



Registrar

National Electric Power Regulatory Authority

Islamic Republic of Pakistan

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No. NEPRA/R/LAG-382/4456-64

December 08, 2020

Mr. Misbahuddin, CE
Director (GI&C), PAEC
Pakistan Atomic Energy Commission
Directorate of Grid Integration & Coordination
P.O. Box No. 3094, Islamabad

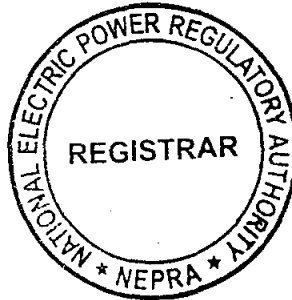
Subject: Modification Generation Licence No. SGC/120/2017 (Modification-I)
Licence Application No. LAG-382
Pakistan Atomic Energy Commission, (PAEC)

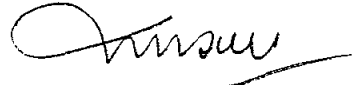
Reference: PAEC's LPM submitted vide letter No. GIC-070-002(006)/2019 dated 03.10.2019

It is intimated that the Authority has approved Modification in Generation Licence No. SGC/120/2017 issued on August 31, 2017 in respect of Pakistan Atomic Energy Commission (PAEC) for its 50.00 MW Coal Fired Power Plant pursuant to Regulation 10(11)(a) of the NEPRA Licensing (Application and Modification Procedure) Regulation 1999.

2. Enclosed please find herewith determination of the Authority in the matter of Licensee Proposed Modification of PAEC alongwith Modification-I in the Generation Licence No. SGC/120/2017, approved by the Authority.

Enclosure: As Above




(Muhammad Ramzan)

Copy to:

1. Secretary, Power Division, Ministry of Energy, 'A' Block, Pak Secretariat, Islamabad
2. Managing Director, NTDC, 414 WAPDA House, Lahore
3. Chief Executive Officer, Central Power Purchasing Agency Guarantee Ltd, 73 East, A.K. Fazl-ul-Haq Rd, Blue Area, Islamabad
4. Chief Executive Officer, Islamabad Electric Supply Company (IESCO), IESCO Head Office Street 40, Sector G-7/4, Islamabad
5. Chief Executive Officer, Faisalabad Electric Supply Company, Abdullahpur, Canal Bank Road, Faisalabad
6. Chief Executive Officer, Lahore Electric Supply Company, 22-A, Queen Road, Lahore
7. Chief Executive Officer, Multan Electric Power Company, MEPCO Headquarter, Khanewal Road, Multan
8. Director General, Environmental Protection Department, National Hockey Stadium, Ferozpur Road, Lahore

National Electric Power Regulatory Authority
(NEPRA)

Determination of the Authority
in the Matter of Licensee Proposed Modification in the
Generation Licence of Pakistan Atomic Energy Commission

December , 2020
Case No. LAG-382

(A). Background

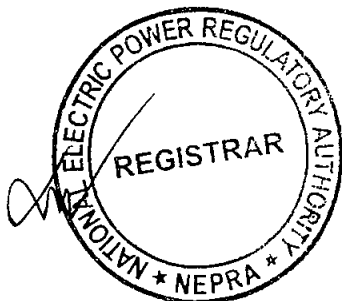
(i). In terms of the then Section-15 (now Section-14B) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act"), the Authority granted a generation licence (No. SGC/120/2017, dated August 31, 2017) to Pakistan Atomic Energy Commission (PAEC).

(ii). The above mentioned licence envisaged setting up a 2 x 25.00 MW local/Imported Coal based generation facility/Thermal Power Plant at KCP Complex Jauharabad, District Khushab, in the Province of Punjab for supplying to the concerned utility as well as for self-use.

(B). Communication of Modification

(i). PAEC in accordance with Regulation-10(2) of the NEPRA Licensing (Application & Modification Procedure) Regulations, 1999 (the Licensing Regulations), communicated a Licensee Proposed Modification (LPM) in its existing generation licence on October 04, 2019.

(ii). In the "text of the proposed modification", PAEC submitted that it intends to get its generation licence modified for supplying some of the available surplus power to the tune of 20-22 MW to its sister organizations, through wheeling, located in jurisdictions of different XW-DISCOs.



