



Central Power Purchasing Agency Guarantee Limited

A Company of Government of Pakistan



CPPA-G/2022/CEO/8943-45

The Registrar NEPRA,
NEPRA Tower,
Ataturk Avenue, G-5/1,
Islamabad.

Fwd / a M.

- Dir (R)

- MF

copy to:

DG (LIC), ALA (LIC), - MEM 4E1

- CECTB (M)

a. chairman

- MEM 4E1

- MC 5/6

November 07, 2022

10/11/22

Subject: Submission of Special Purpose Agent Registration Application along with Agency Code

With reference to NEPRA's approved test run plan vide determination dated 31st May 2022, CPPA-G is hereby submitting the SPA Registration Application and Agency Code for the grant of registration and approval of the agency code by the Authority.

It is submitted after the approval of the Board of Directors of CPPA-G in the 87th board meeting held on 26th October 2022. The copy of the Board Resolution IV/87 is also attached here.

A crossed cheque in the sum of Rupees 1,13,669/- being the applicable fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Registration Regulations, 2022, is also attached herewith.

Further, it is pertinent to mention that CPPA-G in June 2022 filed its petition for the determination of Market Operator Fee for the Financial Year 2022-2023, in the said petition the SPA Registration Application Fee was not included, therefore, it is kindly requested to please include the amount of Rupees 1,210,510/- in the earlier requested petition and allow this amount to CPPA-G in the MOF determination for the financial year 2022-2023.

Rihan Akhtar
CEO, CPPA-G

C.C.

- CLO CPPA, Islamabad
- Head Market (O&D) CPPA, Islamabad,
- Master File

REGISTRAR OFFICE
Diary No: 11879
Date: 10.11.2022

cheque of Rs. 1,13,669/-



Central Power Purchasing Agency Guarantee Limited
A Company of Government of Pakistan



CPPA-G/2022/CS/ 3220 - 3223

01st November 2022

BOARD RESOLUTION IV / 87

APPROVAL OF SUBMISSION OF SPECIAL PURPOSE AGENT (SPA) LICENSE APPLICATION ALONG WITH THE SPA CODE TO NEPRA FOR APPROVAL

A meeting of Board of Directors of Central Power Purchasing Agency (Guarantee) Limited (CPPA-G) was held on 26th October 2022 at CPPA-G office, Shaheen Plaza, 73-west, Fazal-e-Haq Road, Blue Area Islamabad.

The Board of Directors of Central Power Purchasing Agency Guarantee Limited (CPPA-G) has;

- I. Resolved that "SPA Registration application and SPA Code is hereby recommended by the Board for submission to NEPRA for approval."*
- II. Further resolved that "CPPA-G management be and is hereby authorized to submit the SPA registration application and SPA Code to NEPRA for approval."*

CERTIFIED TO BE TRUE COPY

Certified that the above resolution was passed by the Board of Directors of Central Power Purchasing Agency (Guarantee) Limited in its 87th meeting held on 26th October 2022 and has been duly recorded in the minutes book of the Company.


Noman Rafiq
Company Secretary



Distribution:

- i. Chief Financial Officer, CPPA (G) Ltd.
- ii. Chief Legal Officer, CPPA (G) Ltd.
- iii. Chief Technical Officer, CPPA (G) Ltd.

CC for Information:

1. Chief Executive Officer, CPPA (G) Ltd.



**BEFORE
THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY ("NEPRA")**

**APPLICATION FOR REGISTRATION OF
THE SPECIAL PURPOSE AGENT (the "SPA")**

**PURSUANT TO THE ENABLING PROVISIONS OF THE NEPRA ACT, 1997
READ WITH THE ENABLING PROVISIONS OF THE SUBORDINATE LEGISLATION
MADE THEREUNDER,
&
THE NATIONAL ELECTRICITY POLICY, 2021**

**ON BEHALF OF
THE CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED**

**FOR GRANT OF REGISTRATION BY NEPRA
AS
SPECIAL PURPOSE AGENT
("SPA")**

**DATE: November 2022
ISLAMABAD**

1. THE APPLICANT FOR SPECIAL PURPOSE AGENT REGISTRATION

- 1.1 The Central Power Purchasing Agency (Guarantee) Limited (the "CPPA", the "Applicant", or the "Company") is a company incorporated under the Companies Ordinance, 1984 (XLVII of 1984) and granted a Corporate Universal Identification No. 0068608 by the Security Exchange Commission of Pakistan.
- 1.2 The Applicant was incorporated in the year 2009 following its segregation from the National Transmission and Despatch Company (NTDC), though it continued its operations under NTDC (as a department thereof) until June 2015, when CPPA as a separate entity was made operational pursuant to decision of the Economic Coordination Committee of the Cabinet ("ECC") pursuant to the Pakistan Power Sector Reform.
- 1.3 The Applicant is a Public Sector Company limited by Guarantee, not having a share Capital registered with the Securities and Exchange Commission of Pakistan (SECP), under the Companies Ordinance, 1984. The Company's Head Office is located at 73 West, Shaheen Plaza, AK Fazal-ul-Haq Road, G-7, Islamabad. The Company's landline contact number is: 051-9213616; Fax: 051-9213617 and its website's URL is: www.cppa.gov.pk.
- 1.4 NEPRA, in exercise of the powers conferred thereto by sections 7 and 25A of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (the "NEPRA Act"), is the body empowered to register an entity as an "electric power service" provider and authorize the same to operate as the power purchaser and agent of the DISCOs which task has been entrusted to CPPA.
- 1.5 The Applicant submits its Application, pursuant to the enabling provisions of NEPRA Act read with the enabling provisions of the subordinate legislation made thereunder, and any national electricity policies which the Federal Government may promulgate in the future through which NEPRA is empowered to register such entity as the Special Purpose Agent ("SPA") and authorize it to conduct the functions of the SPA.
- 1.6 The constituent documents of the Applicant comprising of Articles of Association, Memorandum and registration certificate of SECP are annexed hereto.

2. BACKGROUND TO THE SPECIAL PURPOSE AGENT REGISTRATION

- 2.1 Currently the Applicant performs two principal roles, i.e. that of the Market Operator and that of the agent of the Ex-WAPDA Distribution Companies (the "DISCOs", which term includes K-Electric for the purposes of the SPA Code). The Applicant was initially registered to do so pursuant to the grant of registration by NEPRA *vide* the certificate of registration no.MOR/01/2018 (the "Registration Certificate") conveyed *vide* NEPRA's letter no.NEPRA/R/DL/LAM-01/17884-90 dated 16.11.2018. Subsequently, NEPRA – pursuant to sections 23A and 23B of the NEPRA Act – granted the Applicant Market Operator license no.MOL/01/2022, conveyed *vide* NEPRA's letter no.NEPRA/R/DG(LIC)/LAM-01/8389 dated 31.05.2022.
- 2.2 It is cogent to note that NEPRA noted in its 2018 grant of certificate to the Applicant that the Applicant could not continue to perform the roles of both agent of the DISCOs and purchaser under the Power Purchase Agreements ("PPAs") and Energy Purchase Agreements ("EPAs")(collectively, the "Contracts" which term shall include the preexisting 'legacy' PPAs and EPAs as well as all such agreements executed in compliance with the most recent Indicative Generation Capacity Expansion Plan approved prior to the operationalization of the CTBCM), and the role of the Market Operator of the competitive wholesale electricity market (the "CTBCM") due to a patent conflict of interest.
- 2.3 Recognizing this conflict of interest, NEPRA provided clear directions to the Applicant in the Registration Certificate to have these two functions separated both operationally and legally prior to the commencement of the competitive market operations.
- 2.4 To ensure that the Market Operator function is independent of any commercial interest (or contract trading with Market Participants), the Applicant must be separated into its different functions:
- a. The Market Operator, as a service provider centrally administering the competitive wholesale electricity market; and
 - b. The Agent of the DISCOs as the administrator of the purchase of power pursuant to the Contracts executed for and on behalf of the DISCOs, which will be the Special Purpose Agent ("SPA").

2.5

In pursuit of this bifurcation of roles, and in compliance with NEPRA's directions conveyed *vide* the Registration Certificate, the following strategy has been adopted for the bifurcation of CPPA into two distinct entities:

- a. First, the functional separation of the two roles performed by the Applicant, by creating two business units within the CPPA, each unit possessing its own management, staff, and accounting separation; and
- b. Second, as per the approved market model, the legal separation of the same into two distinct corporate entities prior to the start of the CTBCM. This action has been principally approved by the Board of Directors, CPPA.

3. THE APPLICATION FOR SPECIAL PURPOSE AGENT REGISTRATION

- 3.1 The instant Application has been filed before NEPRA for the registration of CPPA as an Electric Power Service provider in terms of the NEPRA Act, specifically as the Special Purpose Agent ("SPA"), in compliance with NEPRA's directions regarding the separation of the agent of the DISCOs / Power Purchaser functions of CPPA from the Market Operator ("MO") functions entrusted to CPPA.
- 3.2 Thus, if an entity desirous of being registered as the SPA submits its application for the same and satisfies the eligibility criteria as required under the NEPRA Act, NEPRA is empowered to register such entity as the SPA and to authorize it to conduct the operations concomitant therewith.
- 3.3 Therefore, in view of the above, the Applicant – with its address at 73 West, Shaheen Plaza, AK Fazlul-Haq Road, Islamabad – is filing the instant Registration Application before NEPRA for grant by NEPRA to the Applicant of registration as the SPA pursuant to section 25A of the NEPRA Act read with the enabling provisions of the subordinate legislation promulgated thereunder.
- 3.4 The registration application requirements have been documented and are annexed herewith and shall be read as an integral part of this Application. Further, in order to provide clarity and consistency in application and to ensure a smooth transition from the previous regime, under which the Applicant performed both Power Purchaser and Market Operator roles, to the present one, under which these roles have been bifurcated, the Applicant is submitting the Special Purpose Agent Code (the "SPA Code") pursuant to which the Applicant will conduct its power purchase business. As required by the approved design
- 3.5 Under the NEPRA Act and subordinate legislation thereunder, the National Electric Power Regulatory Authority is the entity solely responsible for and has the authority to, *inter alia*, grant registration to the Applicant / CPPA as the SPA.
- 3.6 This Application is made in quintuplicate with the registration fee payable by the Applicant in respect of this Application enclosed herewith in the form of crossed cheque for an amount of PKR 1,13,669/- (Pakistani Rupees *one million one hundred thirteen thousand six hundred Only*).
- 3.7 The Application, including its annexed documentation as well as the SPA Code, and has been approved by the Board of Directors, CPPA for submission to NEPRA.

