideration, the Authority has observed that JBDSML has provided details of location, technology, size, net capacity/energy yield, interconnection arrangements, technical limits, technical functional specifications and other details specific to the generation facilities satisfying provisions of Rule-3(2) and Rule-3(3).

(vi). Regarding the Rule-3(5) of the Generation Rules which stipulates that the Authority may refuse to issue a generation licence where the site, technology, design, fuel, tariff or other relevant matters pertaining to the generation facility/co-generation facility/power plant proposed in an application for a generation licence are either not suitable on environmental grounds or do not satisfy the least cost option criteria. In this regard, the Rule-3(5) of the Generation Rules stipulates the conditions pertaining to east Cost Option Criteria which includes (a). sustainable development or optimum utilization of the RE or non-RE resources proposed for generation of electric power; (b) the availability of

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indigenous fuel and other resources; (c). the comparative costs of the construction, operation and maintenance of the proposed generation facility/co-generation facility/power plant against the preferences indicated by the Authority; (d). the cost and right-of-way considerations related to the provision of transmission and interconnection facilities; (e). the constraints on the transmission system likely to result from the proposed generation facility/co-generation facility/power plant and the costs of the transmission system expansion required to remove such constraints; (f). the short-term and the long-term forecasts for additional capacity requirements; (g). the tariff resulting or likely to result from the construction or operation of the proposed generation facility/co-generation facility/power plant; and (h). the optimum utilization of various sites in the context of both the short-term and the long-term requirements of the electric power industry as a whole.

(vii). In consideration of the above, the Authority considers that the proposed project will result in optimum utilization of the RE, resulting in pollution free electric power. The Authority is of the considered opinion that bagasse is an indigenous fuel and such fuels should have a preference for the energy security. The Authority through its determination No. NEPRA/TRF-UTESM-2016/ 17120-17122, dated December 30, 2016 (the Tariff Determination) announced an upfront levelized tariff for the existing bagasse based CPPs of the sugar mills which works out to be Pak. Rs. 7.82/kWh which is very competitive considering the fact that not only cheap electric power will be generated but it will utilize the bagasse and other bio-mass which is otherwise burnt causing air and soil pollution.

(viii). As explained above, JBDSML carried out GIS which concludes that the project will not face any constraints in transmission system. Further, being located at reasonable distance from the thick population, the project will not result in cost and right-of-way issue for the provision of transmission and interconnection facilities. In view of the said, the Authority is of the considered view that the project of JBDSML fulfills the eligibility criteria for grant of generation licence as stipulated in the NEPRA Act, rules and regulations and other applicable documents.

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(E). Grant of Generation Licence

(i). The Authority considers that availability of sufficient electricity at affordable prices with a reasonable mix of hydel, fossil fuel based thermal, nuclear and other RE is imperative for the sustainable economic development of the country. The country is currently facing considerable supply-demand gap resulting in shortage of electric power for various segments which hampers the economic growth of the country.

(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 extremely important 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. As explained above, in the present case JBDSML has offered to sell 8.00-10.00 MW bagasse based surplus electric power from its CPP to FESCO.

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

(iv). According to Rule-5(1) of the Generation Rules, except where an applicant consents to a shorter term, the term of a generation licence is to correspond with the maximum expected useful life of the units comprised in the generation facility. The CPP of JBDSML consists of three units having capacity of 4.00 MW, 3.00 MW and 14.44 MW. Out of the said units, two were installed in 1978 and 1989 whereas the third unit of 14.44 MW is in the installation phase and is expected to be available in the last quarter of 2017. In this regard, 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 due to which these steam turbines may last for 60-70 years if maintained properly.

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In view of the said, JBDSML has estimated the useful life of the latest unit to be sixty (60) years from its Commercial Operation Date (COD) but has consented to fix the term of the licence to thirty (30) years from the COD of the latest installed unit. The Authority considers that the submissions of JBDSML are consistent with the national/international benchmarks and the provisions of the Generation Rules therefore, the Authority fixes the term of the generation licence to thirty (30) years from the COD of the latest unit.