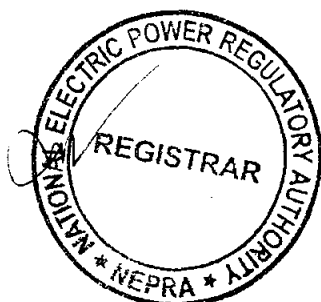
(iii). Regarding the "statement of the reasons in support of the modification", PAEC submitted that as per the generation licence, it is entitled to sell its surplus power to the concerned utility i.e. Faisalabad Electric Supply Company Limited (FESCO), any other DISCO or Central Power Purchasing Agency (Guarantee) Limited-CPPAG. In this regard, FESCO referred the matter to CPPAG for Power Purchase Agreement (PPA) however, CPPAG regretted the request to purchase surplus power from the coal based generation facility. Now PAEC intends to supply surplus power to PAEC establishments as Bulk power Consumers (BPC) located in jurisdiction of different XW-DISCOs, through wheeling by adopting the relevant Regulations in the matter.

(iv). About the "statement of impact on the tariff, quality of service and the performance by the licensee of its obligations under the licence", PAEC submitted that the tariff, quality of service, and performance and obligations of the licensee under the Generation Licence will not be affected by the proposed modification.

(C). Processing of Modification

(i). After completion of all the required information as stipulated under the Regulation-10(2) and 10(3) of the Licensing Regulations, the Registrar published the communicated LPM in one (01) English and one (01) Urdu daily newspaper on November 12, 2019, informing the general public, interested/affected parties and other stakeholders about the said LPM as required under the Regulation-10(4) of the Licensing Regulations.

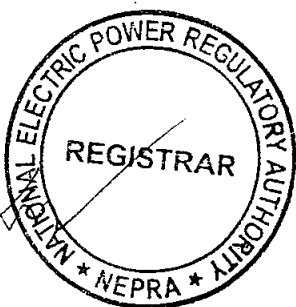
(ii). The Registrar also invited comments of the relevant Govt. Ministries, their attached Departments, representative organizations and individual experts etc. for the assistance of the Authority, by sending separate letters to the said stakeholders dated November 12, 2019, in favor or against the communicated LPM as stipulated in Regulation-10(9) of the Licensing Regulations.



(D). Comments of Stakeholders

(i). In response to the above, the Authority received comments from four (04) stakeholders including CPPAG, Pakistan Nuclear Regulatory Authority (PNRA), FESCO and National Transmission & Despatch Company Limited (NTDCL). National Transmission & Despatch Company Limited (NTDCL). The comments offered by the said stakeholders are summarized in the following paragraphs: -

- (a). CPPAG submitted that it has not given any consent for the project. The procurement needs to be evaluated in the criteria of IGCEP of NTDC;
- (b). PNRA stated that the referred case does not fall in its purview however, allowing the surplus will be beneficial to PAEC as it will cause saving to national exchequer;
- (c). FESCO remarked that PAEC plans selling surplus available to it through wheeling in the jurisdiction of different distribution companies. In this regard, FESCO had earlier highlighted various issues pertaining to wheeling including (a). Non-Recovery of Cost of Losses; (b). Avoiding Cross Subsidy; (c). settlement of Imbalances is not related to DISCO(S); (d). Non-Recovery of Use of System Charges of NTDC; (e). Non-Recovery of Stranded Cost; (f). Issues of Banked Energy; and (g). Hybrid Consumers. No further comments can be offered at this stage;
- (d). NTDC in its comments expressed its no objection to



the LPM of PAEC.

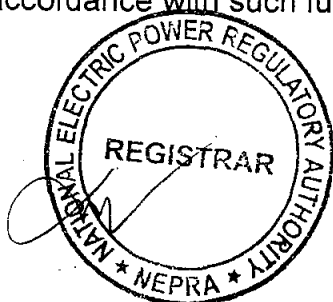
(ii). The Authority considered the above comments of the stakeholders and in view of the observations of CPPAG and FESCO, considered it appropriate seeking perspective of the licensee/PAEC. In reply to the said, PAEC on the comments of CPPAG submitted that its generation facility is an existing Captive Power Plant (CPP) which has no nexus with IGCEP. About the comment of FESCO, it was submitted that issues highlighted are under discussion at various forum and are under consideration of the Authority but the same do not pertain to its LPM.

(iii). The Authority considered the above submissions of PAEC and decided to proceed further in the matter, as stipulated in the NEPRA Licensing (Generation) Rules, 2000 (the "Generation Rules") and the Licensing Regulations.