4. FUNCTIONS OF THE SPECIAL PURPOSE AGENT

- 4.1 The restructured organization is performing / gearing-up to perform functions segregated into four core and two support functions. The core functions include (i) settlement and billing, (ii) finance, (iii) legal and corporate affairs, and (iv) monitoring and coordination. The support functions include (v) human resource management and (vi) information technology.
- 4.2 The main objectives under the billing and settlement functions are to ensure that (a) the receipt and verification of generation invoices in accordance with the Contracts, (b) the settlement of the generation costs to the DISCOs, (c) ensuring that information for all required reports is readily available each month, and (d) ensuring the procurement of electricity on the part of the principal(s) – i.e. the DISCOs.
- 4.3 The objectives pertaining to the finance function are to ensure that (a) an accurate and complete record is maintained of internal expenditure, (b) suppliers, tax authorities, and staff are all paid in full and on time, (c) a complete and accurate record of financial transactions is maintained as per the SPA Code, (d) where applicable, appropriate action is taken to collect upon unpaid debt(s), (e) manage the relationship with its auditors, and (f) ensure that information at the month's end is ready for reporting purposes.
- 4.4 The legal and regulatory function is to ensure that (a). CPPA acts in compliance with the applicable regulatory, tax, and legal framework at all times with the preservation of its legal interests, (b). conducts effective contract management and administration and (c). protects and exercises its contractual rights and remedies.
- 4.5 The effective operationalization of CPPA would not have been possible without the presence and adoption of internal policies, procedures, manuals, and proper implementation structures. The CPPA's Articles of Association ("Articles") and Memorandum of Association ("Memorandum") were approved in 2009. Together these two documents form the company's constitution, defining the responsibilities of the directors and the kind of business to be undertaken. Moreover, the SPA Code provides the legal basis for the operation of CPPA as an Electric Power Service provider for and on behalf of the DISCOs, as well as the mandate to maintain the Contracts and perform all consequential acts in relation thereto.
- 4.6 The existing Commercial Code, 2018 will be replaced the SPA Code. The SPA Code will comprehensively reflect the

- functions which the SPA will perform going forward and under the CTBCM.
- 4.7 The Applicant will assume the functions of settlement and administration of the Contracts in accordance with the SPA Code.
- 4.8 The SPA Code review of the Commercial Code Review Panel (CCRP), as per the standard regulatory processes, is submitted for the approval of NEPRA.
- 4.9 The settlement functions of CPPA / SPA / Applicant will continue as have been carried out to date, with minor adjustments made thereto in order to accommodate the relatively limited role of legacy contract administration, which shall only be retained by CPPA / SPA / Applicant, isolating them from the CPPA's prior Market Operation functions.
- 4.10 The SPA / Applicant shall retain and maintain its agency function in administering the Contracts for and on behalf of the DISCOs pursuant to the SPA Code.
- 4.11 Under the existing, 'legacy', regime the Contracts are not executed directly between the generators as sellers and the DISCOs as buyers; instead, the CPPA signs these contracts for and on behalf of the DISCOs in its capacity as an Agent thereof. The invoices issued by the generators are sent to the single buyer / Power Purchaser – i.e. CPPA – for settlement. Eventually, the Contracts will be administered by the Special Purpose Agent (SPA), which will be formed following the separation of CPPA's Market Operator and Power Purchaser / Agency functions.
- 4.12 The Special Purpose Agent (SPA) will administer the Contracts in accordance with the CTBCM design, whereby NEPRA has – *vide* its determination and approval of the CTBCM model submitted by the Market Operator no.NEPRA/DG(Lic)/LAM-01/26389-398 dated 05.12.2019 – held in paragraph E.(iii).(c). thereof the "*creation of [SPA] to take over on a transitory basis the agent and demand aggregation functions of CPPA-G, to act as purchaser on behalf of Discos for pre-existing PPAs/EPAs until such contracts are assigned to the DISCOs to become direct bilateral contracts...*" and "*to start the market and protect the investor's confidence, the existing contracts be parked with the [SPA] with the same terms and conditions as exist in the PPAs/EPAs/contracts of the IPPs...*". Further, in line with the Policy, the "[p]ower allocation / distribution from the power pool to state-owned suppliers or any other entity shall continue in accordance with the existing power pool allocation mechanism..." – i.e. to be conducted by the System

4.13

Operator – or until such time as a subsequent national electricity plan may provide otherwise.

Consultations with the DISCOs and the inputs received therefrom, in the process of finalizing the allocation methodology and factors thereof, shall be adopted only after the approval of NEPRA. Presently, under the approval of the CCI by way of the Policy and the CTBCM model by way of NEPRA's 05.12.2019 decision, pursuant to which the DISCOs shall enter into a contract for the commercial allocation of capacity, to be approved by NEPRA prior to its execution.

5. STRATEGIC PLAN OF THE SPECIAL PURPOSE AGENT

- 5.1 The broad contours of the Strategic Plan to ensure the growth and success of the SPA by way of the optimization of existing resources is well encapsulated, with a continuous reassessment of vulnerabilities and opportunities, all to adequately capture organization's strengths and weaknesses, particularly in light of the continued performance of its duties and obligations.
- 5.2 The process of strategy formulation is multi-tiered and all-encompassing to ensure short term, midterm and long-term objectives are properly aligned and cohesive for an optimized and vibrant Market Participant.
- 5.3 The strategic evolution and transition of CPPA is well documented through a continuous development in conformity with responsible public sector entity and hinges on the core values of engendering transparency, teamwork, excellence and respect.
- 5.4 CPPA's strategic plan is based on the seven fundamental elements a corporate is standing on which are: Structure, Strategy, Skills, Staff, Style, Systems, and Shared Values. These seven elements areas are interconnected in such a way that change in one area requires change in the rest of a firm for it to function effectively. The seven areas of organization are divided into the 'soft' and 'hard' areas. Strategy, structure and systems are hard elements that are much easier to identify and manage when compared to soft elements. On the other hand, soft areas, although harder to manage, are the foundation of the organization and are more likely to create the sustained competitive advantage for continued excellence.
- 5.5 CPPA's strategic plan is a living document that is reviewed annually to ensure it continues to remain aligned with the overall strategic direction of the policy/regulations and the organization, as well as trends and changes in the wider electricity industry.

6. ADEQUACY OF RESOURCES

- 6.1 The Applicant has sufficiency of demonstrated capacity to fulfill and maintain the minimum capital requirements by way of the SPA fee determined by the Authority and charged by the SPA to the DISCOs / KE in tandem with budget developed to function in an effective and efficient manner as determined by the Authority.
- 6.2 The audited financial statements of the last three years are annexed with the Application as contained and published in the Annual Reports.
- 6.3 The deployment of technical resources with necessary system, controls and facilities for functioning in an efficient and effective manner are documented through the Annual Reports.
- 6.4 The sufficiency of IT infrastructure for the effective and efficient manner provision of functions with information technology assets, our "soft" infrastructure, and also as the foundation for future development. Information as a strategic asset, establishing a robust, reliable, modern, and interoperable technology infrastructure to support data collection, analysis, reporting, and even direct operations with all initiatives which are well documented in the Annual report.
- 6.5 The human resource and professional competencies essential to the functioning of the Applicant are in place with a team of highly capable individuals with vast experience in the Power Sector are heading the Functional Departments at CPPA and are documented in the Annual Report.
- 6.6 The sufficiency of technical and institutional mechanisms to ensure prompt and effective coordination with the System operator, Market Operator and other Market Participants in furtherance to the SPA Code as well as the capacity for timely dissemination of information/data and/or reporting obligations with accuracy of and completeness of record is well demonstrated and is documented over the years in the Annual Report.
- 6.7 The Applicant/CPPA, has registered for its income tax and sales tax with Federal Board of Revenue (FBR) as an independent entity and has been dispensing its obligations under the applicable law.
- 6.8 The Applicant submits the SPA Code for the efficient and effective discharge of its functions to the NEPRA/Authority.
- 6.9 The authorization of Federal Government of the Declaration of date to start commercial operation of CTBCM shall mark the date of activation of SPA.

7. PRAYER

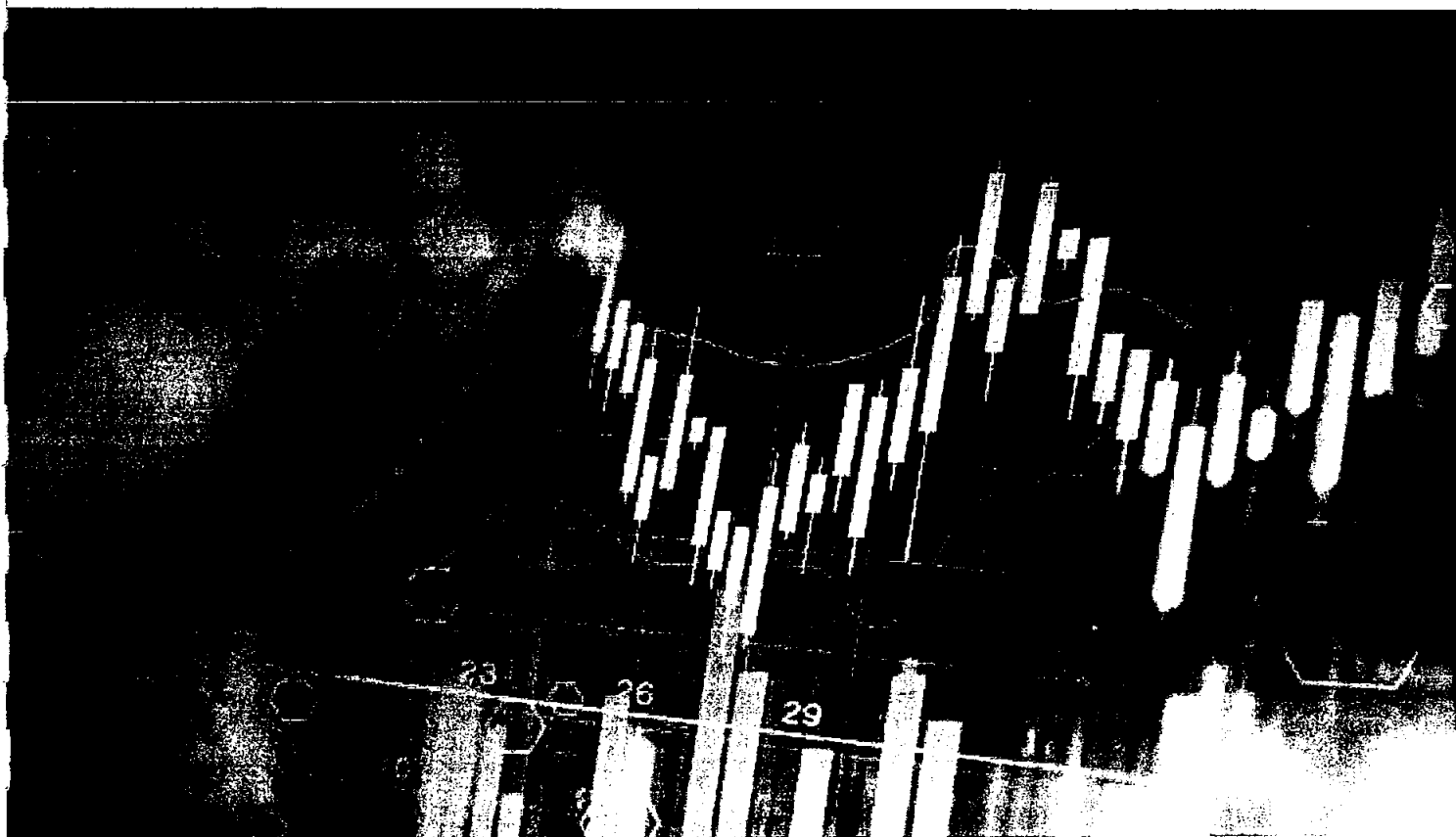
- 7.1 That the NEPRA/Authority is graciously requested to register the Applicant/CPPA in the public interest under the applicable regulatory regime in furtherance of the submissions made herein, as the Special Purpose Agent having satisfied the prescribed conditions and having no conflict of interest being in conformity to the applicable policy and regulatory regime.
- 7.2 That the NEPRA / Authority is also graciously requested to also approve the SPA Code and the associated mechanisms for the functioning of the Applicant/CPPA as SPA.
- 7.3 That the NEPRA / Authority may, in the interim, grant CPPA an extension in its authorization granted *vide* the determination of NEPRA / Authority dated 16.11.2018 to the extent of the power purchase / agency functions presently being performed by CPPA thereunder, with effect from the date of the operationalization of sections 23A and 23B of the NEPRA Act until such time as the grant of registration to CPPA pursuant to section 25A of the NEPRA Act.