(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). As explained in the preceding paragraphs, the Authority for the existing CPPs operating on bagasse, has determined an upfront tariff. JBDSML has confirmed that it plans to unconditionally accept the said tariff for which a petition will be filed once the generation licence is granted. Notwithstanding the said, the Authority directs JBDSML 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 Generation Rules.

(vi). Regarding compliance with the environmental standards, as stated above, JBDSML has provided the No Objection Certificate from EPDGoPb and has confirmed that project will comply with the required standards during the term of the generation licence. In view of the importance of the issue, the Authority has decided to include a separate article (i.e. Article-10) in the generation licence along with other terms and conditions making it obligatory for JBDSML to comply with relevant environmental standards at all times. Further, the Authority directs JBDSML to submit a report on a bi-annual basis, confirming that operation of its generation facility/co-generation facility/power plant is in compliance with the

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required environmental standards as prescribed by the concerned environmental protection agency.

(vii). In view of the above, the Authority hereby approves the grant of generation licence to JBDSML 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, regulations framed thereunder and other applicable documents.

Authority

Maj. (R) Haroon Rashid
(Member)

Syed Masood-ul-Hassan Naqvi
(Member)

Himayat Ullah Khan
(Member)

Saif Ullah Chattha
(Member/Vice Chairman)

Tariq Saddozai
(Chairman)

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National Electric Power Regulatory Authority
(NEPRA)
Islamabad – Pakistan

GENERATION LICENCE

No. SGC/121/2017

In exercise of the Powers conferred under Section-15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby grants Generation Licence to:

JAUHARABAD SUGAR MILLS LIMITED

Incorporated Under the Companies Act 1913 (VII of 1913) Having Certificate of Incorporation No. C 68/LR of 1968-1969 dated December 31, 1968 (with Corporate Universal Identification No. 0002804, dated August 27, 2014)

for its Bagasse based generation facility/Co-Generation Facility Located at 1.5 KM Heavy Industrial Area Sargodha-Mianwali Road, Jauharabad City, District Khushab in the Province of Punjab

(Total Installed Capacity: 21.44 MW Gross ISO)

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

Given under my hand this on 19th day of September Two Thousand & Seventeen and expires on 30th day of October Two Thousand & Forty Seven.

19/09/17

Registrar

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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). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations made by the Authority under any of the foregoing or pursuant to the exercise of its powers under the Act, the Grid Code, the applicable Distribution Code, if any, or the documents or instruments made by the Licensee pursuant to its generation licence, in each case of a binding nature applicable to the Licensee or, where applicable, to its affiliates and to which the Licensee or any of its affiliates may be subject;

(d). "Applicable Law" means all the Applicable Documents;

(e). "Bus Bar" means a system of conductors in the generation facility/Thermal Power Plant of the Licensee on which the electric power from all the generators is collected for supplying to the Power Purchaser;

(f). "Co-Generation Facility/Power Plant" means the generation facility for simultaneous production of both electric power and heat or steam for industrial processes from a common fuel source;

(g). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Co-Generation Facility/Power Plant of the Licensee is commissioned;

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(h). "CPPA-G" means Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose;

(i). "Distribution Code" means the distribution code prepared by the concerned XW-DISCO and approved by the Authority, as it may be revised from time to time with necessary approval of the Authority;

(j). "Energy Purchase Agreement (EPA)" 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/Thermal Power Plant Co-Generation Facility/Power Plant, as may be amended by the parties thereto from time to time;

(k). "FESCO" means Faisalabad Electric Supply Company Limited or its successors or permitted assigns;

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

(m). "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 necessary approval by the Authority;

(n). "Law" means the Act, relevant rules and regulations made there under and all the Applicable Documents;

(o). "Licensee" means **Jauharabad Sugar Mills Limited**;

(p). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;

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(q). "Power Purchaser" means any XW-DISCO or FESCO or CPPA-G which will be purchasing electric energy from the Licensee, pursuant to an Energy Purchase Agreement-EPA for procurement of electric power;

(r). "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 rules and regulations issued under the Act.

Article-2
Applicability of Law

This licence is issued subject to the provisions of the Applicable Law, 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/Co-generation facility of the Licensee are set out in Schedule-I of this Licence.