(E). Evaluation/Findings

(i). The Authority examined the entire case in detail including the already granted licence, communicated LPM, comments of stakeholders and rejoinders from the Licensee. In this regard, the Authority observed that it granted a generation licence (No. SGC/120/2017, dated August 31, 2017) for its 50.00 MW local/Imported Coal based generation facility/Thermal Power Plant at KCP Complex Jauharabad, District Khushab, in the Province of Punjab for supplying to the concerned utility as well as for self-use.

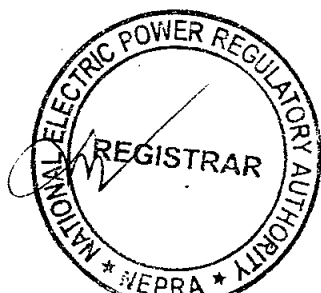
(ii). According to the communicated LPM under consideration, the company/Licensee/PAEC now plans supplying to eleven (11) BPC(s) as stipulated under Section-22 of the NEPRA Act. In this regard, the Authority in terms of Section-26 of the NEPRA Act read with Regulation-10(5) of the Licensing Regulations, is empowered to modify an existing licence of a licensee subject to and in accordance with such further changes as it may deem fit, if in the opinion



of the Authority such modification (a). does not adversely affect the performance by the licensee of its obligations; (b). does not cause the Authority to act or acquiesce in any act or omission of the licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to it; (c). is or is likely to be beneficial to the consumers; (d). is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence; and (e).is reasonably necessary to ensure the continuous, safe and reliable supply of electric power to the consumers keeping in view the financial and technical viability of the licensee.

(iii). In consideration of the above, the Authority observes that (a). the proposed LPM will not adversely effect the performance of the licensee of its obligations under its generation licence considering the fact it has surplus available with it for supplying to the proposed BPC(s); (b). the LPM will not cause it to act or acquiesce in any act or omission of the licensee in a manner contrary to the provisions of the NEPRA Act or the rules or regulations made pursuant to it; (c). the LPM is likely to be beneficial to the BPC(s) as it will be having continuous supply of reliable electric power from the licensee; (d). the LPM is reasonably necessary for the licensee to effectively and efficiently perform its obligations under the licence; and (e).is reasonably necessary to ensure the continuous, safe and reliable supply of electric power to the BPC(s) keeping in view the financial and technical viability of the licensee.

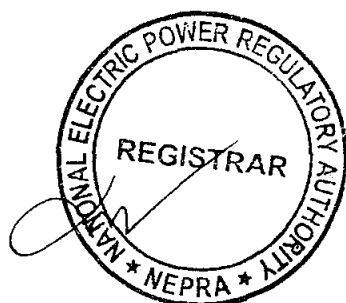
(iv). In consideration of the above, the Authority has considered the comments of the stakeholders and has observed that CPPAG and FESCO have raised certain observations which needs to be addressed. In its comments CPPAG submitted that (a). it has not given any consent for the project; (b). the procurement needs to be evaluated in the criteria of IGCEP of NTDC. In this regard, the Authority confirms that the generation facility of PAEC has already been set up and operational for some time supplying to its own installations and have surplus available which it plans supplying to different installations as BPC(s)



for which LPM has been submitted. In this regard, the Authority hereby confirms for the processing of the LPM and for wheeling, there is no requirement of having a consent from CPPAG. Regarding the other observation of CPPAG that procurement is to be evaluated in terms of the criteria of IGCEP, it is clarified that the generation facility of PAEC is already existing therefore, the same is not to be dealt in terms of the IGCEP as the same is applicable for new projects to be considered.

(v). The Authority has observed that FESCO in its comments has raised various observations including (a). non-recoverable cost of losses; (b). UoSC of NTDC and Fee of CPPA-G; (c). impact of Cross Subsidy and non-payment of Capacity Charges; (d). Problems with Banked Energy; (e). roles of Settlement and Dispatch of Power Plant; (f). settlement of differences within Distribution Companies [i.e. DISCO(s)]; (g). issues relating to imposition of LD(s); and (h). wheeling through multiple DISCO(s).

