

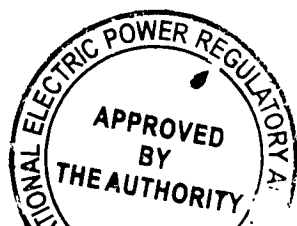
NOTIFICATION

Islamabad, the June 02, 2015

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SRO (I) 2015. In exercise of power conferred under section 35 of the Regulation of Generation Transmission and Distribution of Electric Power Act 1997 (XL of 1997) read with rule 5 of the National Electric Power Regulatory Authority (Market Operator, Registration, Standards and Procedure) Rules, 2015, the National Electric Power Regulatory Authority is pleased to approve the following Commercial Code submitted by the CPPA G.

COMMERCIAL CODE

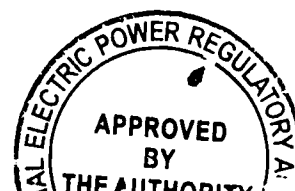


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1. DEFINITIONS

1. "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997);
2. "Authority" means the National Electric Power Regulatory Authority established under the Act;
3. "Back-up Metering System" means any meter and metering devices installed, owned and maintained by the Company engaged in generation or distribution of electric power, for backup purpose;
4. "Common Delivery Points (CDPs) / Connection Point" means metering locations on the NTDC Grid Network, which are between NTDC transmission system and Distributor Companies, or between NTDC or distribution companies system and power plants or generation companies. Energy transaction takes place at this point, energy transaction means electrical energy can be exported or imported from one party to another party, or injected to or extracted from the grid;
5. "Company" means a limited company incorporated under the laws of Pakistan;
6. "Commercial Meters" means Metering Systems installed at CDPs;
7. "Consolidated Escrow Account" has the meaning ascribed thereto in clause 8.3;
8. "CPPA-G" means a company performing the functions listed in clause 5 of this Commercial Code and authorized by Authority as Market Operator under the Market Rules;
9. "Dispute" means any dispute or disagreement or difference arising under this Commercial Code, or any provision hereof, or the obligations or performance of a Market Participant under any provision hereof;
10. "Distribution Company (DISCO)" means the ten government-owned distributor companies licensed by Authority to engage in the distribution of electric power;



11. "Escrow Account" means the bank account maintained by the Distribution Company pursuant to its this Commercial Code for holding in escrow the revenues of the Distributor Company;
12. "Export/Back-Feed Energy" means measure of electrical energy transferred from grid to a power plant or complex of a generation company;
13. "Final Settlement Statement" has the meaning ascribed thereto in clause 8.6. and Annexure 4;
14. "GENCOs" means all electricity generating companies incorporated pursuant to unbundling of WAPDA and licensed to carry out generation functions by Authority;
15. "Generation Company" means a company with a generation license granted by Authority including the GENCOs;
16. "GOP" means The Islamic Republic of Pakistan or the Government of Pakistan, as the context permits;
17. "Grid Code" means the regulations and procedures for the access, use and operation of NTDC transmission grids, as defined in NTDC Transmission License and approved by Authority;
18. "Independent Power Producer (IPP)" means those IPPs established under the 1994 Power Policy, those IPPs established under the 2002 Power Policy, and those Wind and Solar, IPPs established under the 2006 Renewable Energy Policy;
19. "Market Operator" shall mean CPPA-G as authorized or registered under the Market Rules.
20. "Market Participant" shall have same meaning as assigned to it under the Market Rules;
21. "Market Participants Representing Demand" The licensed ten Ex- WAPDA DISCOs which shall share the power pool as per the power pool allocation currently operated by system operator;
22. "Market Participants Representing Offer" Generation Companies licensed by the Authority having a PPA signed by, assigned to or administered by CPPA-G;
23. "Market Rules" or "these Rules "means Electric Power Regulatory Authority (Market Operator, Registration, Standards and Procedures) Rules 2015;

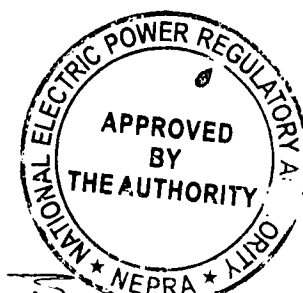


24. "Metering System" means devices that measure and record Active Energy (kWh), Reactive Energy (kVARh) and MDI (kW). These systems may include any remote terminal units and an electronic data recording system;
25. "National Transmission and Despatch Company Limited (NTDC)" means the national grid company licensed by Authority;
26. "Power Purchase Agreement (PPA)" means the agreements signed by WAPDA with an IPF under or prior to 1994 Policy; agreements signed by NTDC with GENCOs and WAPDA Hydel; agreements signed by NTDC, all to procure power on behalf of Distribution Companies and all administered by CPPA-G and all further agreements for procurement of power on behalf of Distribution Companies by CPPA-G;
27. "Power Purchase Agency Agreement (PPAA)" means the agreement between CPPA-G and each of the DISCOs, through which, inter alia, the DISCO shall appoint CPPA-G as its agent for the purposes set out therein;
28. "Preliminary Settlement Statement" has the meaning ascribed thereto in clause 8.5. and Annexure 4 of the Commercial Code;
29. "Settlement Committee" has the meaning ascribed thereto in the Standard Operating Procedures relating to the settlement billing & payment. The committee shall broadly comprise of representatives of CPPA-G and Market Participants.
30. "Standard Operating Procedure" means a specific procedure or set of procedures established for carrying out commercial operations, processes and functions as provided in this Commercial Code;
31. "System Operator" means the division of NTDC responsible for system operation and despatch as established in NTDC License and the Grid Code; and
32. "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).
33. The words and expressions used but not defined in this Commercial Code shall have the same meaning as are assigned to them in the Market Rules.



2. SCOPE AND APPLICABILITY

- 2.1. The Commercial Code shall be applicable on the existing market structure, i.e. the single buyer model as well as current practices being carried out by the CPPA of NTDC.
- 2.2. During this phase, CPPA-G shall act as the sole agent of Distribution Companies and purchaser of capacity and energy on DISCOs' behalf from the Generation Companies, apart from Small Power Producers or other Generators which have decided to contract bilaterally with the Distribution Companies, and settle the energy and capacity taken by the Distribution Companies. CPPA-G shall be the administrator of PPAs and any International Trading Agreement signed by WAPDA or NTDC with neighboring countries for procurement of power.
- 2.3. During this phase, the Market Participants shall consist of the following:
 - a. Representing Demand: The licensed ten Ex-WAPDA DISCOs which shall share the power pool as per the power pool allocation currently operated by system operator;
 - b. Representing Offer: Licensed Generation Companies; with a PPA signed by, assigned to or administered by CPPA-G; and
 - c. NTDC as a Transmission Licensee, including the System Operator function.
- 2.2.4. NTDC shall provide Transmission Services (with its transmission assets) and system operation and dispatch services (through the System Operator) to all Market Participants, at a use of system charges (UoSC) paid by the demand determined by Authority in NTDC Tariff Determinations. The CPPA-G will collect the UoSC from the Distribution Companies through the transfer price mechanism established by Authority and implemented by CPPA-G in accordance with this Commercial Code, and transfer the payment to NTDC as established in the settlement and payment code and procedures under Chapters 8 and 9 of this Commercial Code.