Chief Executive Officer – CPPA-G



SPECIAL PURPOSE AGENT (SPA) CODE



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ACRONYMS

AEDB	Alternate Energy Development Board
BMC	Balancing mechanism for Capacity
BME	Balancing mechanism for Energy
BPC	Bulk Power Consumer
BST	Bulk Supply Tariff
CDP	Common Delivery Points
COD	Commercial operation date
CRPEA	Contract Registrar and Power Exchange Administrator
CRP	SPA Code Review Panel
CTBCM	Competitive Trading Bilateral Contract Market (competitive wholesale electricity market for Pakistan)
DC	Distribution Code
DISCOs	Distribution Companies; successors of WAPDA's restructuring
DM	Distribution Margin
ECC	Economic Coordination Committee
EPA	Energy Purchase Agreement
ETC/CTC	Energy Transfer Charge/Capacity Transfer Charge
GENCOs	Government-owned thermal Generation companies; successors of WAPDA's restructuring
IAA	Independent Auction Administrator
IEMSM	Integrated Electricity Market Simulation Model
IGCEP	Indicative Generation Capacity Expansion Plan
KE	K-Electric, formally known as KESC
KESC	Karachi Electric Supply Company; (K-Electric)
MO	Market Operator
MoF	Market Operator Fee
NEPRA	National Electric Power Regulatory Authority
NPCC	National Power Control Centre
NTDC	National Transmission and Dispatch Company
PPA	Power Purchase Agreement
PPC	Power Purchase Contract; i.e. an EPA or a PPA
PPAA	Power Purchase Agency Agreement
PPIB	Private Power & Infrastructure Board
SB	Single buyer
SBP	Single buyer plus
SCADA	Supervisory Control and Data Acquisition
SCED	Security Constrained Economic Dispatch
SDC	Scheduling and Dispatch Code
Small DISCOs	Housing Societies which are granted distribution license by the Authority
SPPs	Small Power Producers
SPA	Central Power Purchasing Agency (Guarantee) Limited, or the "CPPA-G";

(“Special Purpose Agent”)
TNO Transmission Network Operator
UoSC Use of System Charge
VIU Vertical Integrated Utility
WAPDA Water and Power Development Authority

1. BACKGROUND

1.1 TITLE

1.1.1 This code shall be called the Special Purpose Agent Code of Pakistan (the "SPA Code")

1.2 SCOPE AND APPLICABILITY

1.2.1 The SPA Code shall be applicable to the extent of activities by SPA Code Participants administered by CPPA-G.

1.2.2 CPPA-G, being the entity registered and functioning as the Special Purpose Agent (SPA), has procured and shall continue to procure capacity and energy through the PPCs or international interconnection agreements (import/export) for and on behalf of the SPA Code Participants Representing Demand as an agent thereof, for all such projects as have been signed or committed as per the last IGCEP approved prior to the CMOD.

1.3 OBJECTIVES

1.3.1 The general objectives of the SPA Code are:

- a) To govern and ensure the smooth operation of the PPCs in the manner prescribed under or pursuant to the provisions of the Act, or any rules or regulations issued thereunder; and
- b) To establish and govern the commercial and financial settlement system among SPA Code Participants.

2. INTERPRETATION AND CODE REVIEW

2.1 INTERPRETATION

- 2.1.1 In the case of any inconsistency or contradiction which may arise between the provisions of the SPA Code with the Act, the provisions of the Act will prevail to the extent of such inconsistency.
- 2.1.2 The SPA has the right to interpret this SPA Code as is most appropriate, provided that the SPA shall be under the obligation to convey this interpretation, and its justification thereof, to the Authority and publish said interpretation on its website. If any SPA Code Participant differs from this interpretation, it shall be entitled to file its objections to the SPA Code Review Panel for further processing as provided in this SPA Code.
- 2.1.3 All SPA Code Participants shall abide by the SPA Code; however, nothing herein shall derogate from the rights and obligations imposed upon any person under any license or regulations issued by Authority, or the provisions in Power Purchase Contract signed prior to the SPA Code becoming effective.

2.2 DEFINITIONS

- 2.2.1 Capitalized words and expressions used in this SPA Code, unless the context otherwise requires, have the following meaning:
- (a) "Act" means the Regulation of Generation, Transmission, and Distribution of Electric Power Act, 1997 (XL of 1997), as amended from time to time;
 - (b) "Authority" means the National Electric Power Regulatory Authority established under the Act;
 - (c) "Back-up Metering System" means any meter and metering devices installed, owned and maintained by the SPA Code Participant for backup purposes;
 - (d) "Balancing Mechanism" means the balancing mechanism provided in the Commercial Code.
 - (e) "Common Delivery Points (CDPs) / Connection Point" means the metering locations on the NTDC Grid Network, which are between the NTDC transmission system and the DISCOs, or between the DISCOs' system, and the power plants of Generation Companies directly connected to DISCOs' or NTDC. The energy transactions – i.e. that electrical energy can be exported or imported from one party to another party, or injected to or extracted from the grid – take place at this point;
 - (f) "Company" means a limited company incorporated under the laws of Pakistan;
 - (g) "Commercial Meters" means the Metering Systems installed at the CDPs;
 - (h) "Commercial Allocation" means the commercial allocation as described in **Annexure D**;
 - (i) "Commercially Allocated Capacity" has the same meaning as described in **Annexure D**;
 - (j) "Commercial Code" means the commercial code prepared and maintained by the Market Operator pursuant to sections 23A and 23B of the Act and approved by the Authority;
 - (k) "Competitive Market Operation Date" or "CMOD" means the date at which the CTBCM commences its commercial operations, which date shall be set by the Federal Government, or any other modified date as may be set by the Federal Government from time to time;

- (l) "Commercial Metering System" means the system installed in the Commercial Meters to record Active Energy (kWh), Reactive Energy (kVARh), and MDI (kW). The data in this system may be communicable electronically.
- (m) "Master Account" has the meaning ascribed thereto in clause 8.2 of this SPA Code;
- (n) Credit Cover means:
- the Sovereign Guarantee provided to SPA Code Participants by the Federal Government;
 - the SBLC and Master Collection Account Agreement executed in accordance with the provisions of the PPAA for KE;
 - the Credit Cover provided to the SPA for the settlement of imbalances caused in its SPA Power Pool by the Market Participants of the Commercial Code. The Credit Cover will be maintained in the form of an Escrow Management Agreement acceptable to SPA, containing the provisions of payment of the imbalances on due date by the Escrow Agent.
- (o) "CTBCM" means the competitive trading bilateral contract market for the competitive wholesale of electricity, transitioning from the existing 'SBP' structure to a wholesale electricity market;
- (p) "Dispute" means any dispute or disagreement or difference arising under clause 7.6 of this SPA Code;
- (q) "ERP Portal" means the combination of hardware, software and networking owned and operated by the SPA for the purpose of interchanging information between the SPA and the SPA Code Participants;
- (r) "Escrow Account" means a bank account maintained with an Escrow Agent having minimum long-term credit rating of AA or better;
- (s) "Export / Back-Feed Energy" means a measure of the electrical energy transferred from the grid to a power plant or complex of a Generation Company;
- (t) "Grid Code" means the Grid Code 2005 or any successive document required to be prepared and approved by the Authority pursuant to sections 23G and 23H of the Act;
- (u) "Settlement Statement" has the meaning ascribed thereto in Chapter 08 of SPA Code;
- (v) "GENCOs" means all electricity-generating companies incorporated pursuant to the unbundling of WAPDA and licensed to carry out generation functions by the Authority;
- (w) "GOP" means The Islamic Republic of Pakistan or the Government of Pakistan, as the context permits;
- (x) "Independent Power Producer (IPP)" means those electricity-generating companies having PPCs under (a) the 1994 Power Policy or prior thereto, (b) the 1995 Power Policy, (c) the 2002 Power Policy, (d) the 2006 Renewable Energy Policy, (e) the 2015 Power Generation Policy and (f) bilateral contracts directly signed by the DISCOs and (g) any other Policy before CMOD;
- (y) "Market Design" means the wholesale electricity market design or Competitive Trading Bilateral Contract Market (CTBCM) design as approved by the Authority from time to

time;

- (z) "Market Operator (MO)" shall have the meaning ascribed thereto under the Act;
- (aa) "Metering Service Provider" means the NTDC or any other independent entity responsible for providing, maintaining and operating the Commercial Metering System as per the Metering Code of the Grid Code;
- (bb) "National Transmission and Dispatch Company Limited (NTDC)" means the national grid company licensed by the Authority;
- (cc) "Power Purchase Contracts (PPCs)" collectively means the PPAs and EPAs, including such agreements signed by, assigned to or administered by the SPA;
- (dd) "Generation Company" means a company which has signed or is eligible to sign Power Purchase Contract with SPA;
- (ee) "Power Purchase Agency Agreements (PPAA)" means the agreements pursuant to which the SPA Code Participants Representing Demand have appointed the SPA as their agent for the purposes set out therein;
- (ff) "Special Purpose Agent (SPA)" means the Central Power Purchasing Agency (Guarantee) Limited, being registered under section 25A of the Act and performing the functions listed in clause 5 of SPA Code, as so authorized by the Authority;
- (gg) "Special Purpose Agent (SPA) Code Participant" or "SPA Code Participant" has the meaning ascribed thereto in clause 3 of this SPA Code;
- (hh) "Special Purpose Agent (SPA) Code Participants Representing Demand" means the licensed Ex-WAPDA DISCOs, including any other Supplier/DISCO carved out of said Ex-WAPDA DISCOs, and KE which shall share the SPA Power Pool;
- (ii) "Special Purpose Agent (SPA) Code Participants Representing Offer" means the Generation Companies having executed PPCs with the SPA;
- (jj) "SPA Power Pool" means the collective capacity and energy procured under the PPCs for and on behalf of the SPA Code Participants Representing Demand;
- (kk) "Standard Operating Procedure" means the specific procedure or set of procedures established for carrying out commercial operations, processes, and functions by the SPA pursuant to this SPA Code;
- (ll) "System Operator" means the current NPCC division of the NTDC responsible for system operation and dispatch as established in NTDC License and the Grid Code or any successor entity granted a license therefor by the Authority under section 23G of the Act;
- (mm) "Transfer Pricing Mechanism" means the formula for transfer price (capacity transfer rate & energy transfer rate) for settlement of each SPA Code Participant Representing Demand as described in this SPA Code;
- (nn) "WAPDA" means the Pakistan Water and Power Development Authority established under the Pakistan Water and Power Development Authority Act, 1958 (W.P. Act XXXI of 1958).

- 2.2.2 Words and expressions used but not defined in this SPA Code shall have the same meaning as provided therefor under the Act, or under any rules and regulations issued thereunder.

2.3 PROCEDURE FOR PROPOSING AMENDMENTS

- 2.3.1 The SPA shall establish an SPA Code Review Panel, which shall include representatives of the SPA Code Participants and will be chaired by the SPA.
- 2.3.2 After the establishment of SPA Code Review Panel SPA shall issue the notification and publish the same on its website.
- 2.3.3 The Review Panel may propose:
- a. Amendments to the SPA Code based on the principles, objectives and purposes laid down hereunder with adequate justification, including expected impact thereof; and
 - b. New or amendments to existing SPA Standard Operating Procedures for the implementation of the SPA Code, with the explanation and justification thereof.
- 2.3.4 The System Operator, Market Operator, SPA Code Participants, or any other interested party may file a written request to the SPA proposing amendments to the SPA Code, with the corresponding justifications and assessment of expected impact and benefits thereof. The SPA shall respond by giving a written notice to the party making said submission and publish the same on the SPA website for consultation inviting comments from all SPA Code Participants and any other interested persons.
- 2.3.5 If deemed necessary, the SPA or the SPA Code Review Panel shall hold meetings with the party who submitting the proposed amendment, SPA Code Participants, and any other interested party filing written comments. The SPA or the SPA Code Review Panel shall review said proposed amendments and, if considered reasonable and justified, submit a written report to the Authority indicating the amendments proposed, and the reasons for its recommendations. On the approval of the Authority, the SPA Code shall accordingly be amended and notified by the Authority.
- 2.3.6 The SPA shall prepare an Annual Report entailing the problems experienced during the implementation and application of the SPA Code and the SPA Standard Operating Procedures, and achievement of its purpose, and describing amendment made to the SPA Code or under consideration. This report shall be submitted by the SPA to Authority and uploaded on the SPA website for comments by all stakeholders.
- 2.3.7 The Annual Report shall include but not be limited to the following:
- a. Problems identified in the implementation of the SPA Code and the manner of addressing the same, including any new interpretations of the provisions of the SPA Code made by the SPA;
 - b. Conflicts of interpretation between the SPA and the SPA Code Participants; and
 - c. Actions and plans for improving the performance, transparency, feasible implementation or efficiency, and realization of the objectives of the SPA Code.
- 2.3.8 A proposed amendment to the SPA Code may be rejected, by the Authority or the SPA or the SPA Code Review Panel, if the proposal is found to:
- a. Unfairly discriminate against any SPA Code Participant or class of SPA Code Participants, and
 - b. Be inconsistent with the objectives and purpose defined for the SPA Code, or inconsistent with the Act or the regulatory framework thereunder.

3. SPA CODE PARTICIPATION & TERMINATION

3.1 SPA CODE PARTICIPANTS ELIGIBILITY REQUIREMENTS

3.1.1 The Special Purpose Agent (SPA) Code Participants shall consist of the following:

a. SPA Code Participants Representing Demand:

i. The licensed Suppliers segregated from the Ex-WAPDA DISCOs (which are currently deemed to be suppliers), including any other Supplier / DISCO carved out of the existing Ex-WAPDA DISCOs, which shall share the SPA Power Pool to the extent of the capacity and energy procured by the SPA through the PPCs; and

ii. KE, to the extent of its demand participation.

b. SPA Code Participants Representing Offer:

i. Generation Companies having valid PPCs, or which are eligible to have valid PPCs, with the SPA.