(vi). In consideration of the above, it is clear that points highlighted by FESCO are mostly related to the tariff structure on wheeling whereas rest of the observations are generally addressed in the related agreement pertaining to wheeling of energy. On the issues of cost related issues of wheeling, the Authority has already started a consultative process with all the stakeholders to address the same suitably in the determination for tariff for DISCO(s) which the Authority has either admitted or will be admitting. The Authority can even consider initiating suo-moto proceedings for those DISCOs for which it had determined Multi Year Tariff. Regarding issues other than cost/tariff on wheeling, the Authority considers that such issues are related to Energy Wheeling Agreement and the same may be addressed there at the time of execution of such agreements. In consideration of the above, the Authority considers that all the observations of CPPAG and FESCO stands addressed.



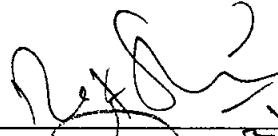
(F). Approval of LPM

(i). In view of the above, the Authority is satisfied that the Licensee has complied with all the requirements of the Licensing Regulations pertaining to the modification. Therefore, the Authority in terms Section-26 of the NEPRA Act read with Regulation-10(11) of the Licensing Regulations approves the communicated LPM without any changes.


(ii). Accordingly, the Generation Licence (No. SGC/120/2017, dated August 31, 2017) granted to PAEC is hereby modified. The changes made in the generation licence are attached as annexure to this determination. The approval of the LPM is subject to the provisions contained in the NEPRA Act, relevant rules framed there under, terms & conditions of the generation licence and other applicable documents.

Authority


Rafique Ahmed Shaikh
(Member)


3/12/20

Rehmatullah Baloch
(Member)


2/4/12/2020

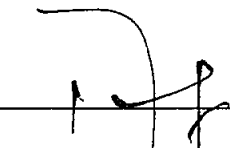
Engr. Bahadur Shah
(Member)

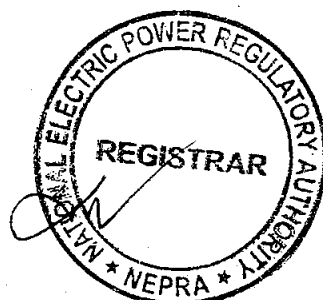


Saif Ullah Chattha
(Member/Vice Chairman)


4.12.20

Tauseef H. Farooqi
(Chairman)





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

GENERATION LICENCE

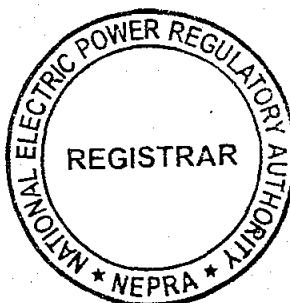
No. SGC/120/2017

In exercise of the Powers conferred under Section-26 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, the Authority hereby modifies the Generation Licence (No. SGC/120/2017, dated August 31, 2017) to Pakistan Atomic Energy Commission (PAEC), to the extent of changes mentioned hereunder:

- (a). The Changes made in Articles of the Generation Licence are attached as Revised/Modified Articles of Generation Licence;
- (b). Changes made in Schedule-I of the Generation Licence are attached as Revised/Modified Schedule-I;
- (c). Changes made in Schedule-II of the Generation Licence are attached as Revised/Modified Schedule-II; and
- (d). Addition of Second Tier Supply Authorization (STSA) as attached with the modified Generation.

This **Modification-I** is given under my hand on this 8th day of **December Two Thousand & Twenty**


Registrar

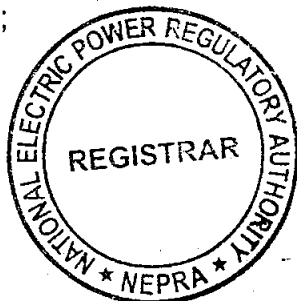




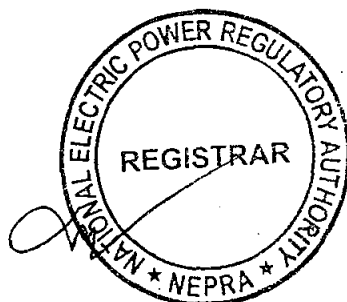
Article-1 **Definitions**

1.1 In this licence

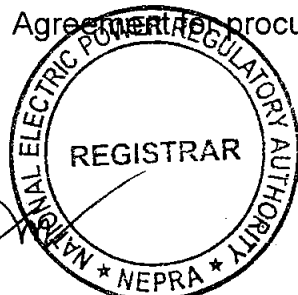
- (a). "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 as amended or replaced from time to time;
- (b). "Applicable Documents" mean the Act, the rules and regulations framed by the Authority under the Act, any documents or instruments issued or determinations 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, the Commercial 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;
- (c). "Applicable Law" means all the Applicable Documents;
- (d). "Authority" means the National Electric Power Regulatory Authority constituted under Section-3 of the Act;
- (e). "Bulk Power Consumer (BPC)" means a consumer which purchases or receives electric power, at one premises, in an amount of one (01) megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas;