3. GENERAL CONDITIONS

3.1. OBJECTIVE

3.1.1. The general objectives of the Commercial Code are:

- (i) To establish, govern and promote efficient and transparent billing, collection, settlement and payment arrangements and procedures, centrally administered by CPPA-G specifically of the commercial and financial transactions relating to the sale and purchase of electricity and capacity in the agreements signed by and the trading and pooling arrangement administered by CPPA-G, in the manner prescribed under or pursuant to the provisions of the Act and rules and regulatory framework; and
- (ii) To promote and enable the development of competitive power markets in accordance with schedule I of the Market Rules.

3.2. RIGHT OF INTERPRETATION

3.2.1. The CPPA-G has the right of interpreting this commercial Code as is most appropriate provided that the CPPA-G shall be under the obligation to inform this interpretation and its justification to Authority and publish the interpretation on its website. Once an interpretation is agreed upon or approved by Authority, the CPPA-G shall draft an amendment or update the necessary commercial Standard Operating Procedures and shall publish on its website and inform the Market Participants accordingly.

3.2.2. All Market Participants shall abide by this Commercial 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 Agreement signed prior to this Commercial Code becoming effective.

3.3. INTERPRETATION

3.3.1. In the case of any inconsistency or contradiction of the Commercial Code with the Act or Market Rules, the provisions of the Act or Market Rules will prevail up to the extent of the inconsistency.

3.3.2. This Commercial Code complements the Grid Code and should be read in conjunction therewith.

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3.4. PROCEDURE FOR PROPOSING AMENDMENTS

3.4.1. CPPA-G shall establish a Commercial Code Review Panel in order to seek assistance in the improvement of the Commercial Code. This Review Panel shall include representatives of Market Participants and staff of the System Operator (NTDC) and will be chaired by CPPA-G.

3.4.2. The Review Panel may propose:

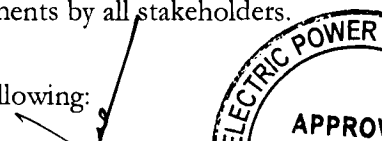
- (i) Amendments to the Commercial Code, based on principles, objectives and purposes laid down in the Market Rules and with adequate justification, including expected impact; and
- (ii) New or amendment to existing commercial Standard Operating Procedures for implementation of the Commercial Code and the Market Rules, with explanation and justification.

3.4.3. The System Operator, a Market Participant, or any other interested party may file a written request to the CPPA-G proposing amendments to the Commercial Code, with the corresponding justification and assessment of expected impact and benefits. The CPPA-G shall respond by giving a written notice to the party who made the submission and publish the same on CPPA G website for consultation inviting comments from all Market Participants and any other interested persons.

3.4.4. If deemed necessary, CPPA-G or the Commercial Code Review Panel, if established, shall hold meetings with the party who made the amendment proposal, Market Participants and any other interested party who filed written comments. The CPPA-G or the Commercial Code Review Panel if implemented, shall review proposed amendments and, if considered reasonable and justified, submit a written report to Authority indicating the amendments proposed, and the reasons for its recommendations. On approval of the Authority, the Commercial Code shall accordingly be amended and thereafter notified by the Authority

3.4.5. The CPPA-G shall prepare an Annual Report entailing the problems experienced during the implementation and application of the Commercial Code and the commercial Standard Operating Procedures, and achievement of its purpose, and describing amendment made to the Commercial Code or under consideration. This report shall be submitted by the CPPA-G to Authority and uploaded on the CPPA-G website for comments by all stakeholders.

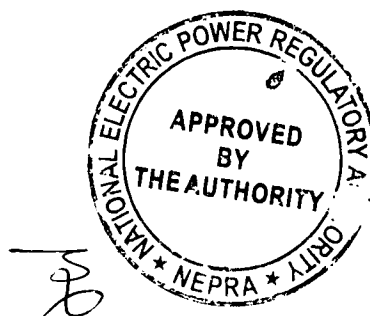
3.4.6. The Annual Report shall include but not be limited to the following:



- (i) Problems identified in the implementation and manner of addressing the same, including any new interpretations of the provisions of the Commercial Code made by CPPA-G;
- (ii) Conflicts of interpretation with Market Participants or the NTDC;
- (iii) Any transitional exception in complying with this Commercial Code or its procedures (in case it is granted to any Market Participant subject to prior approval from Authority and consistency with signed legal agreements with the Market Participants); and
- (iv) Actions and plans for improving the performance, transparency, feasible implementation or efficiency and achieve the objectives of the Commercial Code and Market Rules, and to transition to competitive electricity market.

3.4.7. A proposal for amendment may be rejected (by Authority or CPPA-G or the Commercial Code Review Panel, if established) if the proposal is found to:

- (i) Unfairly discriminate against a Market Participant or class of Market Participants;
- (ii) Limit the development of competition, or prevent free entry into the electricity market;
- (iii) Allow one or more Market Participants to possess market power, or have a potential for abuse of market power; and
- (iv) Be inconsistent with the objectives and purpose defined for the Commercial Code and the Market Rules, or inconsistent with Act or regulatory framework.



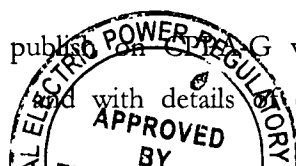
4. MARKET PARTICIPATION & TERMINATION

4.1. MARKET PARTICIPANTS ELIGIBILITY REQUIREMENTS

- 4.1.1. A future Market Participant shall be liable to fulfill the following requirements. The person:
- (i) has been granted a distribution or generation license by the Authority;
 - (ii) is an authorized company from another country that participates in regional / international power trade through a contract with or novated to or administered by CPPA-G; and
 - (iii) has a Commercial Metering System at each Common Delivery Point, as established in the Grid Code and defined in relevant clauses of the Power Purchase Agreement and this Commercial Code.
- 4.1.2. CPPA-G shall make publicly available the list of all Market Participants on its official website, as updated from time to time.
- 4.1.3. The Market Participants shall provide CPPA G the following information:
- (i) Each Distribution Company with respect to details of bank account under the pre-existing payment arrangements with NTDC/CPPA and the information will be provided to CPPA-G by NTDC before the start of the market commercial operation.
 - (ii) The Generation Company with respect to details of the bank account it has to open and maintain, except for pre-existing Generation Companies that will continue with the same payment arrangements and the information will be provided to CPPA-G by NTDC before the start of the market commercial operation.
- 4.1.4. The CPPA-G shall request from a Market Participant any additional information as required.
- 4.1.5. New generation companies or power plants for sales to all DISCOs through CPPA-G will sign a PPA with CPPA-G, where CPPA G procures power on Disco's behalf.

4.2. MAINTENANCE OF MARKET PARTICIPANT & CONTRACTS INFORMATION

- 4.2.1. The CPPA G shall organize, maintain and publish on CPPA G website information regarding the register of Market Participants and with details of entities with whom



memorandum of understanding (MOU) are in place or PPAs are being negotiated by CPPA-G to procure power on behalf of DISCOs.

4.2.2. The CPPA-G shall also maintain a contract register. It shall record in this register all legal agreements existing between CPPA-G and the Market Participants or being PPAs administered by CPPA-G. The list of registered legal agreements shall be publically available on the CPPA-G official website.