3.2 The net capacity of the generation facility/Thermal Power Plant of the Licensee is set out in Schedule-II hereto. The Licensee shall provide the final arrangement, technical and financial specifications and other specific details pertaining to its generation facility/Co-generation facility before its COD.

Article-4
Term of Licence

4.1 This licence shall become effective from the date of its issuance and will have a term of thirty (30) years from the COD of the latest unit of generation facility/Co-generation facility of the Licensee.

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4.2 Unless suspended or revoked earlier, the Licensee may apply for renewal of this licence ninety (90) days prior to the expiry of the above term, as stipulated in the Licensing Regulations.

Article-5
Licence fee

The Licensee shall pay to the Authority the licence fee as stipulated in the National Electric Power Regulatory Authority (Fees) Rules, 2002 as amended from time to time as amended or replaced from time to time.

Article-6
Tariff

The Licensee shall charge the Power Purchaser only such tariff which has been determined, approved or specified by the Authority.

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.

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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 (Generation) Rules 2009 as amended from time to time.

Article-10
Compliance with Environmental & Safety Standards

The generation facility/Thermal Power Plant of 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
Provision of Information

In accordance with provisions of Section-44 of the Act, the Licensee shall be obligated to provide the required information in any form as desired by the Authority without any exception.

Article-12
Power off take Point and Voltage

The Licensee shall deliver the electric power to the Power Purchaser at the outgoing Bus Bar of its generation facility/Co-generation facility. The Licensee shall be responsible for the up-gradation (step up) of generation voltage up to the required dispersal voltage level.

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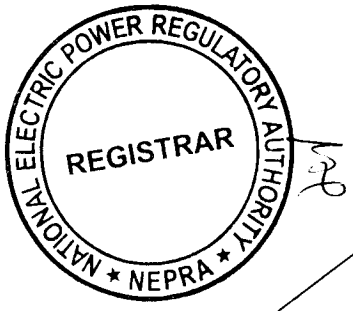
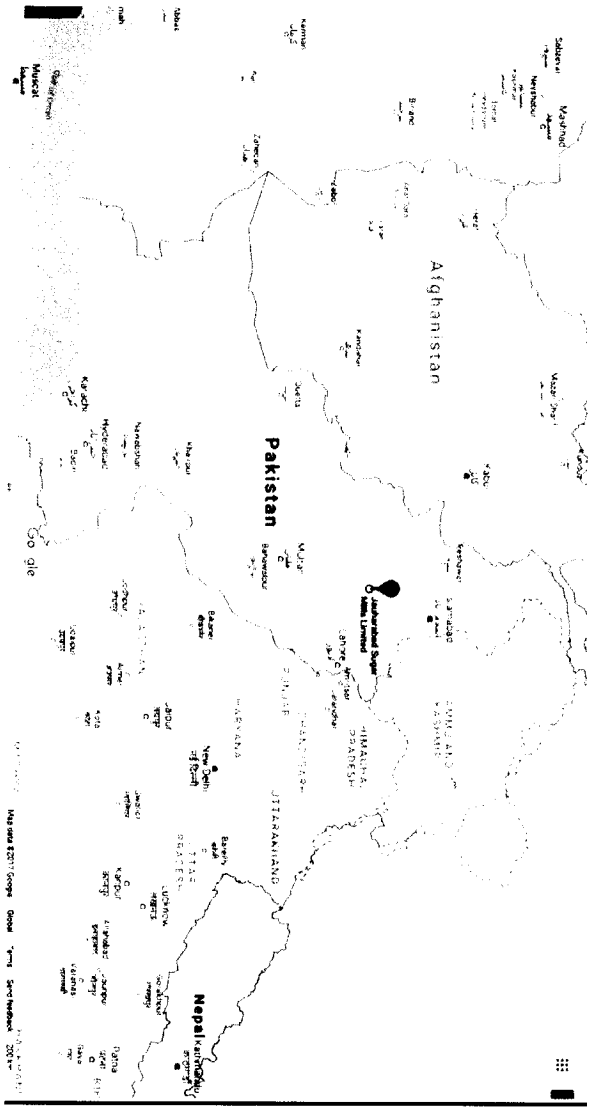
SCHEDULE-I