3.1.2 The SPA shall make the list of SPA Code Participants publicly available on its official website, as updated from time to time.

3.1.3 The SPA Code Participants shall provide SPA the following information:

a. Each SPA Code Participant Representing Demand will provide their banking details under their pre-existing payment arrangements to the SPA.

b. Where an Escrow Management Agreement or SBLC or Master Collection Account Agreement for Credit Cover is required, the respective SPA Code Participant Representing Demand shall provide information to the SPA.

c. Each SPA Code Participant representing Offer shall provide its banking details including any specific requirements of standing instructions under any arrangement / contract to the SPA.

3.1.4 The SPA may request any additional information as required from an SPA Code Participant.

3.2 MAINTENANCE OF THE SPA CODE PARTICIPANT & CONTRACTS INFORMATION

3.2.1 The SPA shall organize, maintain, and publish on its website the information regarding the SPA Code Participants.

3.2.2 The SPA shall maintain a register to the extent of SPA Code Participants, recording therein all legal agreements in effect between the SPA and the SPA Code Participants.

3.3 WITHDRAWAL OF SPA CODE PARTICIPANT

3.3.1 Participation of a SPA Code Participant will end only once the following conditions have been met:

a. For SPA Participants Representing Offer, participation can end pursuant to the provisions of their respective PPCs;

b. For SPA Participants Representing Demand, participation can end pursuant to the provisions of their respective PPAs;

- 3.3.2 Notwithstanding the above, the SPA Code Participant seeking to withdraw from participation shall remain liable for all of its obligations and liabilities as an SPA Code Participant that were incurred or arose prior to the date of its withdrawal.

4. SPA FUNCTIONS

4.1 RESPONSIBILITY FOR THE SPA CODE

- 4.1.1 The SPA is responsible for the administration, maintenance, and implementation of the SPA Code; supervision of compliance to the SPA Code by the SPA Code Participants; and the performance of such functions as provided for under the SPA Code.

5. COMMERCIAL TRANSACTIONS

5.1 COMMERCIAL TRANSACTIONS

5.1.1 The Commercial Transactions among SPA Code Participants will be conducted as per the PPCs/PPAAs, or for any other Settlement Period as the SPA Code may be amended to prescribe and as approved by the Authority under this SPA Code, and will consist of:

- a. The sale of Electric Capacity and Energy by the SPA Participants Representing Offer to the SPA Participants Representing Demand;
- b. The Import or Export of Electric Capacity and/or Energy;
- c. The purchase of Electric Capacity and Energy by the SPA Code Participants Representing Offer as per their respective PPCs (i.e. Back-Feed Energy);
- d. The adjustment of imbalances of the SPA power pool with Market Participants as per the settlement statement communicated to the SPA by the Market Operator (MO).

5.2 CAPACITY AND/OR ENERGY CHARGES

- 5.2.1 The Generation Companies shall prepare and submit to the SPA invoices for Energy and Capacity pursuant to the terms, conditions, and methodologies prescribed in their corresponding PPCs.
- 5.2.2 The SPA shall receive the invoices for Energy and, if applicable, the corresponding Capacity imported during the Settlement Period, pursuant to the terms and conditions reflected in the corresponding PPC or international interconnection agreement.
- 5.2.3 The SPA will prepare invoices for the Energy Exported / Back-Feed Energy and, if applicable, the corresponding Capacity sold during the Settlement Period, pursuant to the terms and conditions reflected in the corresponding PPC or international Interconnection Agreement.
- 5.2.4 The Market Operator (MO) will notify the imbalances arising in the SPA power pool due to or caused by the Market Participants to the SPA as per the Commercial Code.

5.3 CALCULATION OF TOTAL CAPACITY CHARGES

- 5.3.1 The SPA shall calculate the total amount to be paid for Capacity by the SPA Code Participants Representing Demand as per the following:
 - a. The amount of the capacity component of invoices submitted by the SPA Code Participants Representing Offer for the Settlement Period under the PPCs; plus
 - b. The amount of Pass-Through item invoices submitted by the SPA Code Participants Representing Offer for the Settlement Period under the PPCs; minus
 - c. The adjustment of the difference between the amount of capacity or Pass-Through item invoices submitted by the SPA Code Participants Representing Offer in the preceding Settlement Period, as a result of verification by the SPA; minus
 - d. Any deductions on account of Liquidated Damages applicable and realized; plus/minus;
 - e. The ancillary services charge verified and notified by the MO to the SPA Code Participants Representing Demand, communicated to the SPA; plus

- The invoices for Capacity corresponding to Imports having PPCs or international interconnection agreements for the Settlement Period, which will also include the adjustment of exchange gains / losses; minus
- The invoices for Capacity corresponding to Exports having PPCs or international interconnection agreements for the Settlement Period, which will also include the adjustment of exchange gains / losses.

Mathematically:

$$TCC = \sum_{i=1}^{NC} (CpGenCap_i + PsTh_i - CpGenCap_{adj,i} - LD_i) \pm Ancillary Services_{MO} + \sum_{i=1}^{NC} CP_Imp_i - \sum_{i=1}^{NC} CP_Exp_i$$

$$CTR = \frac{TCC}{TD_{MO}}$$

Where.

TCC = Total Capacity Charges, expressed in PKR

CpGenCapi = Cost for Electric Capacity component of Generation Company "i" for the Settlement Period in PKR

CpGenCapadj = Adjustment for disallowed costs for Electric Capacity component of Generation Company for the previous Settlement Period in PKR

LDi = Liquidated Damages payment by the Generation Company "i" for the Settlement Period in PKR

PsThi = Pass-through costs (called Supplementary Charges in some PPAs) invoiced by the Generation Company "i" for the Settlement Period in PKR.

Ancillary Services_{MO} = The ancillary services charge notified by MO to the SPA Code Participants Representing Demand and verification thereof communicated to SPA.

CP_Imp_i = Fixed (Electric Capacity) Payments for the Import "i" for the Settlement Period, provided such kind of payment is included in the corresponding PPA or international interconnection agreement, in PKR

CP_Exp_i = Fixed (Capacity) Payments received from Export "i" in the Settlement Period, provided such kind of payment is included in the corresponding PPA or international interconnection agreement, in PKR

CTR = Capacity Transfer Rate in PKR/MW

GC = Total number of Generation Companies which have PPAs with Electric Capacity payments, as determined by the Authority

NC = Total Imports or Exports, which have PPAs or international interconnection agreements, approved by the Authority

TDMDI = Total MDI of SPA Code Participants Representing Demand after subtracting the MDI for bilaterally contracted capacity of the SPA Code Participants Representing Demand.

5.4 CALCULATION OF TOTAL ENERGY CHARGES

5.4.1 The total amount to be paid for Energy is calculated as:

- The amount of energy component of invoices submitted by the SPA Code Participants Representing Offer for the Settlement Period under the PPCs; minus
- The total amount against Back-Feed Energy during the Settlement Period; plus
- The adjustment of the difference between the amount of energy invoices submitted by the SPA Code Participant Representing Offer in the preceding Settlement Period, as a result of verification by the SPA; plus/minus
- The invoices / settlement statement from the Market Operator corresponding to the BME notified to the SPA Code Participants Representing Demand and verification thereof communicated to the SPA during the Settlement Period; minus
- The invoices/settlement statement from Market Operator corresponding to the BME notified to the Market Participants other than the SPA Code Participants Representing Demand during the Settlement Period; plus
- The invoices for Energy corresponding to Imports having PPCs or international interconnection agreements for the Settlement Period; minus
- The invoices for Energy corresponding to Exports having PPAs or international interconnection agreements for the Settlement Period.

Mathematically:

$$TEC = \sum_{i=1}^{GC} CpGenEn_i - \sum_{i=1}^{GC} BFE_i - CpGenEn_{Adj} \pm BME_{power pool} + \sum_{i=1}^{NC} EP_Imp_i - \sum_{i=1}^{NC} EP_Exp_i$$

$$ETR = \frac{TEC}{TEU}$$

Where,

TEC = Total Energy Charges, in PKR

ETR= Energy Transfer Rate in PKR/kWh

CpGenEni = The amount of energy component of invoices submitted by the SPA Code Participant Representing Offer for the settlement period under the PPCs.

BFEi = The total amount against Back-Feed Energy, during the Settlement Period

BME power pool = a) Plus: The invoices/settlement statement from Market Operator corresponding to the BME notified to SPA Code Participants Representing Demand and verification thereof communicated to SPA during the Settlement Period.

b) Minus: The invoices/settlement statement from Market Operator corresponding to the BME notified to the Market Participants other than SPA Code Participants Representing Demand, during the Settlement Period

EP_Impi = Energy payments for the Energy imported, as per the provisions of the corresponding PPA or international interconnection agreement, for the Settlement Period, in PKR

EP_Expi = Energy revenues for the Energy exported, as per the provisions of the corresponding PPA or international interconnection agreements, for the Settlement Period, in PKR

GC = Total number of Generation Companies which have PPAs with Energy payments, as determined by the Authority

NC = Total Imports or Exports, which have PPAs or international interconnection agreements, approved by the Authority

TEU= Total Energy recorded of all SPA Code Participants Representing Demand as per the Commercial Metering System in kWh.

5.5 CHARGES APPLIED TO SPA CODE PARTICIPANTS REPRESENTING DEMAND

The Capacity charge shall be applied non-discriminatorily to the SPA Code Participants Representing Demand, whether based on the MDI as per clause 5.3.1 of this SPA Code or based on the allocation factor as per clause 5.5.1 of this SPA Code.

- 5.5.1 The Capacity Charge applied to the SPA Code Participants Representing Demand shall be calculated on an MDI basis as follows:

$$TCC_i = CTR * MDI_i$$

TCC_i = Total Capacity Charges of each SPA Code Participant Representing Demand in PKR

CTR = Capacity Transfer Rate in PKR/MW

MDI_i = MDI of the each SPA Code Participant Representing Demand

Subject to the provisions of Annexure D, the Capacity Charge applied to SPA Code Participants Representing Demand shall be calculated on allocation factor in the following way:

$$CC_{SCPRD} = \frac{TCC}{\sum_{i=1}^{SCPRO} Cont. Cap} * AF_{SCPRD}$$

CC_{SCPRD} = Capacity Charges in respect of each SPA Code Participant Representing Demand

TCC = Total Capacity Charges, expressed in PKR

AF_{SCPRD} = Commercially allocated capacities in MW in respect of each SPA Code Participant Representing Demand as per provisions of **Annexure D**

$Cont. Cap_{SCPRO}$ = Capacity contracted by SPA with Market Participants Representing Offer in MW as per PPCs.

- 5.5.2 The Energy Charge applied to each SPA Code Participants Representing Demand shall be calculated by multiplying the Energy transfer charge with actual energy as per the Commercial Metering System for each SPA Code Participant Representing Demand in the relevant Settlement Period, as follows:

$$EC_{SCPRD} = ETC * EU_{SCPRD}$$

EC_{SCPRD} = Energy Charge of each SPA Code Participants Representing Demand in PKR

ETC = Energy Transfer Charge in PKR/kWh

EU_{SCPRD} = Total Energy recorded of all SPA Code Participants Representing Demand as per the Commercial Metering System in kWh.

$SCPRD$ = Represents the SPA Code Participants Representing Demand

5.6 DELAYED PAYMENT CHARGES

- 5.6.1 The Delayed Payment Charges applicable to SPA Code Participants Representing Demand shall be calculated as follows:

In case of K-Electric, the Delayed Payment Charges shall be calculated in accordance with the terms of its PPAA.

In case of the Ex-WAPDA DISCOs, the Delayed Payment Charges verified by the SPA shall be calculated by the ratio of payables by each DISCO for the transfer charge of electricity. The DISCOs may independently create a provision for accruing the total costs of late payment interest in accordance with their own respective payables to the SPA Code Participants Representing Offer. Mathematically:

$$\text{Delayed Payment Charges} = \frac{\sum_{i=1}^n \text{DPC}_i}{\sum_{i=1}^n \text{OA}_{\text{Ex-WAPDA DISCO}_i}} * \text{OA}_{\text{Ex-WAPDA}}$$

Where;

DPC_i = The amount of Delayed Payment Charge invoices verified by the SPA Code Participant Representing Offer for the settlement period.