4.3. WITHDRAWAL OF MARKET PARTICIPANT

4.3.1. The participation of a Market Participant will end only under the following conditions:

- (i) For a generator, participation can only end if PPA expires or end due to default ending up in termination; and
- (ii) For a distribution company, participation is subject only to provisions in PPAA while the agency agreement remains valid and effective, participation cannot end.

4.3.2. Notwithstanding the above, the Market Participant shall remain liable for all its obligations and liabilities as a Market Participant that incurred or arose prior to the date of withdrawal.

5. CPPA-G FUNCTIONS

5.1. RESPONSIBILITY FOR COMMERCIAL CODE

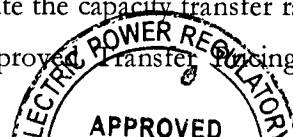
5.1.1. CPPA-G is responsible for the administration, maintenance and implementation of the Commercial Code, supervision of compliance by Market Participants and performing such functions as provided in Schedule II of the Market Rules.

6. COMMERCIAL TRANSACTIONS

6.1. COMMERCIAL TRANSACTIONS AND TRANSFER PRICE

6.1.1. The invoices for energy and capacity sold by generation companies, for each billing period shall be sent to CPPA-G, pursuant to the terms reflected in the Power Purchase Agreements. The current mechanism for the energy and capacity invoicing for Generation Companies is detailed in Annexure 1.

6.1.2. For each billing period, CPPA-G shall calculate the capacity transfer rate and energy transfer rate, in accordance with the Authority approved Transfer Pricing Mechanism, for the



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purposes of invoices against each Distribution Company for the energy and capacity purchased during the previous month.

- 6.1.3. The Transfer Pricing Mechanism is used to derive the formula for Transfer Price, which is then incorporated into the invoices raised against each Market Participants Representing Demand. This formula is as below:

$$TP = TC + UoSC + GST$$

Where,

TP = Transfer Price in PKR

TC = Transfer Charges for generation costs of the pool

UoSC = Use of System Charges in PKR

GST = Application of GST on ETC 1 in PKR

- 6.1.4. Initially, the Use of System Charge (UoSC) in the Transfer Price consists of both, the transmission charges of NTDC as well as the costs incurred by CPPA for its functions, as included in Authority determination for NTDC. Once a new NTDC tariff determination after the start of this Commercial Code and CPPA-G becomes operational, the UoSC will only constitute of the transmission charges of NTDC whereas the costs incurred by CPPA-G – to be referred to as the 'Market Operation fee' – shall be charged separately to Market Participants Representing Demand. The incorporation of this distinction between transmission charges and the Market Operation fee will modify the formula for calculating Transfer Price as found below:

$$TP = TC + UoSC + MOF + GST$$

Where,

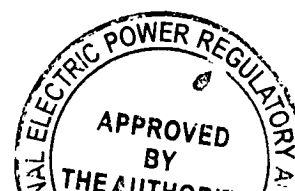
TP = Transfer Price in PKR

TC = Transfer Charges for generation costs of the pool

UoSC = Use of System Charges of NTDC in PKR

MOF = Market Operation Fee of CPPA-G in PKR

GST = Application of GST on ETC 1 in PKR ✓



Each of the above terms in the formula has the meaning and is calculated as follows.

(i) Transfer Charges (TC)

Total transfer charges are calculated by adding Capacity Transfer Charge and Energy Transfer Charge from generation in accordance with generator validated invoices and PPAs.

$$TC = CTC + ETC$$

Where,

TC = Transfer Charges in PKR

CTC = Capacity Transfer Charge in PKR

ETC = Energy Transfer Charge in PKR

The Transfer Charge is applied on Market Participants Representing Demand for recovery of cost for procuring power from Generation Companies in accordance with PPAs. A Transfer Rate (TR), applicable to Monthly Maximum Demand (MDI) and consumption of energy, applies to the above charges as follows:

- ETR = Energy Transfer Rate to Market Participants Representing Demand in **PKR per kWh per Month**
- CTR = Capacity Transfer Rate to Market Participants Representing Demand in **PKR per kW (MDI) per Month**

CPPA-G shall use the Authority-approved mechanism for calculating monthly values of TR. The Transfer Rates shall be used to calculate CTC and ETC as follows:

(a) Capacity Transfer Charge (CTC)

The Capacity Transfer Charge (CTC) is calculated as CTR and multiplied by the monthly MDI of each respective Market Participant Representing Demand as below:

$$CTC = CTR \times MDI_{\text{Market Participant Representing Demand}}$$

Capacity Transfer Rate (CTR) is applied to Market Participants Representing Demand to recover payments to Generation Companies for Capacity. CTR is calculated by adding Capacity Generation costs (as invoiced by Generation Companies and verified by CPPA-G) of all generation companies for each billing month and subtracting sum of



Liquidated Damages payable by generation companies for the same billing month. The result of which is further divided by the sum of Maximum Demand (MDI) recorded at all CDPs for each billing month.

$$CTR = \frac{\sum(CpGenCap - LD)}{\sum MD}$$

Where,

CpGenCap = Generation companies cost for Capacity component of electrical power generation for a billing month in PKR

LD = Liquidated Damages payment by Generation companies in PKR

MD = Maximum Demand of DISCOs in a billing month in kW

Energy Transfer Charge (ETC)

The Energy Transfer Charge (ETC) consists of two components:

$$ETC = ETC 1 + ETC 2$$

Where,

ETC 1 = Energy Transfer Charge that is chargeable to GST

ETC 2 = Energy Transfer Charge that is not chargeable to GST

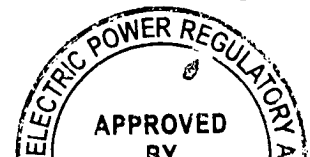
ETC 1 and ETC 2 are calculated by multiplying the Energy Transfer Rate (ETR) with energy units of each Market Participant Representing Demand(in kWh) as follows:

$$ETC 1 = ETR 1 \times \text{Market Participant Representing Demand}_{EU}$$

$$ETC 2 = ETR 2 \times \text{Market Participant Representing Demand}_{EU}$$

The ETR is applied on DISCOs for recovery of energy costs of the Generation Companies and is calculated by taking sum of Energy Generation costs (as invoiced by the Generator Company and verified by CPPA-G) of all Generation Companies for each billing month and dividing it by the sum of energy units recorded at CDPs of each DISCO for the respective billing month as below:

$$ETR = \frac{\sum CpGenEn}{\sum EU}$$



Where,

CpGenEn = Generation companies cost for Energy component of electrical power generation for a billing month in PKR (*subject to deduction of Total Export Energy Payments¹ payable by the generation companies for the energy imported*)

EUs = Energy Units recorded at CDPs of Market Participant Representing Demand during each billing month in kWh

CPPA-G shall be provided with all the Metering Data collected from CDPs of respective Market Participants Representing Demand by NTDC and shall calculate Net Energy Units transferred/delivered to each Market Participant Representing Demand. Each energy unit is measured in kWh. Net Energy Delivered to a Market Participant Representing Demand is calculated by taking the difference of total Energy imported from Market Participant Representing Demand and total Energy exported to Market Participant Representing Demand.