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



Location of the Generation Facility/Co-Generation Facility/Power Plant of the Licensee on Map of Pakistan



Latitude	N32.30725°
Longitude	E72.27807°

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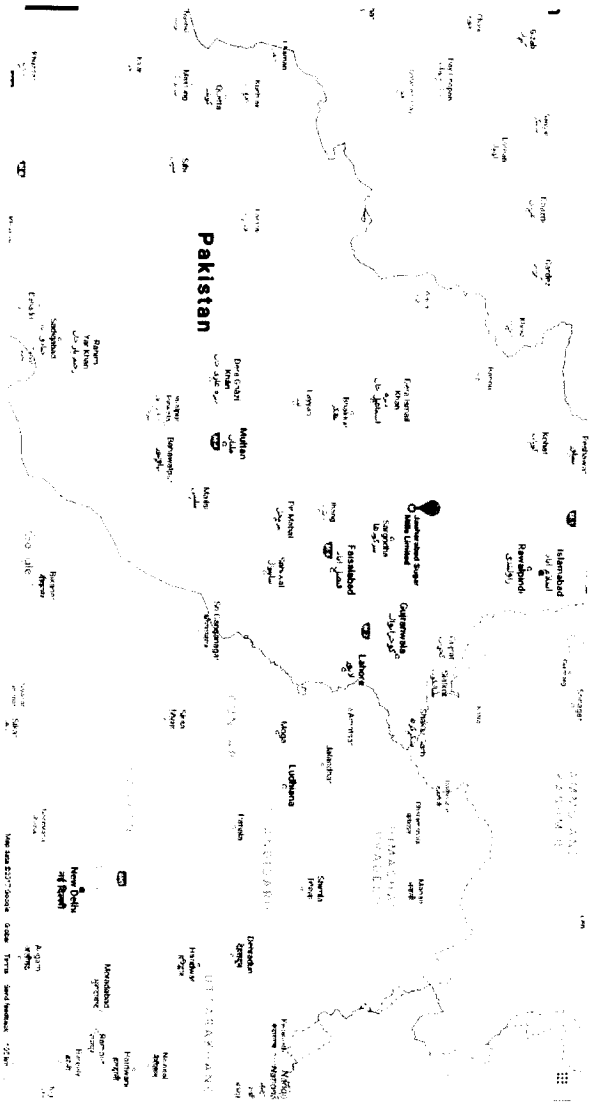
Location of the Generation Facility/Co-Generation Facility/Power Plant of the Licensee on Map of the Province of Punjab



Latitude	N32.30725°
Longitude	E72.27807°

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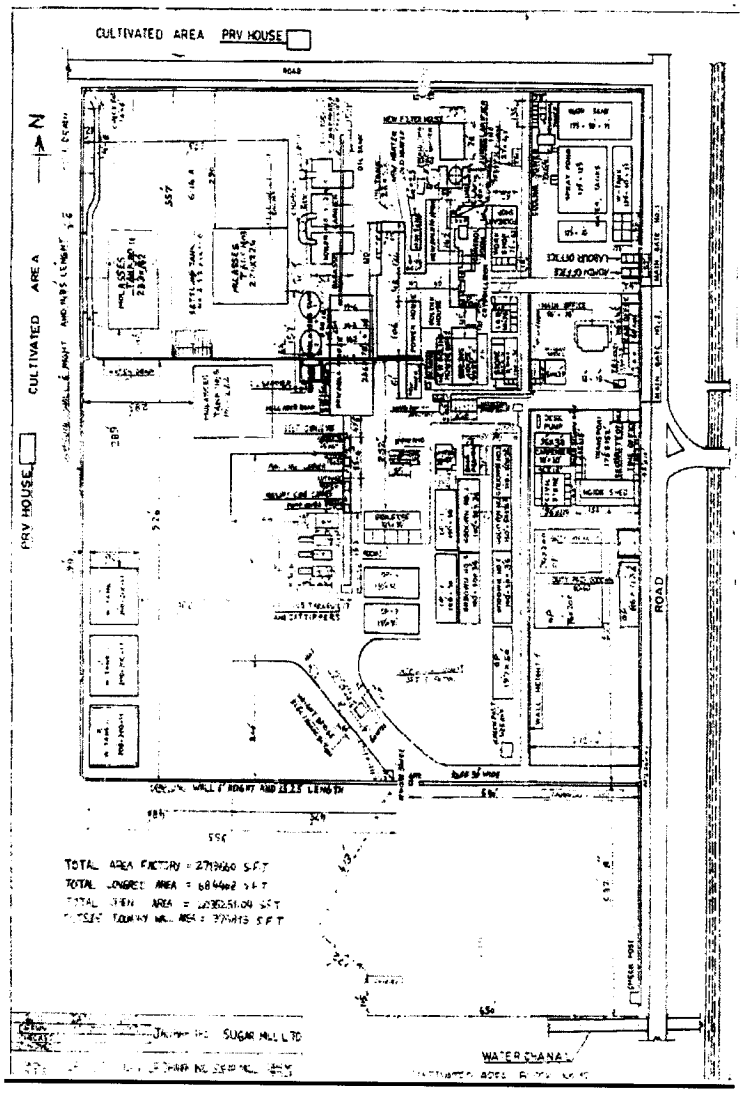
Lay-out of the Generation Facility/Co-Generation Facility/Power Plant of the Licensee