- (f). "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 or Bulk Power Purchaser;
- (g). "Commercial Code" means the commercial code under National Electric Power Regulatory Authority (Market Operator Registration, Standards and Procedure) Rules, 2015 as amended or replaced from time to time;
- (h). "Commercial Operations Date (COD)" means the day immediately following the date on which the generation facility/Thermal Power Plant of the Licensee is commissioned;
- (i). "CPPAGL" means Central Power Purchasing Agency (Guarantee) Limited or any other entity created for the like purpose for functioning as market operator;
- (j). "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;
- (k). "Distribution Company" means "a company to whom the Authority has granted a distribution licence under Section 20-21 of the Act and engaged in the distribution of electric power;
- (l). "Energy Wheeling Agreement" means the energy wheeling agreement, entered or to be entered into by and between any XW-DISCO or NTDC or holder of a licence under the Act and the Licensee, for the Wheeling of electrical energy generated by the generation facility, as may be amended by the parties thereto from time to time;



- (m). "FESCO" means Faisalabad Electric Supply Company Limited and its successors or permitted assigns;
- (n). "Generation Rules" mean the National Electric Power Regulatory Authority Licensing (Generation) Rules, 2000 as amended or replaced from time to time;
- (o). "Grid Code" means the grid code prepared and revised from time to time by NTDC with necessary approval of the Authority;
- (p). "IESCO" means Islamabad Electric Supply Company Limited and its successors or permitted assigns;
- (q). "LESCO" means Lahore Electric Supply Company Limited and its successors or permitted assigns;
- (r). "Licensee" means **Pakistan Atomic Energy Commission** and its successors or permitted assigns;
- (s). "Licensing Regulations" mean the National Electric Power Regulatory Authority Licensing (Application & Modification Procedure) Regulations, 1999 as amended or replaced from time to time;
- (t). "MEPCO" means Multan Electric Power Company Limited and its successors or permitted assigns;
- (u). "NTDC" means National Transmission & Despatch Company Limited and its successors or permitted assigns;
- (v). "Power Purchaser" means CPPAGL on behalf of all XW-DISCO(s) or any individual XW-DISCO or any BPC which purchases electricity from the Licensee, pursuant to a Power Purchase Agreement for procurement of electricity;

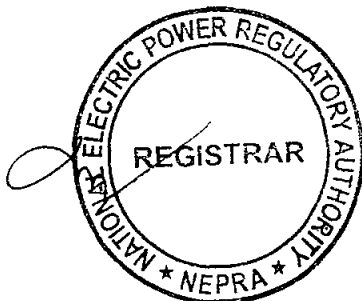


- (w). "Power Purchase Agreement-PPA" means the power purchase agreement, entered or to be entered into by and between the Power Purchaser and the Licensee, for the purchase and sale of electrical energy generated by the generation facility, as may be amended by the parties thereto from time to time;
- (x). "Service Territory" means the service territory as defined in the distribution licence of a Distribution Company including any XW-DISCO or NTDC or holder of a licence under the Act;
- (a). "Thermal Power Plant" means a generation facility used for production of electric power using fossil fuel";
- (y). "Wheeling" means supplying/injecting electrical energy by the Licensee into the Grid System of any Distribution Company (including FESCO, IESCO, LESCO, MEPCO) or NTDC, at one point and receiving the same amount at any other location located in the Service Territory of any Distribution Company upon payment of use of system charges as determined by the Authority;
- (z). "XW-DISCO" means an Ex-WAPDA distribution company engaged in the distribution of electric power".

1.2 The 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 or replaced from time to time.



Article-3 **Generation Facilities**

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

3.2 The installed/ISO capacity (MW), the de-rated capacity (MW), the auxiliary consumption (MW) and the net capacity (MW) of the generation facility/Thermal Power Plant of the Licensee is set out in Schedule-II hereto this licence.