Monthly Maximum Demand (MDI) or Peak Demand of each Market Participant Representing Demand is also recorded at CDPs, and net MDI is reflected in the bills generated by CPPA-G to DISCOs. It is measured in kW. With reference to Market Participant Representing Demand, Net MDI is calculated by taking the difference of total Market Participant Representing Demand Imported MDI and total Market Participant Representing Demand Exported MDI.

(i) Use of System Charge (UoSC)

NTDC levies two types of wheeling/use of system charge (UoSC) to Market Participants Representing Demand in accordance with Authority determination;

- Fixed Charge (USCF) and;
- Variable Charge (USCV).

The charges resulting from the latest Authority determination apply to all Market Participant Representing Demand. UoSC is calculated as follows:

$$UoSC = USCF + USCV$$

¹Total Export Energy Payments (EEP) is the payment made for energy imported by Generation Companies from



Where,

USCF = Fixed Use of System Charges

USCV = Variable Use of System Charges

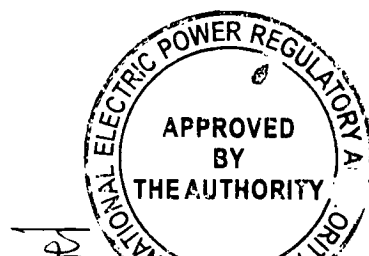
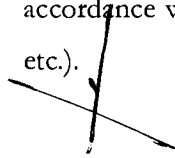
Fixed charges are applicable on the Maximum Demand Indicator (MDI) value (in kW) and Variable charges are applicable on energy transferred to Market Participant Representing Demand (in kWh) during a billing period. Variable Charges are not applied to Market Participant Representing Demand as per latest Authority determination, but should this be modified in later determinations, the formula will include USCV.

(ii) Market Operation Fee of CPPA-G (MOF)

The formula for calculation of the Market Operation Fee for CPPA-G is as established in clause 11.1.4 of this Commercial Code.

(iii) General Sales Tax (GST)

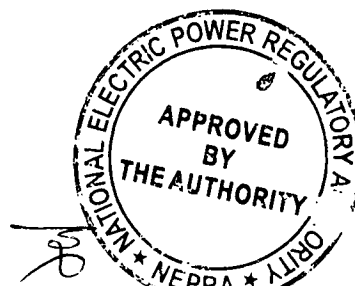
GST is applied on the Energy Payments that are chargeable to GST (ETC 1) whereas, there no GST is applied to ETC 2 (it includes payments items excluded from GST application in accordance with order issued by FBR from time to time, e.g. markups, supplemental tariffs etc.).



7. COMMERCIAL METERING SYSTEM

7.1. METER READING AND DATA COLLECTION

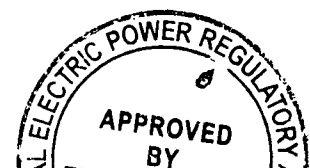
- 7.1.1. Verification of meter readings shall take place under NTDC standard operating procedures in accordance with Grid Code, and is a responsibility of NTDC.
- 7.1.2. NTDC shall provide CPPA-G the information of installed metering systems, commissioning and testing.
- 7.1.3. All capacity and energy used for market settlement shall be measured through the Commercial Metering System. Collection and validation of metering data for the existing Common Delivery Points shall be carried out on a monthly basis by the NTDC, on the last business day of each month and shall be performed for Generation Companies by the Meter Reading Committee appointed by NTDC in accordance with PPAs.
- 7.1.4. NTDC will provide CPPA-G the data and information resulting from monthly Meter Reading.
- 7.1.5. If during the validation process, a metering problem or a failure is identified in a Main Meter, the CPPA-G shall use as commercial data the following:
- (i) If the Connection Point has a back-up meter, the data metered by the back-up meter shall be used; and
 - (ii) If the Connection Point does not have back-up meter, the energy calculated with the hourly reading by the System Operator shall be used
- 7.1.6. The CPPA-G shall inform, in the Settlement Documents, of any problems, errors or failures detected and the replacement data used to calculate the energy for the Settlement Statement.



8. SETTLEMENT & BILLING

8.1. INITIAL SETTLEMENT AND BILLING PROCEDURES

- 8.1.1. Initially, CPPA-G shall follow the same procedures for settlement and billing, as stated below, followed by CPPA of NTDC, for a transition period not longer than two years. At end of that period new procedures described in clauses 8.2 to 8.8 shall come into effect. The initial procedures are described in 8.1, and 8.8.3 to 8.8.6 will also apply.
- 8.1.2. CPPA G will use the same nature of banks as CPPA of NTDC currently operating, till such time as opening of Escrow Accounts as per the new settlement and billing procedures will apply as established in 8.1.1.
- 8.1.3. Within the number of working days *as provided in the PPA* for meter reading at the CDPs which occurs on the last working day of each month, each Generation Company shall submit an invoice to the CPPA-G as per its PPA.
- 8.1.4. Within two (2) working days after the end of each month, NTDC shall send to CPPA-G the data and information from the CDP meter reading. CPPA-G and NTDC will agree the format to exchange this information electronically.
- 8.1.5. On a weekly basis, and not later than (Tuesday morning) the System Operator shall send to CPPA-G the declared and available capacity of generation, energy despatched and compliance with despatch instructions by each power plant or generator, as applicable in the PPA. CPPA-G and the System Operator will agree on the format of exchanging this information electronically.
- 8.1.6. Based on meter reading and information sharing described in Chapter 12, the CPPA-G will calculate the UoSC for each DISCO.
- 8.1.7. CPPA-G shall verify the invoices sent by Generation Companies in accordance with the PPA.
- 8.1.8. Within five (5) working days after completing verification of receipt of invoices from Generation Companies, the CPPA-G shall calculate the transfer charges and issue invoices for the previous month to each Distribution Company, indicating each of the charges and the total that the Distribution Company shall be liable to pay.



8.1.9. DISCOs shall send a Revenue Collection & Remittance Statement to CPPA-G. The Revenue Collection & Remittance Statement shall include the daily remittances from DISCOs to CPPA-G and the amount retained by DISCOs for its own expenditures.

CPPA-G shall prepare a daily Subsidy Collection Report based on the subsidy or disbursement received from or provided by the Federal Government against the subsidy invoices raised by the Distribution Companies.

8.1.10. The banks associated with CPPA-G shall daily send a computer generated bank statement to the CPPA-G.

8.1.11. CPPA-G shall prepare a daily Cash Collection Report based on the Revenue Collection & Remittance Statement sent by DISCOs and the available balance in each of the bank accounts associated with CPPA-G. This Report shall contain data regarding collections from each DISCO for said day and the day before, balance remaining in each associated bank to date, total collections to date and the net available balance to date.

8.1.12. CPPA-G shall prepare a Pending Liabilities Report on a daily basis to summarize the outstanding payments due to NTDC and generation companies or the outstanding liabilities of CPPA-G's principals, the Distribution Companies.

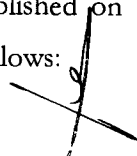
8.1.13. Based on the daily Cash Collection Report, daily Subsidy Collection Report and the daily Pending Liabilities Report, CPPA-G shall form a Settlement Committee that shall be responsible for the preparation of Daily Payment Instructions for the payments that are to be made to the relevant Market Participants.