$\text{OA}_{\text{Ex-WAPDA DISCO}}$ = The total amount payable by each Ex-WAPDA DISCO under this SPA Code to the SPA Code Participants Representing Offer.

5.7 GENERAL SALES TAX (GST)

- 5.7.1 GST applied by the Generation Companies on any invoice; on the SPA fee; and / or applied on any other item of the Total Energy Charges, which are subject to GST, in accordance with the applicable Revenue Laws, will be transferred to the relevant SPA Code Participant representing Demand.

5.8 SPECIAL PURPOSE AGENT FEE

- 5.8.1 The SPA Fee will be established by the Authority in its periodic SPA Fee determination.

5.9 NTDC USE OF SYSTEM CHARGE

- 5.9.1 The NTDC will calculate the NTDC UoSC receivable from each of the SPA Code Participants Representing Demand, as determined by the Authority in the latter's NTDC UoSC determination. NTDC shall enter into Interconnection Agreements (ICAs) with all SPA Code Participants Representing Demand, pursuant to which the NTDC will provide electric power services including the use of its transmission system to the SPA Participants Representing Demand, and the SPA Participants Representing Demand shall pay to the NTDC the NTDC UoSC in lieu of said services. The invoicing of these services shall be governed by the Authority's determination and the ICA, and the NTDC shall issue invoices addressed to the service users with a copy to the SPA for the calculation of the Transfer Charge. The recipient of the services shall verify the invoice in accordance with the ICA and intimate the same to the SPA for the undisputed amount payable. The SPA shall continue to settle these payables out of the remittances made by the SPA Code Participants to the SPA in accordance with this SPA Code.
- 5.9.2 The NTDC will be responsible for all losses in excess of the Authority's approved losses targets as per the NTDC UoSC determination, and the compensation there of will be provided by the NTDC to the SPA Code Participants Representing Demand as per the settlement statement in this regard as verified and communicated by the Market Operator pursuant to the Commercial Code. The NTDC, while issuing its invoices for UoSC, will adjust such compensation to the SPA Code Participants Representing Demand thereagainst.

6. COMMERCIAL METERING SYSTEM

6.1 METER READING AND DATA COLLECTION

- 6.1.1 The Metering Service Providers shall be responsible for meter reading and shall provide the metering information, including the information generated by the Commercial Metering System, to the Market Operator as per the Commercial Code.
- 6.1.2 All capacity and energy used for settlement shall be measured through the Commercial Metering System. The collection and validation of metering data for the existing Common Delivery Points shall be carried out monthly by the corresponding Metering Service Providers, on the last day of each month.
- 6.1.3 The Market Operator shall provide all information and data collected and validated to the extent of the SPA Code Participants as per clauses 6.1.1 and 6.1.2 of this SPA Code for the preparation and issuance of invoices / settlement statements in accordance with the transfer pricing mechanism.
- 6.1.4 The SPA shall not use any other metering information for conducting the settlement other than as provided by the Market Operator.

7. SETTLEMENT & BILLING

7.1 GENERATION INVOICES

- 7.1.1 The Generation Companies shall submit their invoices for each billing period to the SPA pursuant to the terms reflected in their respective PPCs. The current mechanism for energy and capacity invoicing by the Generation Companies is detailed in **Annexure A** to this SPA Code.
- 7.1.2 The periodicity, submission and due dates of the generation invoices shall be determined in accordance with the provisions of their corresponding PPCs. The Generation Companies shall upload these invoices to the SPA ERP Portal as well as submit the same in hard form to the designated offices of the SPA.
- 7.1.3 The invoices submitted by the Generation Companies shall be based on meter readings at the CDPs according to the provisions of the relevant PPCs / interconnection agreements.

7.2 GENERATION INVOICES VERIFICATION

- 7.2.1 The SPA shall verify the submitted invoices seeking for their completeness and adequacy. The verification process shall *inter alia* include the following checks:
- a. Amounts of Energy and Capacity Invoiced
 - i. The amount of Energy invoiced shall be consistent with the information submitted by the Market Operator, which has been collected by the Commercial Metering System administered by the Market Operator;
 - ii. The amount of Capacity invoiced shall be consistent with the information submitted by the Market Operator, which has been collected by the Commercial Metering System administered by the Market Operator.
 - b. Capacity and Capacity Purchase Price
 - i. The available Capacity shall be based on the Annual Capacity Tests, conducted by the SPA according to the provisions of the Generation Companies' respective PPCs;
 - ii. The Declared Available Capacity (in MW) shall be consistent and in accordance with the Availability Notices or Availability Declarations made by the Generation Company to the System Operator, in accordance with the procedures therefor prescribed in the Grid Code or the relevant PPC, as applicable. For the avoidance of doubt, such Availability Notices or Availability Declarations shall be made in a written format and submitted to the System Operator through fax or other communication methods as prescribed in the corresponding PPC or as may be devised in the future keeping in view developments in information technology (such as the CDXP). The System Operator shall maintained complete and organized records of such faxes or other communications in proper format, for the purposes of record or verification by the SPA or the Authority.
 - iii. Capacity tariffs shall be determined by the Authority or calculated in accordance with the provisions of the relevant PPC.
 - iv. Any Correction Factor and / or Indexation Factor, if required to be applied, shall be calculated and applied in accordance with the provisions of the corresponding PPC or as the same has been determined by the Authority, as applicable.
 - c. Energy Purchased Price.

- i. Energy Tariffs shall be determined by the Authority or calculated in accordance with the provisions of the relevant PPC.
 - ii. Any Correction Factor and / or Indexation Factor, if required to be applied, shall be calculated and applied in accordance with the provisions of the corresponding PPC or as the same has been determined by the Authority, as applicable.
 - iii. In case the PPA includes adjustments or corrections linked to meteorological conditions, the SPA shall ensure that the appropriate methodologies are applied for the measurement and recording of the Plant Site temperature, atmospheric pressure, Wind Speed, Solar Radiation, Hydrological data or any other relevant meteorological conditions as required for the verification of the invoices.
- c. Supplemental Charges (Pass Through items)
- i. Where the invoice issued by the SPA Code Participants Representing Offer, as per the corresponding PPA, contains any supplemental charges (i.e. those relating to Pass-Through items), the same shall only be reimbursed upon submission by the SPA Code Participants Representing Offer of the original cash payment receipts justifying the incurrence of such cost (net of tax credit, if any).
 - ii. Any additional (Pass-Through) charge, as per the corresponding PPC, shall only be processed after the incurrence of such cost by the SPA Code Participants Representing Offer. The incurrence of such cost shall be substantiated by the SPA Code Participants Representing Offer through submission of original payment receipts.
 - iii. The SPA shall, on a monthly basis, submit a statement to the Authority showing all such verifications, disbursements and adjustments.
 - iv. Wherever practically possible, the payment for a Pass-Through item shall be made on the basis of the tariff / amount thereof approved by the Authority or as per the corresponding PPC.

7.3 DISPUTED AND UN-DISPUTED AMOUNTS

- 7.3.1 In the event that the verification processes determine the adequacy of the invoice received from the Generation Company, the corresponding values included in the invoice shall be labelled as "Un-Disputed Amounts", and they will be used as such in the Settlement process.
- 7.3.2 In the event the SPA considers that, as a result of the verification processes, the invoice received is incorrect or some inadequacies exist therein, the SPA shall:
- a. Inform the corresponding Generation Company of the deficiencies detected in their invoice, along with the requisite explanation if required, requiring the Generation Company to submit the required document(s) or a revised and corrected invoice;
 - b. Recalculate the invoice amount or amounts, in accordance with the SPA's interpretation of the provisions of the corresponding PPC, labelling these amounts as "Un-Disputed Amounts";
 - c. Label the difference between the original invoiced amounts and the Un-Disputed Amounts as "Disputed Amounts".

- 7.3.3 In the event the Generation Company considers that the observations and/or corrections made by the SPA are appropriate, it shall submit a revised and corrected invoice within five [5] working days following its receipt of the SPA's observations.
- 7.3.4 In the case the Generation Company does not agree with the observations and/or corrections made by the SPA, it shall: notify the SPA about such disconformity, reaffirming the amounts included in the original invoice, attaching all explanations, evidences and/or PPA's interpretations it considers appropriate.
- 7.3.5 In case the Generation Company only partially agrees with the SPA's observations, it shall notify the SPA, to the extent of the disagreed amount(s), about such disconformity, reaffirming the amounts included in the original invoice and attaching all explanations, evidence, supporting documents, and/or PPC's interpretations it considers appropriate.
- 7.3.6 The SPA shall review the claims made by the Generation Company pursuant to clause 7.3.5 of this SPA Code and:
- a. Accept them, if it considers them – along with the explanations, evidence, supporting documents and / interpretations of the PPC submitted by the Generation Company – acceptable. In such a case, it shall correct the Non-Disputed and Disputed Amounts, as it corresponds; or
 - b. Reject them, if it still considers the observations initially made as appropriate.
- 7.3.7 The invoices submitted by the Generation Companies shall be trued up on a monthly basis with regards to the amounts disputed by the SPA. The Generation Companies' settlement statements shall be equal to the invoices for the current month less the amounts disputed by the SPA in the invoices submitted in the previous month(s). In the event of any disagreement between the SPA and the Generation Company in relation to the invoiced amounts, the procedures prescribed by the corresponding PPC shall be applied to settle such disagreement(s).
- 7.3.8 If it is revealed at any subsequent date that a calculation of an invoice has been made or an amount has been claimed fraudulently and / or in a manner contrary to the provisions of the relevant PPC, such amounts shall be recovered from such party along with delayed payment interest thereon without regard to any limitation of time.

7.4 SPA SETTLEMENT SYSTEM

- 7.4.1 The SPA shall administer the SPA Settlement System which shall be operated on a monthly basis.
- 7.4.2 The SPA shall be responsible for the development and maintenance of the required software and data systems for the operation of the SPA Settlement System.
- 7.4.3 The SPA shall be responsible for the accuracy of the outputs of the SPA Settlement System.
- 7.4.4 The SPA Settlement System shall be administered by the SPA through the following procedure:
- a. Calculate the settlement of all SPA Code Participants as per the formulations provided therefor in Part 5; and
 - b. Calculate the SPA fee as determined by the Authority;

7.5 SETTLEMENT STATEMENT

- 7.5.1 Within ten (10) working days of the beginning of each month, and on completion of the requisite information required for monthly settlement, the SPA shall send to each SPA Code

Participant Representing Demand its corresponding monthly Settlement Statement through electronic mail or the web portal. The requisite information is available when:

- a. The metering data of all the CDP points of all the SPA Code Participants has been received from the MO;
- b. The EPP and CPP invoices from the SPA Code Participants Representing Offer, having valid tariff for the month in question, have been received;
- c. The SPA Code Participants Representing Offer have declared their invoices on the FBR Portal;
- d. For those SPA Code Participants Representing Offer who have not submitted invoices, a provision for their EPP and CPP invoices has been made;
- e. The data for the back-feed invoices has been finalized and said invoices have been processed;
- f. The dispute notices for the previous months on the invoices submitted by the SPA Code Participants Representing Offer have been finalized to true up the invoices for the previous month as per verification by the SPA;
- g. The late payment interest invoices submitted by the SPA Code Participants Representing Offer have been duly verified;
- h. The NTDC has submitted its UoSC invoices issued to the SPA Code Participants Representing Demand; and
- i. The SPA has issued its SPA Fee invoices to the SPA Code Participants Representing Demand;
- j. The adjustments to the previously issued settlement statements shall be added for the current month subject to the restrictions applicable as per the relevant Revenue Laws.

7.6 DISPUTE ON THE SETTLEMENT STATEMENT

7.6.1 An SPA Code Participant may raise a dispute with regards to the monthly Settlement Statement, accompanied by valid justifications and supporting documents, within sixty (60) working days following its receipt. This dispute may relate to:

- a. The Use of System Charges, in which case the SPA Code Participant shall issue a notice of dispute to the NTDC and upon resolution thereof, shall notify to the Market Operator and the SPA the same for adjustment in the original settlement statement or in the current month settlement statement, as is practicable;
- b. The Metering information provided by the Market Operator, in which case the SPA Code Participant shall issue a notice of dispute to the Market Operator and upon resolution thereof, shall notify to the SPA the same for adjustment in the original settlement statement or in the current month settlement statement, as is practicable; and
- c. The calculation error by the SPA, in which case the SPA Code Participant shall issue a notice of dispute to the SPA and upon resolution thereof, the SPA shall make adjustment in the original settlement statement or in the current month settlement statement, as the case is practicable.