Article-4 **Term of Licence**

4.1 This licence is effective from the original date of its issuance i.e. August 31, 2017 and has the term of thirty (30) years from the COD of the generation facility subject to the provisions of Section-14B of the Act.

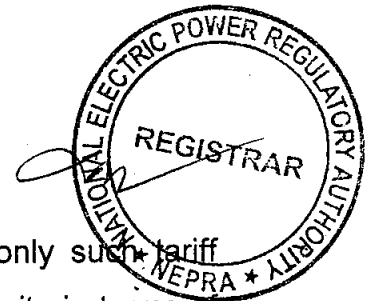
4.1 Unless suspended or revoked earlier or Licence ceases to have effect, the Licensee may apply for renewal of this Licence ninety (90) days prior to the expiry of the above term, as stipulated in the Licensing Regulations.

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 or replaced from time to time.

Article-6 **Tariff**

6.1 The Licensee shall charge CPPAGL or XW-DISCO(s) only such tariff which has been determined, approved or specified by the Authority in terms of Rule-6 of the Generation Rules.



6.2 The Licensee is allowed to charge its BPC(s) a mutually agreed tariff in a competitive trading arrangement.

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.

7.2 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.

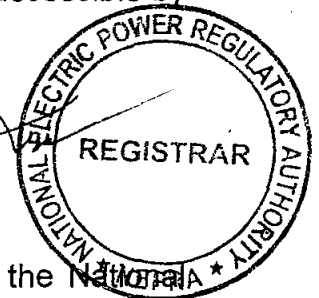
7.3 Any variation or modification in the above-mentioned contracts for allowing the parties thereto to participate wholly or partially in the Competitive Trading Arrangement shall be subject to mutual agreement of the parties thereto and such terms and conditions as may be approved by the Authority.

Article-8 **Maintenance of Records**

For the purpose of sub-rule (1) of Rule 19 of the Generation 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 or replaced from time to time.



Article-10
Compliance with Environmental & Safety Standards

10.1 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.

10.2 The Licensee shall provide a certificate on a bi-annual basis, confirming that the operation of its generation facility/Thermal Power Plant is in line with environmental standards as prescribed by the relevant competent authority.

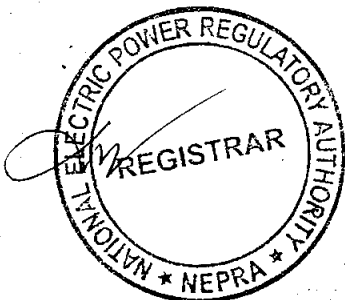
Article-11
Provision of Information

11.1 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.

11.2 The Licensee shall be subject to such penalties as may be specified in the relevant rules made by the Authority for failure to furnish such information as may be required from time to time by the Authority and which is or ought to be or have been in the control or possession of the Licensee.

Article-12
Power off take Point and Voltage

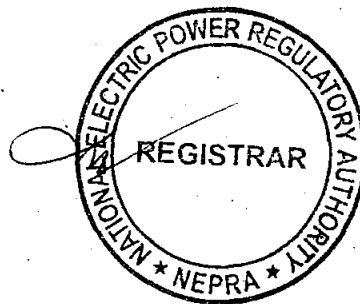
The Licensee shall deliver the electric energy to the Power Purchaser at the outgoing Bus Bar of its generation facility/ Thermal Power Plant. The Licensee shall be responsible for the up-gradation (step up) of generation voltage up to the required dispersal voltage level.



Article-13
Compliance with Applicable Law

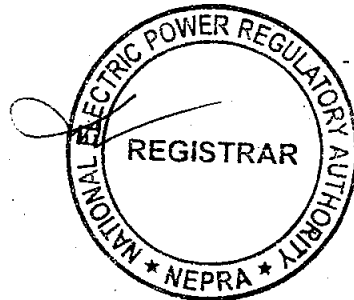
The Licensee shall comply with the provisions of the Applicable Law, guidelines, directions and prohibitory orders of the Authority as issued from time to time.

Modification-I



Revised/Modified
SCHEDULE-I

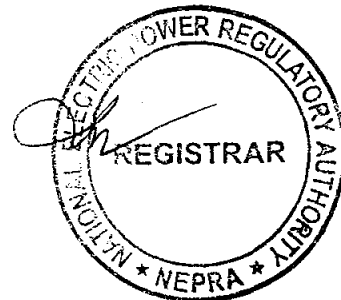
The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule.