8.1.14. Based on monthly basis, CPPA-G shall prepare a DISCO-wise Subsidy Allocation Statement and shall issue a credit memo and adjust the same against energy receivables balance of Distribution Companies.

8.1.16. A detailed overview of the initial settlement and billing procedures is given in Annexure 3.

8.2. NEW SETTLEMENT AND BILLING PROCEDURES

8.2.1. During the transition period defined in 8.1.1, the CPPA G will draft the settlement commercial Standard Operating Procedures corresponding to 8.2 and when approved after consultation, shall be published on the CPPA-G website. The new settlement and billing procedures shall be as follows:



- (i) The Distribution Companies shall have an Escrow Account and deposit all collections in their Escrow Accounts, which shall include end-consumer payments for electricity tariff regardless of their origin;
- (ii) Any subsidy or disbursement, received from or provided by the Federal Government against the invoices raised by the Distribution Companies, shall also be deposited in the Escrow Account;
- (iii) At the end of each week (or daily as will be specified in the corresponding commercial Standard Operating Procedure), the banks in which the Distribution Companies have their Escrow Accounts shall disburse to each Distribution Company an amount equal to a pre-definite percentage of all the deposits made in the account during the previous week. This percentage, which may be different for each Distribution Company, shall be determined as established in the corresponding commercial Standard Operating Procedure approved by Authority at the beginning of each fiscal year;
- (iv) The pre-defined percentage of all deposits made into a Distribution Company's Escrow Accounts shall be based on information provided by CPPA-G, estimated using the following formula as:

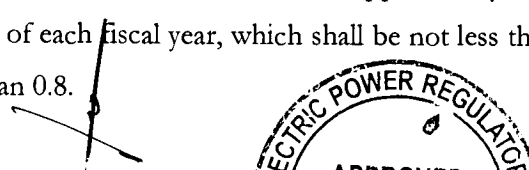
$$\%back = D.M. \% * Factor$$

Where,

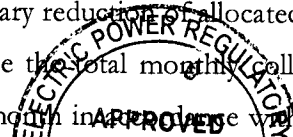
% back = Percentage of all deposits made in the Escrow Account during the previous week (or period specified in the corresponding commercial Standard Operating Procedures) that shall be returned to the Distribution Company.

D.M. = Distribution Margin in latest Authority determination for the DISCO multiplied by the percentage of billing collected / collection efficiency.

Factor = Factor to be established in accordance with the corresponding commercial Standard Operating Procedure approved by Authority at the beginning of each fiscal year, which shall be not less than 0.6 and not greater than 0.8.



- (v) After the CPPA-G issues the Final Settlement Statement, and before the Payment Due Date stated in such Settlement Statement, as described in the Settlement and Payment Chapters of this Commercial Code, each Distribution Company shall determine if there are enough funds in its Escrow Account to afford the required payment, and, in case the remaining funds are found insufficient, the Distribution Company shall be responsible for depositing the required difference;
- (vi) Whenever the remaining funds in an Escrow Account are found insufficient before the Payment Due Date, the affected Distribution Company shall be responsible for depositing the required difference either before the Payment Due Date or before the next Payment Due Date;
- (vii) At the Payment Date, the banks in which the Distribution Companies have their Escrow Accounts shall execute the irrevocable mandate and transfer to the CPPA-G Consolidated Account the amounts stated in the Final Settlement Statement of each Distribution Company that has sufficient funds in its Escrow Account to pay in full the amount indicated in the Final Settlement Statement;
- (viii) After the banks have executed the irrevocable mandates transferring to the CPPA-G the amounts indicated in the Final Settlement Statements, any amount remaining in any of the Distribution Company's Escrow Accounts shall be refunded to the corresponding Distribution Company;
- (ix) When the funds in an Escrow Account of a Distribution Company are deemed to be insufficient for payment of the Final Settlement Statement on the Payment Due Date the bank shall execute its irrevocable mandate transferring to the CPPA-G Consolidated Account all the funds that exist in the Escrow Account at that moment;
- (x) When the funds in an Escrow Account of a Distribution Company are deemed to be insufficient for payment of the Final Settlement Statement on the Payment Due Date, and when the affected Distribution Company is not able to resolve the insufficient funds in its Escrow Account by the Payment Due Date, the allocation of electric power to said Distribution Company shall be reduced temporally during the next settlement period (i.e. next month) in accordance with the power pool allocation policy and to distribute the temporary reduction of allocated electricity in a manner that shall maintain and may increase the total monthly collections of said Distribution Company; and When the next month in accordance with the allocation



policy for reduction of electricity to a Distribution Company in the settlement period (i.e. next month} does not result in sufficient collections to satisfy that settlement-period's Final Settlement Statement and remove the settlement deficit with respect to the prior settlement period (i.e. the immediately prior month Authority upon request by the CPPA-G shall order a temporary reduction in the percentage of all deposits made in the Escrow Account that are returned to said Distribution Company until all outstanding deficits are removed from said Distribution Company's accounts payable.

8.2.3. The above procedure has the following characteristics:

- (i) Each week, each Distribution Company will receive a percentage of its total deposits (i.e. rebated deposits) in their Escrow Accounts including any disbursement from the Federal Government. The rebated deposits are to be used by the Distribution Companies to run its normal operations;
- (ii) The rebated deposits are received by the Distribution Company either each week or in a number of days less than seven (7) days;
- (iii) The rebated deposits are related to the Distribution Margin determined by Authority;
- (iv) Authority will determine the rebated deposits for each Distribution Company at the beginning of each financial year;
- (v) The rebated deposits from the Distribution Company's Escrow Account will not equal the Distribution Company's Distribution Margin;
- (vi) The rebated deposits will be associated with a greater assurance that the Distribution Company will be able to satisfy the Final Settlement Statement in full and by the Payment due date;
- (vii) The rebated deposits ensure that a percentage of all deposits remain in the Escrow Account until the Payment Due Date;
- (viii) The rebated deposits may be reduced temporarily during the financial year by order of Authority;
- (ix) The allocation of electricity to the Distribution Company may be reduced temporarily during the financial year in furtherance of the power allocation policy;



- (x) After a Final Settlement Statement is received by a Distribution Company, the pertinent banks that administer said Distribution Company's Escrow Account will produce a "balance" representing the amount of funds in said Escrow Accounts:
- (a) If enough funds are not in said Escrow Accounts to pay the CPPA-G bill in full by the Payment Due Date, the Distribution Company is liable for removing the deficit in accordance with this Commercial Code; and
- (b) If enough funds are in said Escrow Accounts for paying the CPPA-G bill in full by the Payment Due Date, the surplus in the Escrow Account will be returned to the Distribution Company.

8.3. DETERMINATION OF THE MAGNITUDE AND CHARACTERISTICS OF THE 'ESCROW ACCOUNT'

8.3.1. Within three (3) months before the beginning of each financial year, the CPPA-G shall estimate the amounts (expressed in Rupees) to be deposited into the Escrow Account for each Distribution Company.

8.3.2. Within three (3) months before the beginning of each financial year, the CPPA-G shall estimate the percentage to be withdrawn from the Escrow Accounts for each particular Distribution Company.