The SPA, the NTDC, the Market Operator and the SPA Code Participant shall make all reasonable efforts to settle any disputes which may arise mutually and amicably within fifteen (15) working days after the date said dispute is submitted to the SPA. In case the SPA, the

NTDC, the Market Operator and the SPA Code Participant are unable to settle said dispute, any of the parties may refer the matter to the dispute resolution mechanism provided therefor under their respective PPC, PPAA, international interconnection agreement for import/export, or any other mechanism as determined by the Authority.

7.7 FAILURE OF THE SETTLEMENT SYSTEM

- 7.7.1 In the case of an emergency and/or the failure of the settlement system and/or circumstances beyond the control of the SPA, the SPA may issue an Estimated Settlement Statement and/or modify the schedule for the issuance of monthly Settlement Statements. In such cases, the SPA shall inform all SPA Code Participants of the temporary procedural changes as soon as practicable.

7.8 ISSUING OF PAYMENT NOTIFICATIONS

- 7.8.1 Within five (5) working days after the issuance of Settlement Statement, the SPA shall:
- a. Issue the corresponding Payment Notification to each SPA Code Participant Representing Demand in respect of the monthly settlement statement of their account showing the following:
 1. The total amount overdue (if any) at the start of the month;
 2. The payments received during the month;
 3. The amount due for the current month settlement statement; and
 4. The total amount payable.
- 7.8.2 In this process the SPA shall act as an independent entity, without assuming payment responsibilities for and on behalf of any other entity. The obligation of making any payment(s) and the settlement of any outstanding debt(s) shall remain with the relevant SPA Code Participant(s). For the avoidance of doubt, the SPA shall not be held liable for any kind of non-payment by any of the SPA Code Participant.
- 7.8.3 In relation to the invoices received by the SPA from the Generation Companies, or invoices issued against any Imports, the SPA shall act as an agent of the SPA Code Participants Representing Demand without assuming any of their payment responsibilities. These payment(s) and debt(s) shall remain with the SPA Code Participants Representing Demand and the SPA shall not be held liable for non-payment by any SPA Code Participant and/or the NTDC.

8. PAYMENT SYSTEM

8.1 COMPONENTS OF THE PAYMENT SYSTEM

8.1.1 The Credit Cover and the payment mechanism related to the SPA Code Participants Representing Demand shall be as follows:

The Ex-WAPDA DISCOs are secured by way of the Sovereign Guarantee(s) issued by the Federal Government in favor of the SPA Code Participants Representing Offer. All revenues collected by the Ex-WAPDA DISCOs from their consumers are required to be settled against the invoices of the SPA Code Participants Representing Offer. The payment system to be adhered to by the Ex-WAPDA DISCOs shall be as follows:

- (a) The revenue accounts operated by Ex-WAPDA DISCOs shall have standing instructions for the transfer of revenues equivalent to their liabilities towards the SPA Code Participants Representing Offer, the NTDC and the SPA.
- (b) With regards to any amount(s) remaining upon making the payments as per (a) above, said remaining amount(s) shall be transferred to the Escrow Account to be maintained as per the Escrow Management Agreement under the Commercial Code.

The K-Electric shall operate and maintain the banking accounts, including the SBLC and Master Collection Account Agreement, in accordance with the provisions of its PPAA.

As per the Commercial Code, the Market Participants shall operate their respective Escrow Accounts in accordance with the provisions of the Escrow Management Agreement for the amounts equivalent to the value of electricity they are entitled to draw under the balancing mechanism.

Subject to the approval of the Federal Government, the SPA Code Participants Representing Demand shall provide Credit Cover to the Market Participants without discriminating the rights of the SPA Code Participants representing Offer, as per the Commercial Code.

8.1.2 The payment system relating to the Settlement Statements issued by the SPA to SPA Code Participants shall be based on following elements:

- a. In the case of the SPA:
 - i. A Master Account, owned and managed by the SPA; and
 - ii. Conventional bank accounts, owned and managed by the SPA;
- b. In the case of SPA Code Participants Representing Demand:
 - i. Shall open and maintain Revenue Collection Bank Accounts, owned by the SPA Code Participants Representing Demand excluding K-Electric, having an irrevocable operation instruction issued to their banks for the transfer of all the collections to the SPA Master Account;
 - ii. Shall open the Escrow Account in a bank having a minimum short term and long term credit rating of "A" or better as published by the State Bank of Pakistan, that receives, accepts and processes immediately any payment in accordance with the Escrow Management Agreement(s); and
 - iii. Conventional bank accounts.
- c. In the case of Generation Companies, conventional bank accounts owned and operated by each Generation Company.
- d. In case of the KE, the Federal Government and the Authority, the approved payment mechanisms under the PPAA shall be followed.

8.2 PAYMENT SYSTEM FOR SPA CODE PARTICIPANTS REPRESENTING DEMAND EXCLUDING K-ELECTRIC

8.2.1 The following payment system for SPA Code Participants Representing Demand, excluding K-Electric, shall be followed:

- i) In the event the Ex-WAPDA DISCOs discharge their liabilities under this SPA Code in full each month, the procedure provided in clause 8.2.2 of this SPA Code shall be followed.
- ii) In the event the Ex-WAPDA DISCOs discharge their liabilities under this SPA Code partially in each month but make up the shortfall by the close of the corresponding financial year, the procedure provided in clause 8.2.2.2 of this SPA Code shall be followed.
- iii) In the event the Ex-WAPDA DISCOs discharge their liabilities under this SPA Code partially in each month and carry forward the shortfall to the proceeding financial year(s), the procedure provided in clause 8.2.2.3 of this SPA Code shall be followed.

8.2.2 The SPA shall analyze and confirm that the SPA Code Participants have the ability to make complete payments against their liabilities. The SPA Code Participants shall arrange for a banking Credit Cover by way of an Escrow Management Agreement. The Escrow Agent shall be a bank having a long-term credit rating of AA or better as published by the State Bank of Pakistan, and the Credit Cover shall be perpetual in nature. The Escrow Management Agreement shall have following framework:

- i) Pay the settlement submitted by the SPA on the due date;
- ii) Pay the invoices submitted under bilateral agreements on the due date;
- iii) Pay the imbalances submitted by MO on the due date;
- iv) Pay the UoSC invoice of NTDC on the due date;
- v) Pay the invoice of the SPA Fee on the due date;
- vi) Pay the invoice of the MO Fee on the due date;
- vii) Pay the taxes and duties payable on the due date;
- viii) Pay the Distribution Margin on the due date.

8.2.3 In case of a temporary shortfall in payments by the Ex-WAPDA DISCOs, the payment system described in 8.2.2 above shall be followed.

8.2.4 In case of a permanent / recurring shortfall in payments by Ex-WAPDA DISCOs, the following payment system shall be followed:

8.2.4.1 Operational practice has demonstrated that once a shortfall of power remittances by the Ex-WAPDA DISCOs occurs in each month, the same has never been made up by said EX-WAPDA DISCOs until the support of the Government of Pakistan is extended by way of equity injection or swaps of the energy payables through commercial lending from banks. Furthermore, with the increased capacity available in the system, the merit order is being adhered to ensure that economical electricity producing generators are prioritized in order to keep the basket price at its lowest possible level. These constraints are further exacerbated by the Generating Companies' / IPPs' requirement of discharging their debt service, taxes, and Operation and Maintenance liability(ies) when due. Debt servicing becomes more critical for the newer Generation Companies / IPPs, where the amounts involved are more significant due to their front end loaded tariffs. In addition, in most cases international financing is involved.

where a default in debt repayment will trigger the default of the project sponsors, and subsequently create problems for the arrangement of further financing for working capital arranged by Generation Companies / IPPs, Public Sector Projects, and other upcoming projects in the national Power Sector.

The allocation methodology / basis currently being followed in these constrained circumstances, with sporadic competitive considerations, require the weighing of the factors and implications listed in clause 8.2.4.2 of this SPA Code hereunder.

8.2.4.2 All of the revenue collection made by the Ex-WAPDA DISCOs shall be transferred to the SPA as per the existing system of standing instructions issued to the respective banks of said Ex-WAPDA DISCOs. The method of allocation shall be applied as hereunder:-

- i. The SPA will disburse funds to the Generation Companies on a daily basis, including the capacity payments, as per the amount transferred to the SPA Master Account from the DISCO's Escrow Account and the subsidies received.
- ii. The SPA shall consider, on a daily basis, the sum of the verified undisputed invoices overdue for the period July 01, 2017 to date and the sum of the payment(s) made during the same period to calculate the percentage of the payment(s) against total billing, and said computed percentage will be maintained and closely matched with each Generation Company. In doing so, the SPA shall - while keeping the overall percentage(s) at close band, monitor and consider the factors enumerated in this clause 8.2.4.2 of this SPA Code which cause variation these in percentages:
- iii. The percentage variation(s) on their respective due dates when new invoices are subsequently submitted.
- iv. Pursuant to the PPCs, the SPA is mandated to follow the First In First Out "FIFO" methodology to retire overdue invoices. Pursuant to recent agreements with certain Generation Companies, and to avoid interest on interest claims thereof, the SPA will adhere to the FIFO payments method. The funds allocations basis will be made as follows:
 - (a). The SPA shall strive to ensure sufficient payments are made on account of fuel (Energy Purchase Price including GST) to Generation Companies having lower costs of generation, to ensure that the operation of said Generation Companies remains uninterrupted;
 - (b). The SPA strives to ensure sufficient payments on account of the Capacity Purchase Price to allow the Generation Companies to discharge their respective debt service liabilities and to meet their O&M requirements;
 - (c). The SPA strives to avoid defaults in the payment of taxes to the Government i.e. income tax, customs duty etc.
 - (d). The SPA considers the seasonal requirements – i.e. different fuels' availability – is taken into consideration as required in the Winter/Summer months or over national holidays, particularly projects running on RFO and Coal (being stockable fuels);
 - (e). The SPA considers that projects on take and pay based invoices are paid over and above percentage if such projects seasonal in nature, and are thereby non-operational for extended periods.
 - (f). The SPA strives to ensure payment to WAPDA keeping in view its operational requirements plus fixed amounts on account of Net Hydel Profits amounting to between Rupees 5 to 6 billion each month. O&M payments thereto shall be

based primarily on their operational requirements.

- (g). The SPA strives to ensure that payments to the GENCOs and Nuclear based projects are disbursed to maintain their operations and avoid any sort of default. Occasionally, the payment percentage(s) of the GENCOs may be higher due to their efficiency losses.
- (h). Upon the SPA's operationalization, the SPA shall not make advance payment(s) to the GENCOs.
- (i). The SPA strives to ensure that the payments to Tavanir of USD 10 million in PKR equivalent are released in Pakistan on a best efforts basis, as per the authorities issued by Tavanir, Iran for payment to its authorized representatives in Pakistan.
- (j). The SPA shall strive to ensure that the payments are made to NTDC against its Authority-determined UoSC to meet its operational requirements and in accordance with and in proportion to the funds collected from the SPA Code Participants Representing Demand against NTDC's invoice(s) for its UoSC.
- (k). The SPA shall strive to adjust the SPA Fee for its own operations.
- (l). The SPA shall strive to ensure that the Fuel Cost surcharge, as collected and remitted separately by the ex-WAPDA DISCOs, is paid to PHL for settlement of the mark up on the latter's debts. The disbursement of such funds shall be made by the SPA from its revenue collection in order to meet PHL's requirement in case of a shortfall in the Fuel Cost surcharge collection account, as may be required to avoid a bank default.
- (m). In the case of bilateral power purchase contracts executed directly by the Ex-WAPDA DISCOs with Generation Companies and backed by sovereign guarantees, the Ex-WAPDA DISCOs and / or the respective Generation Companies shall share copies of their monthly invoice(s) to the SPA in order to administer the payment of such invoices. Such payments shall be made by the SPA at par with the existing PPCs, and the SPA shall ensure that no discriminatory treatment is applied inter se the existing PPCs and such bilateral power purchase contracts.