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

The electric power from the Generation Facility/Thermal Power Plant of the Licensee/Pakistan Atomic Energy Commission (PAEC) shall be dispersed to load center of FESCO by constructing a 132 KV Double Circuit (D/C) Transmission line (on ACSR Lynx Conductor Measuring about 3-KM in length) connecting with ABC Grout grid station of FESCO.

(2). The electric power delivered by the Licensee to FESCO will be wheeled to the network of any XW-DISCO(s) or NTDC and will be supplied to different BPC(s) as indicated/including in the Second Tier Supply Authorization attached herewith¹. In order to wheel the power, XW-DISCO or NTDC will be charging the Licensee a Use of System Charge (UoSC) as per the determination of the Authority. Notwithstanding the said, the Licensee is also allowed to supply electric power to CPPAG or any XW-DISCO including FESCO.



¹ PAEC shall provide the detail(s) of any new/additional BPC(s) other than mentioned above, before starting supply of electric power to it and will get the name of BPC included in the Generation Licence through a modification as stipulated in the Licensing Regulations.

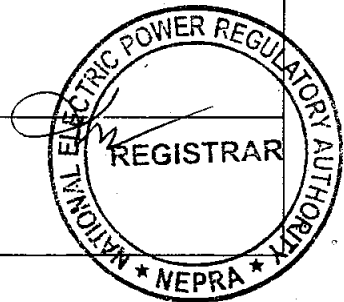
Details of
Generation Facility/Thermal Power
Plant of the Licensee

(A). General Information

(i).	Name of Licensee	Pakistan Atomic Energy Commission
(ii).	Head Office of the Licensee	House No. 7, Main Double Road, G-11/3, Islamabad.
(iii).	Location of the generation facility	KCP Complex Jauharabad, District Khushab in the Province of Punjab
(iv).	Type of generation facility	Coal Fired Thermal Power Plant

(B). Plant Configuration

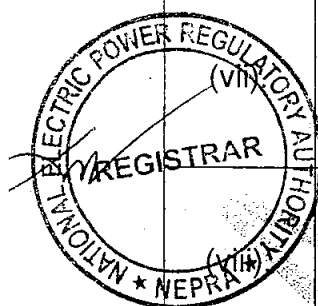
(i).	Installed Capacity/ Size of the generation facility	50.00 MW	
(ii).	Type of Technology	Conventional generation facility/Thermal Power Plant with Sub Critical Boiler and Steam Turbine	
(iii).	Number of Units/Size (MW)	2 x 25.00 MW	
(iv).	Unit Make/Model/Type & Year of Manufacture Etc.	Steam turbine	Sub Critical, Condensing Steam Turbines of Qingdao Jeineng Turbine Co.
		Boiler	Sub-critical, CFBC Boiler of Sichuan Chuanguo Boiler Co. (SCBC), Chengdu
(v).	Expected COD of the generation facility	December 31, 2017	
(vi).	Expected Useful Life of the generation facility from COD	30 years	



(C). Fuel/Raw Material Details

(i).	Primary Fuel	Local sub-bituminous coal
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(ii).	Alternative Fuel	Imported sub-bituminous coal		
(iii).	Start-Up Fuel	High Speed Diesel Oil (HSD)		
(iv).	Fuel Source	Primary Fuel	Alternative Fuel	Start-Up Fuel
		Indigenous	Imported	Indigenous/Imported
(vi).	Fuel Supplier	Primary Fuel	Alternative Fuel	Start-Up Fuel
		Any Local coal supplier	Any Local coal supplier	PSO/Shell/any other OMC Company.
(v).	Supply Arrangement	Primary Fuel	Alternative Fuel	Start-Up Fuel
		Trucking (Mine mouth Plant)	Marine Shipment/Trucking/Railway	Oil tankers
(vi).	No. of Storage Bunkers/Tanks/Open Yard	Primary Fuel	Alternative Fuel	Start-Up Fuel
		One shed / open yard	One shed / open yard	Two (02) Tanks
(vii).	Storage Capacity of each shed/Open Yard / Tanks	Primary Fuel	Alternative Fuel	Start-Up Fuel
		40 days (34000 Tons)	40 days (34000 Tons)	2 x 50 m ³
(viii).	Gross Storage	Primary Fuel	Alternative Fuel	Start-Up Fuel
		40 days (34000 Tons)	40 days (34000 Tons)	100 m ³