8.3.3. To finalize said estimated amount to be deposited in Escrow Accounts, the CPPA-G shall:

- (i) Estimate the amounts to be paid, by each Distribution Company at each month, for power purchases and NTDC UoS C using inputs from the Year Ahead Plan produced by the System Operator, per the Authority Guidelines for the Determination of Consumer-end Tariff (methodology and procedures) 2015, and shared with CPPA-G (detailed in Chapter 12 of this Commercial Code) and/or assumptions and power purchase prices in Authority determination for DISCOs;
- (ii) Estimate the revenues for each Distribution Company at each month using the most recent version available of the tariff determinations for each of the Distribution Companies;
- (iii) Estimate the Distribution Margin for each Distribution Company, subtracting from estimated revenues the estimated total cost of power purchase, which is based on the price of generation, NTDC charges and the CPPA-G Market Operation fee.



- (iv) Determine the percentage of the Distribution Margin estimate to be returned to the Distribution Company for its operations, which may be determined jointly by CPPA-G and Authority.
- (v) The aforementioned estimates so determined, expressed in Rs/month for each Distribution Company, shall be presented to the CPPA-G Board for its approval.
- (vi) After approval by the CPPA-G Board, the corresponding estimated amounts shall constitute the CPPA-G's estimated monthly settlements, following the procedures expressed in Chapter 8 of this Commercial Code.

8.4. MARKET SETTLEMENT SYSTEM

8.4.1. CPPA-G shall administer monthly a Market Settlement System.

8.4.2. CPPA-G shall be responsible for the development and maintenance of the required software and data for the operation of the Market Settlement System.

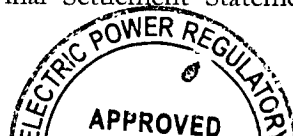
8.4.3. CPPA-G shall be responsible for verification of data and the accuracy of the outputs of the Market Settlement System.

8.4.4. The Market Settlement System shall be administered by CPPA-G through the following procedure:

- (i) Calculate the settlement of PPAs and generation charges;
- (ii) Calculate the settlement of NTDC Use of System Charges (UoSC);
- (iii) Calculate the CPPA-G Market Operation fee which shall be shared among the Distribution Companies on the basis of the energy (measured in kWh) delivered.
- (iv) After the initial transition specified in 8.1.1, calculate the actual deficit or surplus with respect to the Distribution Companies' Escrow Accounts for payments at the Payment Due Date after the full or partial payment by the Distribution Company of its Final Settlement Statement.

8.4.5. The Market Transaction of a Market Participant for a month shall be calculated as follows:

- (i) The actual amount of the monthly Final Settlement Statement received by the Market Participant; plus



- (ii) The actual amount payable to the Market Participant due to corrections to the Market Transactions of previous Final Settlement Statements; plus
- (iii) The actual amount payable to the Market Participant corresponding to accrued interest for previous payments not received on time; minus
- (iv) The actual amounts payable to the Distribution Company due to corrections to the Market Transactions of previous Final Settlement Statements; minus
- (v) The actual amount payable to the Distribution Company corresponding to corrections to the Market Transactions of previous Final Settlement Statements; plus
- (vi) The actual deficit in the Escrow Account of the Distribution Company to be paid to CPPA-G; minus
- (vii) The actual surplus in the Escrow Account to be returned back to the Distribution Company.

8.4.6. The CPPA-G shall determine the monthly NTDC Use of System Charge (UoSC) to be paid by the Distribution Companies by:

- (i) Calculating the NTDC UoSC for the month pertaining to the Final Settlement Statement; adding or subtracting as the case may be;
- (ii) The corrections to previous NTDC UoSC payments by the Distribution Company.

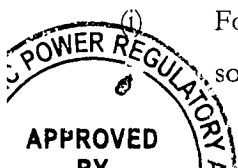
8.4.7. CPPA-G shall calculate the monthly UoSC utilizing the formulas and procedures established by Authority in the latest notified NTDC tariff determination.

8.4.8. CPPA-G shall calculate the CPPA-G Market Operation Fee as described in Chapter 11 of this Commercial Code.

8.5. PRELIMINARY SETTLEMENT STATEMENT

8.5.1. Within ten (10) working days of the beginning of each month, the CPPA-G shall send to each Market Participant, a Preliminary Settlement Statement, through electronic mail. This preliminary settlement statement shall include:

- (i) For generations, the net energy and, when applicable, generation capacity bought or sold in accordance to invoice and each PPA, and total for the Participant generator;



- (ii) For Distribution Companies, NTDC Use of System Charge, net energy bought and the demand, and the CPPA-G Market Operation Fee;
- (iii) The amounts to be deposited in the Distribution Company's Escrow Account or withdrawn from it; and
- (iv) The payable or accrued interest for previous payments not made on time,.

8.5.2. When a Participant claims an error or discrepancy exists within the Preliminary Settlement Statement, the Market Participant shall convey its claim to the CPPA-G within five (5) working days after receiving the Preliminary Settlement Statement.

8.5.3. The CPPA-G shall review the Preliminary Settlement Statement and conclude whether the Market Participant's claim pertaining to an error or discrepancy is correct or incorrect before the Final Settlement Statement is released to Market Participants.

8.5.4. The CPPA-G shall notify affected Market Participants of the claimed error or discrepancy in the Preliminary Settlement Statement and whether or not the claimed error or discrepancy will be corrected in the Final Settlement Statement.

8.6. FINAL SETTLEMENT STATEMENT

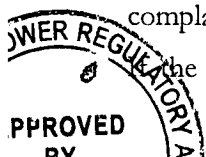
8.6.1. Within twenty (20) working days after the beginning of each month, the CPPA-G shall send the Final Settlement Statement to each Market Participant, using a format similar to the Preliminary Settlement Statement.

8.7. COMPLAINTS ON THE FINAL SETTLEMENT STATEMENT

8.7.1. A Market Participant may challenge the Final Settlement Statement with a valid justification within sixty (60) working days after its receipt. This complaint may relate to:

- (i) The registered quantities, or
- (ii) The settlement amounts, either in Market Transactions, NTDC Use of System charges, CPPA-G Market Operation Fee, interest charges for late payments or deposits/withdrawals from the Escrow Accounts.

8.7.2. The CPPA-G and the Market Participant shall use reasonable endeavors to resolve the complaint within fifteen (15) working days after the complaint is submitted to the CPPA-G. If the CPPA-G and the Market Participant do not resolve the complaint to their mutual



satisfaction, the CPPA-G and the Market Participant shall use the dispute resolution mechanism in accordance with the Market Rules.

8.7.3. When the Market Participant and the CPPA-G resolve the complaint in a manner that causes the mutually agreed upon settlement amount to differ from the Final Settlement Statement, the CPPA-G shall include the correction in the Final Settlement Statement of the month after the complaint has been resolved.

8.7.4. In the case of emergencies and/or failure of the settlement system, the CPPA-G may issue an Estimated Settlement Statement and/or modify the schedule for issuing Preliminary Settlement Statements and/or Final Settlement Statements. In such cases, the CPPA-G shall inform all Market Participants the temporary procedural changes as soon as practicable (detailed in Chapter 12).