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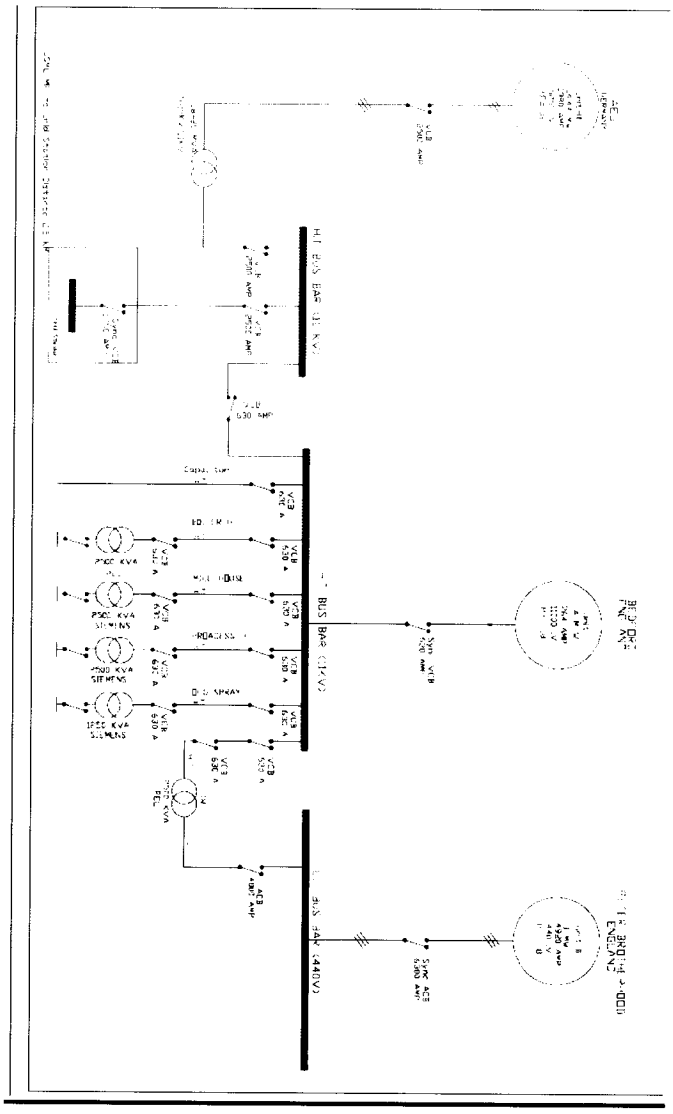
Single line Diagram (Electrical) of the Generation Facility/Co-Generation Facility/Power Plant of the Licensee



Interconnection Facilities/ Transmission Arrangements for Dispersal of Electric Power from the Generation Facility/Thermal Power Plant

The electric power from the indigenous coal based generation facility/Thermal Power Plant of Licensee-Jauharabad Sugar Mills Limited (JBDSML) will be dispersed to the load center of FESCO.