(D). Emission Values

		Primary Fuel	Alternative Fuel	Start-Up Fuel
(i).	SO _x (mg/Nm ³)	<200	<200	To be provided later

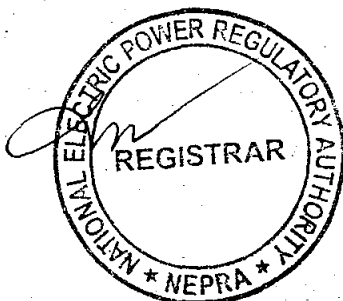
(ii).	NO _x (mg/Nm ³)	<200	<200	-Do-
(iii).	CO ₂	To be provided later	To be provided later	-Do-
(iv).	Particulate Matter (mg/Nm ³)	<100	<100	-Do-

(E). Cooling System

(i).	Cooling Water Source/Cycle	Ground water (through Deep Well Turbines)
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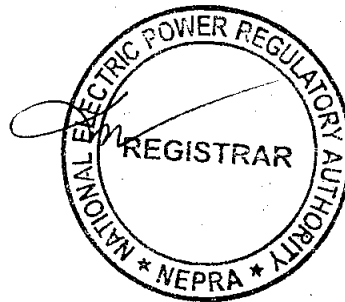
(F). Plant Characteristics

(i).	Generation Voltage	11 KV		
(ii).	Frequency	50Hz (+ 2%)		
(iii).	Power Factor	0.85 lagging to 0.95 leading		
(iv).	Automatic Generation Control	Yes		
(v).	Ramping Rate (MW/min)	50%~100% load	between 25% to 50% load	under 25% load
		To be provided later	To be provided later	To be provided later
(vi).	Time required to Synchronize to Grid (Hrs.)	Hot Start	Warm Start	Cold Start
		To be provided later	To be provided later	To be provided later



Revised/Modified
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.

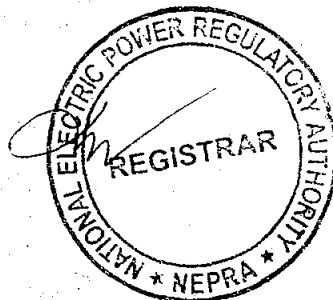


SCHEDULE-II

(1).	Total Installed Gross Capacity (2 x 25.00 MW Steam Turbines) of Generation Facility	50.00 MW
(2).	Total Installed De-Rated Capacity (2 x 25.00 MW Steam Turbine) of Generation Facility at Reference Site Condition	50.00 MW
(3).	Total Auxiliary Consumption of Generation Facility	00.00 MW
(4).	Total Installed Net Capacity of Generation Facility at Reference Site Condition	50.00 MW

Note

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



Authorization
by National Electric Power Regulatory Authority (NEPRA) to
Pakistan Atomic Energy Commission

NEPRA GENERATION LICENCE
(No. SGC/120/2017, dated August 31, 2017)

For Sale to Bulk Power Consumer(s)-BPC(s)

Pursuant to Section-22 of the Act and Rule-7 of the NEPRA Licensing (Generation) Rules-2000, the Authority hereby authorize the Licensee/Pakistan Atomic Energy Commission (PAEC) to engage in second-tier supply business, limited to the following consumers:-

- (a). Chashma Nuclear Power Generation Station (CNPGS);
- (b). National Institute for Bio-Technology & Genetic Engineering (NIBGE);
- (c). Nuclear Institute for Agriculture & Biology (NIAB);
- (d). Pakistan Institute of Nuclear Science & Technology (PINTECH);
- (e). NCC;
- (f). Kahuta Research Laboratory (KRL);
- (g). DTD-R/ NCC/ UML/ EMRD/ RSC/PAEC Hospital/ Nilore/ Security/ Hostel;
- (h). Heavy Mechanical Complex-3 (HMC-3);
- (i). BIDNUPP/Mineral Development Project (MDP);
- (j). Chemical Plants Complex (CPC);
- (k). Ravi Ryan Chemical Complex (RCC).

Engr. Rafique Ahmed Shaikh
(Member)

Engr. Rehmatullah Baloch
(Member)

Engr. Bahadur Shah
(Member)

Saif Ullah Chattha 8.12.2020
(Member)/Vice Chairman

Engr. Tauseef H. Farooqi
Chairman