8.8. INVOICING

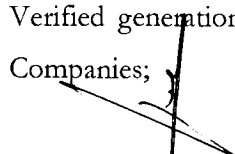
8.8.1. Within 5 working days after the Final Settlement Statement:

- (i) Issue the invoice for the previous month for the Distribution Companies, indicating the charge that each shall pay. This amount will be coincident with the final Settlement Statement, which at the same time will act as a description of the detailed calculations.
- (ii) Each Generation Company shall submit an invoice as per its PPA with or novated to or administered by CPPA-G for the previous month indicating the payment due to each Generation Company. This invoice shall include the data and description of the details of calculations.

8.8.2. The CPPA-G in this process, shall act as an agent of DISCOs without assuming payment responsibilities. Payment and debts shall remain with the DISCOs. CPPA-G shall not be held liable for non-payment of Market Participants.

8.8.3. The verification of settlement of payments to all Market Participants shall be subject, but not limited to:

- (i) Verified power purchase price calculated by the CPPA-G;
- (ii) Verified generation invoices based power purchase agreements of the Generation Companies;



- (iii) Verified quantities of kilowatt-hours injected to and extracted from NTDC Transmission Grid at each Common Delivery Point, as informed by NTDC;
- (iv) Verified Megawatts available by generation and demanded by Distribution Companies as informed by NTDC and its System Operator;
- (v) Applicable notified NTDC use-of-system charge as determined by Authority;
- (vi) Verified tariff differential subsidy released by the Government of Pakistan; and
- (vii) Verified monies provided by the Distribution Companies;

8.8.4. As per Chapter 12, the invoices for settlement submitted by the Generation Companies shall be in accordance with the respective PPA, and shall include sufficient information to verify the calculation, including among others:

- (i) Price per kilowatt-hour as calculated by the Generation Company;
- (ii) Price per Megawatt calculated by the Generation Company;
- (iii) Energy in kilowatt-hours provided to the NTDC Transmission Grid;
- (iv) Available or declared Daily capacity Megawatts for System Operator despatch;
- (v) Schedule of adjustments, if necessary;
- (vi) GST, as applicable; and
- (vii) Total invoiced monthly bill.

8.8.5. Invoices for settlement submitted by the NTDC shall include, but not be limited to:

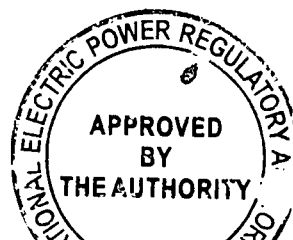
- (i) Use-of-system charge for the month;
- (ii) Taxes as applicable, on variable charge; and
- (iii) Total invoiced monthly bill.

8.8.6. CPPA-G invoices to Distribution Companies shall include:

- (i) Power Purchase Price as calculated by the CPPA-G in accordance with the transfer pricing mechanism;



- (iii) Energy and capacity charges;
- (iv) NTDC Use of System Charge;
- (v) Interests for late payment, when applicable;
- (vi) Kilowatt-hours delivered during each billing period;
- (vii) Adjustments from previous months settlement, if necessary;
- (viii) Taxes, as applicable; and
- (ix) Total invoiced monthly bill. ~~9~~



9. PAYMENT SYSTEM

9.1. PAYMENT SYSTEM FOR THE INITIAL SETTLEMENT PROCEDURES

- 9.1.1. The Settlement and Payment procedures to be initially followed by CPPA-G shall be based on the procedures currently being followed at CPPA of NTDC, as detailed in Annexure 3, for a transition period as defined in 8.1.1.
- 9.1.2. At the end of the transition period defined in 9.1.1, new procedures for paying invoices will apply as described in 9.2, 9.3 and 9.4 of this Commercial Code.

9.2. PAYMENT SYSTEM FOR THE NEW SETTLEMENT PROCEDURES

- 9.2.1. The invoice-payment system for the new settlement procedures described in clause 8.2 shall include the following characteristics:

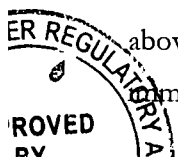
- (i) Escrow Accounts owned by each Distribution Company and opened in scheduled banks having short term and long term rating A and above, and that receive, accept and process immediately any payment order submitted by CPPA-G pursuant to an irrevocable mandate issued by each Distribution Company;
- (ii) A Consolidated Escrow Account, owned and managed by the CPPA-G;
- (iii) Conventional bank accounts owned and operated by each Generation Company; and
- (iv) Conventional bank accounts owned and operated by each Distribution Company

- 9.2.2. Each Escrow Account opened in a creditworthy bank shall be approved by the CPPA-G Board of Directors.

Each Distribution Company shall deposit in its approved Escrow Accounts:

- (i) All payments received from end-consumer regardless of origin; and
- (ii) Any subsidy and/or disbursement received from the Federal Government against invoices raised by the Distribution Companies.

- 9.2.3. Each Distribution Company shall issue an irrevocable mandate applicable to its Escrow Accounts that ensures the scheduled banks having short term and long term rating A and above managing said Distribution Company's Escrow Accounts will receive, accept and immediately process any payment requirement that is received from the CPPA-G, provided



that such payment requirement is fully consistent with the Final Settlement Statement and invoice sent by CPPA-G to each Distribution Company.

9.2.4. Every week, upon the request(s) of each Distribution Company, the bank managing each Distribution Company's Escrow Accounts shall execute orders by each Distribution Company to transfer funds from its Escrow Accounts to the conventional bank accounts utilized by each Distribution Company.

9.2.5. The sum of the weekly transfers from its Escrow Accounts ordered by a Distribution Company to its conventional bank accounts shall never be higher than a pre-defined percentage of the total amount of funds deposited in said Distribution Company's Escrow Accounts during the previous week. The pre-defined percentage, which may be different for each Distribution Company, shall be determined by Authority before the beginning of each year.

9.3. PAYMENTS OF BILLS (DISTRIBUTION COMPANY)

9.3.1. The payment by each Distribution Company shall be governed in accordance with the Escrow arrangement described in clause 8.3 of this Commercial Code.

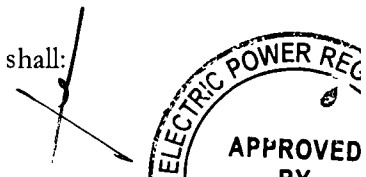
9.4. PAYMENTS TO GENERATORS AND NTDC

9.4.1. The CPPA-G shall utilize all the funds received in the Consolidated Escrow Account to:

- (i) Collect the CPPA-G Market Operation Fee;
- (ii) Pay the Generation Companies (including, if existing, those Generation Companies that have direct commercial arrangements with Distribution Companies) for the verified invoices; and
- (iii) Pay the NTDC for Discos transmission charges.

9.4.2. In order to produce such payments, CPPA-G shall utilize the following procedure. Immediately after the due date stated in the invoices issued by CPPA-G, the amounts deposited by the banks in the CPPA-G Consolidated Escrow Account shall be analyzed by CPPA-G to determine if these payments have been made in full, are partial payments or not received at all.

9.4.3. In the event that a payment has been received in full, CPPA-G shall:



- (i) Transfer the payment to Generation Companies and NTDC as the amounts reflected in the Final Settlement Statement; and
- (ii) Transfer, to its own account, the CPPA-G Market Operation Fee, as stated in the Final Settlement Statement.