(2). The interconnection facilities/transmission arrangements for supplying to national grid from the above mentioned generation facility shall be at 11 kv level. The dispersal/interconnection arrangement will be consisting of an 11 KV Double Circuit (D/C) feeder (on ACSR Osprey Conductor Measuring about 2-KM in length) connecting the generation facility/Thermal Power Plant of the Licensee with Jauharabad grid station of FESCO.

(3). Any change in the above mentioned interconnection facilities/transmission arrangements 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.

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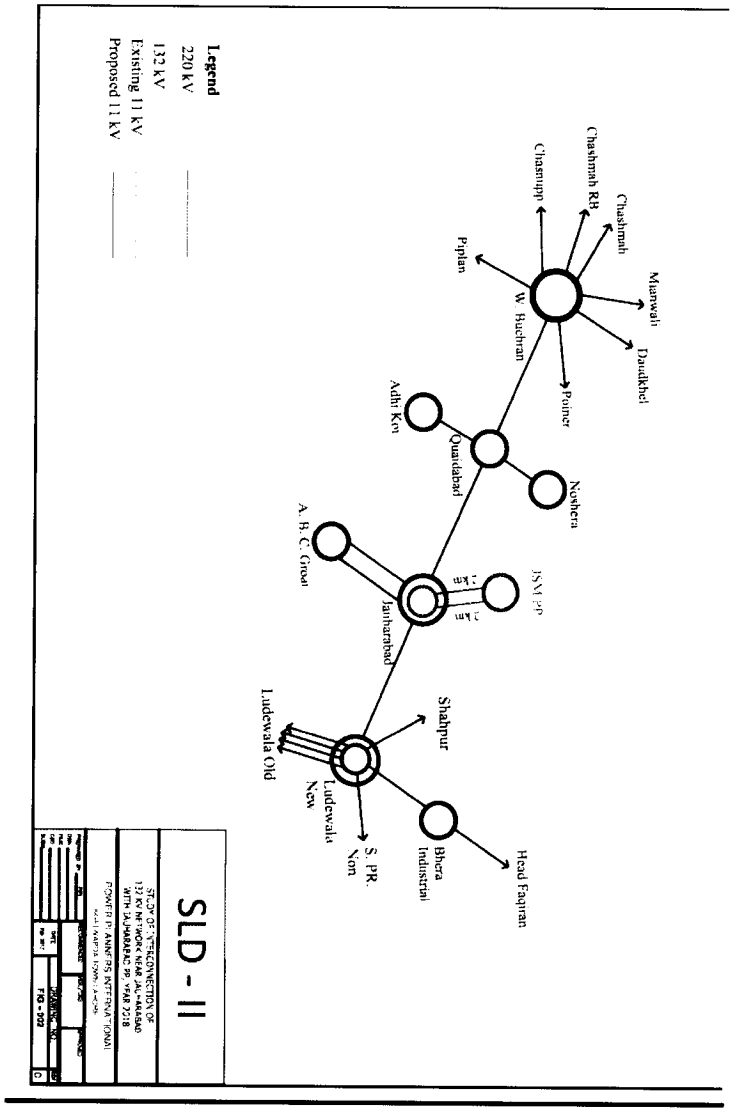
Schematic Diagram for Dispersal of Electric Energy/Power from the Generation Facility/Co-Generation Facility/Power Plant



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Details of Generation Facility/Co-Generation Facility/ Power Plant

(A). General Information

(i).	Name of the Company/ Licensee	Jauharabad Sugar Mills Limited
(ii).	Registered Office of the Company/ Licensee	109-A, Street No. 3, Cavalry Ground, Lahore Cantt. Pakistan
(iii).	Business Address of the Company/ Licensee	-Do-
(iv).	Location of the Generation Facility	1.5 KM Heavy Industrial Area, Sargodha-Mianwali Road, Jauharabad City, District Khushab in the Province of Punjab
(v).	Type of the Generation Facility	Bagasse based, high-pressure generation facility/Co-Generation

(B). Configuration of Generation Facility

(i).	Installed Capacity of the Generation Facility	21.44 MW		
(ii).	Type of Technology	Conventional Steam Turbine based Power Plant		
(iii).	Number of Units/Size (MW)	Unit No. - I	Unit No. - II	Unit No. - III
		4.0 MW	3.0 MW	14.44 MW