8.2.5 In the event the Federal Government provides assistance to the SPA to reduce the latter's payables, the SPA shall consider the financial burden of Generation Companies and shall ensure that the amount so received is paid against overdue amounts payable to the Generation Companies. For this purpose, the SPA shall consider the following:

- i.) the overall overdue payables (from July, 2017 to date), according to the respective liquidity situations of the Generation Companies;
- ii.) the Generation Companies' fuel supplier's liabilities and / or avoidance of defaults thereof; and
- iii.) In the event the Federal Government issues any particular instructions in relation to the disbursement of any assistance provided, that such instructions are followed in their true letter and spirit.

8.2.6 Non-cash adjustments among public sector entities are posted against the Generation Companies as per the instructions of the Ministry of Finance.

8.2.7 Payments to the Generation Companies under the recently-signed master agreement and PPC amendments will be adjusted against prior payables due to said Generation Companies prior before July 2017 to fully settle old payables, with the balance amounts settled against any payables which have arisen after July 2017.

8.2.8 The Board of Directors of SPA shall review and approve the update of the above process.

8.3 PAYMENT SYSTEM FOR KE

8.3.1 KE shall pay the amounts indicated in payment notification generated under this code, and said payments shall be made as per the method approved by the Federal Government and the Authority under KE's PPAA.

8.3.2 Subject to the KE participation under the Commercial Code, the procedure laid down therein shall be followed as agreed upon and contracted by KE.

8.4 ACCOUNTING PROCEDURES

8.4.1 The SPA shall implement detailed accounting procedures:

- a. To implement the settlements as provided in this SPA Code;
- b. To implement the accounting system as required under the Companies Act, 2017; and
- c. To comply with the requirements of any and all applicable Revenue Laws.

8.5 REPORTING SYSTEM FOR NON-PAYMENT (OR PARTIAL PAYMENTS)

Detailed information regarding the amounts not paid:

- 1) By the SPA Code Participant Representing Demand during each month and cumulative up to the current month;
- 2) To the SPA Code Participant Representing Offer during month and cumulative up to the current month;

shall be provided to the relevant stakeholders including the Ministry of Energy (Power Division), the Authority etc. as the case may be.

8.6 RECORD MAINTENANCE

8.6.1 The SPA shall maintain records of settlement payments to:

- a. Each Generation Company having a valid PPC;
- b. Imports having PPAs administered by the SPA and / or Interconnection Agreements with NTDC;
- c. NTDC for its Use of System Charges;
- d. The Market Operator for its Market Operator Fee; and
- e. The SPA, for its SPA fee.

8.6.2 The SPA shall keep records of settlement payments received from:

- a. Each SPA Code Participant;
- b. Subsidies from the Federal Government;
- c. Exports, having PPA administered by the SPA and/or Interconnection Agreements with NTDC; and
- d. Any other source, when and if applicable.

9. REPORTING MECHANISM

Annexure C contains a list of the reports to be prepared by the SPA.

10. SPA FEE MECHANISM, AUDITS AND COMMUNICATIONS

10.1 SPA FEE MECHANISM

- 10.1.1 The SPA shall be financed through a charge imposed on SPA Code Participants Representing Demand. The mechanism for the calculation of the SPA Fee shall be established in accordance with clause 10.1.4 and, once calculated, shall be submitted to the Authority for its approval in accordance with sub-section (3)(a) of section 7 of the Act.
- 10.1.2 The following costs associated with the operations of SPA are to be recovered through the SPA Fee:
- a. General establishment and administrative expenses;
 - b. Repair and maintenance;
 - c. Insurance;
 - d. Depreciation, if any; and
 - e. Financial Charges and other relevant costs.
- 10.1.3 The SPA shall include in the costs detailed in 10.1.2, any estimated future capital expenditures required for its compliance with the provisions contained in this SPA Code.
- 10.1.4 The formula for calculating the SPA Fee shall be the total costs as established in 10.1.2 and 10.1.3 divided by the peak demand of the SPA Code Participants representing Demand.
- 10.1.5 The Authority may request additional information or clarifications prior to its approval of the SPA fee.
- 10.1.6 Once the Authority approves the SPA Fee, the SPA shall communicate it to all SPA Code Participants via its official website.

10.2 SPA FINANCIAL AUDIT

- 10.2.1 At the end of each financial year, the SPA will contract an independent auditor to conduct an audit as required under the Companies Act, 2017.
- 10.2.2 The Auditor's report shall be distributed to all stakeholders as required under the Companies Act, 2017.

10.3 DATA SHARING AND COMMUNICATION

- 10.3.1 The SPA shall;
- a. Have and maintain an official website for the purpose of communication, access to information to the public, and data sharing with the stakeholders;
 - b. Publish on its website the monthly results of the settlement and payment processes.
 - c. Publish on its website a list of all SPA Code Participants, which shall be maintained and updated regularly;
 - d. Publish on its official website the SPA Code and all existing Standard Operating Procedures for the SPA Code's implementation, as well as publish for consultation proposals for amendments to the SPA Code or to the Standard Operating Procedures or new Standard Operating Procedures;

- e. Publish on its official website any amendment or update to the SPA Code or Standard Operating Procedures within a reasonable time period upon such amendment or update's approval by the Authority; and
- f. Communicate any other information that is deemed necessary, from time to time as required in the implementation of the SPA Code.

Annex A: ENERGY AND CAPACITY SOLD BY GENERATION COMPANIES

The SPA shall adhere to the PPCs for approving the Energy and Capacity invoices. Relevant extract for the approval/calculation of Energy and Capacity calculations are as follows for reference:

a) Calculations for Capacity Payments

• Generation Companies under the Power Policy, 2002

The Capacity Payment for the applicable month shall be equal to the aggregate sum (for all of the hours in such month) of the Capacity Payment earned for each hour of the month, as shown in the formula below:

$$\text{Capacity Payments } M = \sum_{h=1}^n \text{Capacity Payments}_h$$

$$\text{Capacity Payments } h = \text{Capacity Price } h * \text{Available Capacity}^1 h$$

Where,

Capacity Payments M = Capacity Payments, in rupees, paid for the relevant month

Where,

Capacity Price h = (Non-Debt Component of CPP h + Debt Service Component h) * PWF h

Non-Debt Component of CPP h = Fixed O&M h + Insurance h + ROE² h + ROE DC³ h

Debt Service Component h = Debt Service Component [F]⁴ h + Debt Service Component [L]⁵ h

• Generation Companies under Power Policy, 1994

SPA shall pay the Capacity Payment to the Generation Company, calculated as follows:

$$\text{Capacity Payment} = \text{Capacity Purchase Price} * \text{Dependable}^6 \text{ Capacity}$$

The Capacity Purchase Price is established on the basis of a 60% plant factor⁷. If COD occurs on a date which is not the first day of a month, then the Capacity Payment shall be multiplied by the following:

$$\text{Capacity Price} * \left[\frac{\text{number of days remaining in the month}}{\text{number of days in such month}} \right]$$

If for a period of 18 consecutive days, the Generation Company is unable to deliver a Net Electrical Output (NEO) that is at least 50% of the Dispatch Levels, then SPA shall suspend Capacity

Payments until the Generation Company delivers NEO for 3 consecutive hours exceeding 50% of the Dispatch instruction by NPCC as System Operator.

¹ Available Capacity h = Available Capacity in kW, for Hour h of the relevant Month, and h = each hour in the month for which a Capacity Payment is being calculated

² ROE - Return On Equity

- 3 ROE DC- Return On Equity During Construction
- 4 Debt Service Component [F]= Foreign Debt Service Component
- 5 Debt Service Component [L]= Local Debt Service Component
- 6 With respect to Power Policy 1994, Dependable Capacity is Adjusted Capacity
- 7 Provided in Power Policy of March 1994

b) Calculations for Energy Payments

The energy payment for the relevant month shall be equal to the aggregate sum (for all of the hours in such month) of the energy payment earned for each hour of the month, and shall equal:

$$\text{Energy Payment}_M = \sum_{h=1}^n \text{Energy Payment}_h$$

Where,

Energy Payment_M=Energy Payment, in Rupees, paid for the relevant month; Energy

Payment_h=Energy Payment, in Rupees, paid for h hour of the month; n = the number of hours in the relevant month

h = an hour in the month for which an energy payment is being calculated

The energy payment earned for each hour of a month shall be calculated as follows:

$$\text{Energy Payment}_h = \text{Energy Price}_h * \text{NEO}_h$$

Where,

NEO_h=the net electrical output of the complex for the relevant hour

Payment_h=Energy Payment, in Rs, payable for hour h;

Energy Price_h=FCC_h+ VO&M_h

Where,

VO&M_h=hourly variable operation and maintenance (O&M) component

FCC_h=(FCC_{REF}* FCAF_t)*K_h*DH_h

Where,

FCC_{REF}=the reference fuel cost component FCAF_t=the

applicable fuel cost adjustment factor

K_h=the load correction factor for the complex in hour h DH_h=the heat

rate degradation factor for the complex

c) **Liquidated Damages**

Based on the provisions contained in the signed PPCs (for 1994 and 2002 Power Policy) for IPPs, SPA shall calculate the LDs as follows:

i. **Generation Companies under the Power Policy, 2002**

1. Delay in Commissioning;

If the Complex is not commissioned on or before the Required COD, then the Generation Company shall pay to the Power Purchaser monthly and in arrears, as LDs as calculated hereunder, for delays in the occurrence of the COD at the rate of US\$2.50 per kW of the Contract Capacity per month.

$$\text{LDM} = \frac{\text{US\$2.5} \times \text{Contract Capacity in MW} \times 1000}{\text{Number of days in the month}} \times \text{Number of days delayed in a month}$$

2. Due to Shortfall of Initial Tested Capacity in comparison to Contracted Capacity:

If the Initial Tested Capacity at the time of commissioning of the Complex on its COD is less than the Contract Capacity, then the Company shall pay to the Power Purchaser LDs as per the following formula:

$$\text{LDc} = (\text{Contract Capacity} - \text{Initial Tested Capacity}) \text{ in MW} \times \text{LD Rate}$$

Where,

LDc = LD due to a shortfall of Contract Capacity

LD Rates are:

For Shortfall of up to 2% of Contract Capacity = US\$ 117,000

For Shortfall >2% & up to 5% = US\$ 234,000

For Shortfall >5% & up to 10% = US\$ 350,000

3. Liquidated Damages after the COD:

The Generation Company shall pay LDs to the Power Purchaser as formulated hereunder;

a. If the D.A.C is revised between 12 hours and 4 hours prior to the beginning of an operating day.

$$\text{LDs} = 0.1 \times (\text{D.A.C. at Declaration Deadline} - \text{R.D.A.C}) \times \text{Capacity Price}_h$$

b. If the D.A.C is revised less than 4 hours prior to the beginning of an operating day.

$$\text{L.Ds} = 0.2 \times (\text{D.A.C. at Declaration Deadline} - \text{R.D.A.C}) \times \text{Capacity Price}_h$$

c. If the Company fails to comply with Dispatch Instructions.

$$\text{L.Ds} = (\text{D.A.C, or R.D.A.C if applicable} - \text{Dispatch Level achieved}) \times \text{Capacity Price}_h \text{ for the relevant hour h, of the Operating Day}$$

i. IPPs under the Power Policy, 1994

All of the LD payable under clauses 9.4 and 9.5 of the PPC (under 1994 Power Policy) shall each be indexed on the dates as follows:

$$LD = LD \text{ (initial)} * IE_t$$

Where,

LD = the value of the relevant LD payment as adjusted at the relevant calculation date;

LD(initial) = the initial value of the relevant LD payment as computed in accordance with clauses

9.4 and 9.5 of PPA signed under the 1994 Power Policy and;

IE_t = the value of IE_t at the indexation date, t , immediately preceding the calculation date.

d) For a New Generation Company

For new Generation Companies that execute a PPC with the CPPA-G, the SPA shall calculate the monthly associated liquidated damages (LD) in accordance with the provisions contained in said Generation Company's signed PPC.

(i) Energy purchased by Generation Companies

During maintenance periods and, eventually, in exceptional conditions, the power complex of a Generation Company may receive energy from the transmission network. This energy shall be purchased by the Generation Company at a tariff determined by the Authority, which may be different from the generation prices stated in their PPC. The SPA shall determine, for each complex, the total amount of energy purchased from the network and its corresponding price. This is to be referred to as Back-Feed billing.

(ii) Energy Imports

Based on the information of the Commercial Metering System and the signed Interconnection Agreements, the SPA shall determine the total amount of energy imported from neighboring countries, and the corresponding amounts to be paid or received.

Annex B: EXPORT ENERGY PAYMENT (EEP) MECHANISM/BACK-FEED ELECTRICITY

The Back-Feed Electricity Consumer Bill is a charge to Generation Companies for importing electricity from NTDC's Grid and is referred to as the Back Feed or Export Energy Invoice. It is adjusted against the net of the determination of the ETR Rate as mentioned in clause 6.1.4. (i)(a) of this SPA Code. The terms and conditions applicable in respect of back-feed billing are governed under the NEPRA Consumer Service Manual and / or the Schedule of Tariff of the relevant SPA Code Participant Representing Demand under whose territory the interconnection in question exists. The following information shall be made available on the face of the back-feed / export energy invoice:

- The name and address of the issuer, its NTN, STRN;
- The name and address of the consumer, its NTN, STRN;
- The applicable tariff category;
- Invoice number;
- Billing period;
- Issue date;
- Due date;
- Metering details;
- Charges, Surcharges, levies, taxes, adjustments or other components of calculation used in the determination of the amount payable by the consumer;
- Any additional information deemed necessary by the issuing office or as directed by the Authority.

Based on the information provided by the NTDC, the SPA shall calculate the Export Energy Invoices/Back-Feed Electricity Consumer Bills as per clause 12.2(vii) of this SPA Code.

Tariff Category:

The tariff category is determined as per the voltage level at which the interconnection exists. The relevant schedule of tariff describes the related tariff category and also provides the applicable tariff.

Invoice date & Billing period:

The invoice date shall be taken as the last calendar date of the billing period. A billing period shall be one calendar month.

Issue and due dates:

The issue date of the bill shall be the actual date of its issuance, and the due date thereof shall be calculated in accordance with the provisions of the NEPRA Consumer Service Manual. The current provision in said manual requires the due date of such invoices to be 15 days from the date of its issuance.

Meter reading:

The Export Energy Invoice / Back-Feed Electricity Consumer Bill shall contain the following meter reading components:

- Active Energy Meter Readings and Net/Total Energy usage in kWh
- Reactive Energy Meter Readings and Net/Total reactive Energy usage in kVARh
- Maximum Demand Index (MDI) Power Factor and Low Power Factor Details

Calculation of Net Energy and Net Reactive Energy

Net Energy usage shall be calculated for a billing month based on the Meter Reading Performance submitted from the Metering Committee. Monthly Net Energy Usage is calculated for both Active (in kWh) and Reactive Energy (kVARh).

Calculation of Power Factor and Low Power Factor

Power Factor (PF) is a unitless quantity and is calculated as follows:

$$PF = \frac{\text{Active Power}(W)}{\text{Apparent Power}(VA)}$$

Or

$$PF = \frac{\text{Active Power}(W)}{\sqrt{[\text{Active Power}(W)]^2 + [\text{Reactive Power}(VAR)]^2}}$$

Where,

- PF = Power Factor or ratio of Active to Apparent Power
- Active Power = Useful component of Apparent Power, measured in W, calculated from Net Active Energy usage
- Reactive Power = Wattless component of Apparent Power, measured in VAR, calculated from Net Reactive Energy usage

As per currently applicable Schedule of Tariff for DISCOs, the Power Factor should be 0.9; otherwise, a Low Power Factor Penalty is applied. LPF is calculated as follows:

$$LPF = 0.9 - PF; \text{ (provided } PF < 0.9)$$

Where,

- LPF = Low Power Factor
- PF = Power Factor

Electricity Consumer Bill Calculations

A Generation Company shall be considered a consumer of the SPA Code Participant Representing Demand for the purpose of electricity import and the methodology and other terms and conditions used for the calculating the consumer bill of that SPA Code Participant Representing Demand shall be applicable. For clarity, the formula for calculation of electricity bill is provided as under:

Electricity Consumer Bill

$$= (VC + FC \pm FPA + \text{Misc. } C + LPF \text{ Penalty} + \text{Electricity Duty} + GST \pm \text{Arrear/LPS})$$

Where,

- Electricity Consumer Bill in PKR
- VC = Variable Charges in PKR

- FC = Fixed Charges in PKR
- FPA = Fuel Price Adjustment in PKR
- Misc. C = Miscellaneous Charges and Factors as notified by Federal Government from time to time through SRO and applicable on the relevant tariff category of back-feed consumers in PKR
- LPF Penalty = Penalty arising in case of Low Power Factor (LPF) in PKR
- Electricity Duty = Application of Electricity Duty in PKR. The current applicable rate is 1.5%.
- GST = Application of GST (as notified in percentage [%]) in PKR
- Arrears/LPS = Any addition or reduction in Bill (if required) in terms of Arrears or Late Payment Surcharge (LPS) in PKR

Application of Variable and Fixed Charges/Factors

Variable Charges are applied on Active Energy usage and are calculated as:

$$VC = \text{Tariff} \times \text{Total Energy Imported}$$

Where,

- VC = Variable Charges in PKR
- Tariff = Rate per kWh, as specified in Tariff Schedule notified by GOP

Fixed Charges are applied on Active Energy usage is calculated as:

$$FC = \text{Tariff} \times MDI$$

Where,

- FC = Variable Charges in PKR
- Tariff = Rate per kW, as specified in Tariff Schedule notified by GOP

Application of Fuel Price Adjustment (FPA)

FPA shall be applied as per the notification issued by NEPRA according to the following formula.

$$FPA_{Month} = FPA_{Month\ Rate} \times (Total\ Energy\ Imported)_{Month}$$

Where,

- FPA_{Month} = positive or negative, in PKR, based on Fuel Price Adjustment, for a specific month
- $FPA_{Month\ Rate}$ = Fuel Price Adjustment Rate for a specific month, in PKR per kWh, as notified by Authority
- $Total\ Energy\ Imported\ Month$ = Total Active Energy, in kWh, imported by generation company for a specific month

Application of Miscellaneous Charges

Other charges or surcharges may be applicable to electricity consumers on GOP notifications. The Miscellaneous Charge is calculated as follows:

$$Misc.\ C = Tariff \times Total\ Energy\ Imported$$

Where,

- $Misc.\ C$ = Miscellaneous Charges in PKR
- $Tariff$ = Rate per kWh, as specified in GOP Notification.

This charge can also be applicable per kW if directed in GOP Notification.

Application of LPF Penalty

In case the Power Factor is less than 0.9, an LPF Penalty is applied as follows:

$$LPF\ Penalty = LPF \times FC\ (Tariff) \times MDI \times 2$$

Where,

- $LPF\ Penalty$ = Low Power Factor Penalty in PKR
- FC = Fixed Charges Rate, as specified in Tariff Schedule, in PKR
- MDI = Maximum Demand in kW

Application of Electricity Duty

Electricity Duty, as notified in percentage (%) by GOP, is imposed on Variable Charges as follows:

$$ED = ED\% \times VC$$

Where,

- ED = Electricity Duty in PKR
- ED% = Electricity Duty Percentage, as notified by GOP (At present 1.5% is applied)
- VC = Variable Charges in PKR

Application of GST

GST, as notified in percentage (%) by GOP, is taxed as follows:

$$GST = GST\% \times (VC + FC + Misc. C \pm FPA + LPF + ED)$$

Where,

- GST = Application of GST in PKR
- GST% = GST Percentage, as notified by GOP (At present 17% is applied)
- VC = Variable Charges in PKR
- FC = Fixed Charges in PKR
- ED = Electricity Duty in PKR

Application of Bill Adjustment

Bill is adjusted (added or subtracted as required) if the need arises.

Application of Arrear/LPS

The SPA can also adjust the bill by incorporating arrears or Late Payment Surcharge (LPS) therein, if required (in PKR).

Application of Late Payment Surcharge (LPS)

If any bill is not paid by the consumer in full within the due date, a Late Payment Charge as per the rate and terms and conditions prescribed in the schedule of tariff of the relevant SPA Code Participant Representing Demand shall be levied. Currently, the rate of 10% (ten percent) is being charged on the amount billed (excluding GST).



Annex C: CALENDAR OF REPORTS

Settlement Report (Preliminary Settlement Statement)	<ul style="list-style-type: none"> • Results of the Preliminary Settlement; • Metering quantities utilized for the Preliminary Settlement; • The SPA's comments on the settlement produced, including the assumptions used or metering quantities that have been replaced; • Sufficient information for the SPA Code Participants to be able to reproduce (and challenge if necessary) the calculations performed by the SPA 	Monthly	Within 10 Days after the beginning of each month	<ul style="list-style-type: none"> • All SPA Code Participants
Settlement Report (Final Settlement Statement)	<ul style="list-style-type: none"> • Complaints received to the Preliminary Settlement Statement, with a clear indication regarding if they were accepted or rejected; • Results of the Final Settlement; • Metering quantities utilized for the Final Settlement; • The SPA's comments on the settlement produced, including the assumptions used or metering quantities that have been replaced; • Sufficient information for the SPA Code Participants to be able to reproduce (and challenge if necessary) the calculations performed by the SPA 	Monthly	Within 10 Days after the beginning of each month)	<ul style="list-style-type: none"> • All SPA Code Participants and made publicly available on the SPA website
Non-Payment Report	<ul style="list-style-type: none"> • Identification of the SPA Code Participants which have not paid the invoices issued by the SPA; • The outstanding amounts; • The impact on payments to GENCOs, Generation Companies; • Other relevant information which permits the Authority; the Ministry of Energy, Power Division; or the Ministry of Finance to appreciate the situation and take appropriate measures 	Monthly (if required)	Within 10 Days after the beginning of each month	<ul style="list-style-type: none"> • All SPA Code Participants • Authority • Ministry of Energy, Power Division • Ministry of Finance

SPA) Annual Report	Description of the activities performed during the previous year; <ul style="list-style-type: none"> • Statistical statements covering the whole previous year; • Comments on any major incidence occurring in the previous year; • Proposals for SPA Code amendments; • SPA Financial Statements 	Yearly	Within the first two months of the following year	<ul style="list-style-type: none"> • All SPA Code Participants and made publicly available on the website • Authority • Ministry of Energy, Power Division

Annex D: COMMERCIAL ALLOCATION FACTORS

- i. Save as provided in any Law, Contract, Policy or Plan, the SPA Code Participants Representing Demand may opt for the allocation on commercial basis, the total Capacity contracted under the PPCs. The allocation of the total Capacity shall be contracted by the SPA Code Participants Representing Demand by way of entering into a contract among themselves. The framework of the contract may include the following:
 - a. The allocation of the Capacity shall be equivalent to the total Capacity contracted under the PPCs.
 - b. Where any Capacity is added or subtracted, the same shall be adjusted in the allocation on pro-rata basis of the original allocation.
 - c. The SPA Code Participants Representing Demand may opt different basis for the treatment of capacity added or subtracted by way of a new contract.
 - d. There would be provisions regarding procedures of restricting / capping the drawl of electricity over and above the contracted allocation.
 - e. The commercial allocation can only into existence when infrastructure at the level of CDPs and system operator has the capability to restrict / cap the commercially contracted capacity.
 - f. The provisions for energy imbalances due to contracting the capacity commercially shall also be made part of the contract.
 - g. The contracts shall be registered with SPA and shall come into force when all the mechanism, procedure and calculations have been successfully simulated and confirmed through parallel run with the existing system.
 - h. There shall be provision that the capacity charges for the settlement provisions shall be taken by the SPA Code Participants Representing Demand on the basis of ratios calculated on the basis of capacity commercially contracted among them.
 - i. Once the capacity is commercially contracted, it shall be non-reversible.

The SPA Code Participants Representing Demand shall prepare an agreement and submit it to the Ministry of Energy (Power Division) for onward approval of NEPRA.



Pay National Electric Power Regulatory Authority or bearer
Rupees One Million One Hundred Thirteen Thousand Six Hundred Sixty-Nine
Pakistani Rupees And Zero Paise*****

Date

08/11/2022

PKR 1,113,669/-



IBAN: PK55 NBPA 0854 0030 5760 6195

CPPAG

(Central Power Purchasing Agency Guarantee Limited)

Please do not write below this line.

[Signature]
Signature

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