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(iv).	Unit Make/ Model & Year of Manufacture	Unit No. - I	Unit No. - II	Unit No. - III
		Bedford England	Peter Brotherhood England	AEG Germany
(v).	Commissioning/ Commercial Operation date of each Unit of the Generation Facility	Unit No. - I	Unit No. - II	Unit No. - III
		December 1978	December 1989	October 2017
(vi).	Expected Useful Life of the each Unit of the Generation Facility from its Commercial Operation/ Commissioning Date	Unit No. - I	Unit No. - II	Unit No. - III
		60 Years	60 Years	60 Years
(vii).	Expected Remaining useful Life of each Unit of the Generation Facility (at the time of grant of Generation Licence)	Unit No. - I	Unit No. - II	Unit No. - III
		21 Years	32 Years	60 Years

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(C). Fuel/Raw Material Details

(i).	Primary Fuel	Bagasse	
(ii).	Alternate Fuel	Biomass (Wood, Rice Husk, Wheat Straw and Cotton Stalk etc.)	
(iii).	Start Up Fuel	As above	
(iv).	Fuel Source (Imported/ Indigenous)	Primary Fuel	Alternate/Start Up Fuel
		Indigenous	Indigenous
(v).	Fuel Supplier	Primary Fuel	Alternate/Start Up Fuel
		Jauharabad Sugar Mills (Private) Limited (primary)/other Bagasse/Biomass suppliers (if available in the nearby area)	Biomass suppliers (if available in the nearby area of the Generation Facility)
(vi).	Supply Arrangement	Primary Fuel	Alternate/Start Up Fuel
		Through Conveyor Belts/Loading Trucks/Tractor Trolleys etc	Through Conveyor Belts/Loading Trucks/Tractor Trolleys etc
(vii).	Sugarcane Crushing Capacity	7,000 Ton Crushing Per Day	
(viii).	Bagasse Generation Capacity	2,100 Tons per day	
(ix).	Fuel Storage facilities	Primary Fuel	Alternate/Start Up Fuel
		Open Yard	
(x).	Capacity of Storage facilities	Primary Fuel	Alternate/Start Up Fuel

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		50,000 Tons (Bulk Storage)	
(xi).	Gross Storage Capacity	Primary Fuel	Alternate/Start Up Fuel
		50,000 Tons (Bulk Storage)	

(D). Emission Values

		Primary Fuel	Alternate/ Start Up Fuel
(i).	SO_2	11.3 mg/Nm^3	
(ii).	NO_x	149.8 mg/Nm^3	
(iii).	CO	350 mg/Nm^3	
(iv).	PM_{10}	200.5 mg/Nm^3	

(E). Cooling System

(i).	Cooling Water Source/Cycle	Deep well Turbine Pump/Tube wells/Underground Water/Cooling Tower

(F). Plant Characteristics

		Unit No. - I	Unit No. - II	Unit No. - III
(i).	Generation Voltage	11 KV	440 Volt	5.25 KV
(ii).	Frequency	50 HERTZ	50 HERTZ	50 HERTZ
(iii).	Power Factor	0.80 Lagging-0.95 Leading	0.8 Lagging-0.95 Leading	0.8 Lagging-0.95 Leading

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(iv).	Automatic Generation Control (AGC)	Yes	Yes	Yes
(v).	Ramping Rate	3.70 KW/Sec	3.70 KW/Sec	3.70 KW/Sec
(vi).	Time required to Synchronize to Grid	4Hrs, For cold start/ 40 Seconds for Synchronizing to Grid	4Hrs, For cold start/ 40 Seconds for Synchronizing to Grid	4Hrs, For cold start/ 40 Seconds for Synchronizing to Grid

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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 are given in this Schedule

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SCHEDULE-II

(1).	Total Gross Installed Capacity of the Generation Facility	21.44 MW
(2).	De-rated Capacity of Generation Facility at Reference Site Conditions	19.29 MW
(3).	Auxiliary Consumption of the Generation Facility	1.29 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Conditions	18.00 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 EPA or Applicable Documents.

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