9.4.4. In the event that any Distribution Company has not fully paid its invoice, a shortfall shall occur in the Consolidated Escrow Account that CPPA-G uses to transfer payments to Generation Companies, NTDC and itself. A reduction in the transfer payments to Generation Companies, NTDC and CPPA-G shall be made in accordance with Article 9.5.5 of this Commercial Code.

9.4.5. The following payment priority list shall apply:

- (i) The CPPA-G shall order the transfer of payments corresponding to the fuel component of energy invoices raised by IPPs and GENCOs, from the Consolidated Escrow Account to their respective bank accounts;
- (ii) When funds remain in the CPPA-G Consolidated Escrow Account, the CPPA-G shall order the transfer of the payment corresponding to the CPPA-G Market Operation Fee to the CPPA-G Bank Account;
- (iii) When funds remain in the CPPA-G Consolidated Escrow Account after the payment of CPPA-G Market Operation Fee, the CPPA-G shall order the transfer of full or partial payment for Transmission Charges (UoSC) to the NTDC Bank Account;
- (iv) When funds remain in the CPPA-G Consolidated Escrow Account after the full payment of the NTDC UoSC, the CPPA-G shall order the transfer of full or partial payments as the case may be for corresponding WAPDA Hydel invoices to the WAPDA Hydel Bank Account.
- (v) When funds remain in the CPPA-G Consolidated Escrow Account after the full payment of WAPDA Hydel, the CPPA-G shall order the transfer of full or partial payments as the case may be to the IPPs and GENCOs to their respective Bank Accounts. When CPPA-G provides partial payments to IPPs and GENCOs, the partial payments shall be directed towards the recovery of the capacity component (i.e. fixed costs) of the IPP and GENCO invoices, excluding payments for debt service and return on equity (if the same is not due for payment). When there



are insufficient funds in the CPPA-G Consolidated Escrow Account to pay the capacity component of the IPP and GENCO invoices (excluding debt service and return on equity) in full, CPPA-G shall pay the said capacity components of the invoices on a pro-rata basis²

- (vi) When funds remain in the CPPA-G Consolidated Escrow Account after the partial payment covers in full the capacity component of invoices raised by IPPs and GENCOs (excluding debt service and return on equity), the continuing partial payment shall be directed toward the recovery of the variable O&M component of the energy invoices raised by IPPs and GENCOs. When there are insufficient funds in the CPPA-G Consolidated Escrow Account to pay, in full, the variable O&M component of the IPP and GENCO energy invoices, the CPPA-G shall pay the said variable components of the invoices on a pro-rata basis;
- (vii) When funds remain in the CPPA-G Consolidated Escrow Account after the full payments to IPPs and GENCOs (excluding debt service and return on equity components of the energy invoices of IPPs and GENCOs), the CPPA-G shall order the transfer of payments corresponding to any surplus (as described in clause 8.2.3(x)(b)) due to the Distribution Companies;
- (viii) When funds remain in the CPPA-G Consolidated Escrow Account after the payments to Distribution Companies, the CPPA-G shall order the transfer of payments corresponding to the capacity invoices of IPPs relating to debt service and return on equity components (if the same is due for payment) to the IPPs Bank Accounts. When there are insufficient funds in the CPPA-G Consolidated Escrow Account to pay, in full, the capacity invoices of IPPs relating to debt service and return on equity components, CPPA-G shall pay the said components to the IPPs on a pro-rata basis;
- (ix) When funds remain in the CPPA-G Consolidated Escrow Account after the full payments to IPPs, the CPPA-G shall order the transfer of payments corresponding to the GENCOs capacity invoices relating to debt service and return on equity components (if the same is due for payment) to the GENCOs Bank Accounts. When there are insufficient funds in the CPPA-G Consolidated Escrow Account to pay this in full, CPPA-G shall pay the said capacity components to the GENCOs on a pro-rata basis;



- (x) When funds remain in the CPPA-G Consolidated Escrow Account after the full payments to IPPs and GENCOs for their capacity and energy components of the invoices, the CPPA-G shall order the transfer of payments corresponding to delayed payments to the IPPs, Hydel and GENCOs to their respective Bank Accounts. When there are insufficient funds in the CPPA-G Consolidated Escrow Account to pay the delayed payments in full, CPPA-G shall pay the delayed payments to the IPPs, Hydel and GENCOs on a pro-rata basis; and
- (xi) In the event that a Generation Company has a direct commercial arrangement with a Distribution Company, the same rules of the priority list from (i) to (x) above shall apply to that Generation Company.

9.4.6. When any Distribution Company fails to pay in full any monthly invoice, the following assignment rules will apply for the payment of this specific monthly invoice:

- (i) Whenever a specific Distribution Company has not remitted enough revenue collections for end consumers and subsidies and/or disbursements from the Federal Government to fully satisfy this specific monthly invoice, which includes interest and penalties as a result of the partial payment of previously issued monthly invoices by this specific Distribution Company the first claim on the funds transferred from this specific Distribution Company's Escrow Accounts to CPPA-G shall be to clear the unpaid balances of previously issued monthly invoices plus interest and penalties. This first claim on the specific Distribution Company's Escrow Accounts, now being managed by CPPA-G through its Consolidated Escrow Account, shall be satisfied immediately in order to minimize interest and penalty charges; and
- (ii) The second, third and other sequenced claims on the aforementioned Distribution Company's Escrow Accounts, now being managed by CPPA-G through its Consolidated Escrow Account, shall be satisfied according to the priority list described in clause 9.4.5. of this Commercial Code until the funds of the aforementioned specific Distribution Company that have been transferred to CPPA-G have been exhausted fully.

9.5. ACCOUNTING PROCEDURES

9.5.1. The CPPA-G shall implement detailed accounting procedures in order to:



- (i) Clearly identify and discriminate by each category considered (i.e. payments of previous invoices, payment of interest, payment of penalties and payment of current month transactions), the monthly amounts paid by each Distribution Company;
- (ii) Calculate interests and penalties to be applied to each Market Participant who fails to pay the full amount invoiced at the due date; and
- (iii) Clearly account for the deposits into and withdrawals from each Distribution Company's Escrow Accounts.

9.6. OTHER ACTIONS IN CASES OF NON-PAYMENT (OR PARTIAL PAYMENTS)

9.6.1. Whenever any Distribution Company fails to fully pay any monthly invoice issued by the CPPA-G, the calculation of the interests or any penalties that may be justified by existing Power Purchase Agreements, shall be reflected in the next monthly invoice.

9.6.2 Each Distribution Company will continue to follow up with concerned ministries / authorities for disbursement to CPPA G against the verified claims of their subsidy claims.

9.6.2. CPPA-G shall communicate the failure of any Distribution Company to fully pay any monthly invoice issued by CPPA-G to Authority, the Ministry of Water and Power and the Ministry of Finance in order to assure the enforcement of the Market Rules and the Commercial Code or to assure that other suitable substitute actions may be taken by these institutions. This communication shall include, at the minimum, the following:

- (i) Detailed information regarding the amounts not paid in the month being processed;
- (ii) Detailed information of any previously issued invoice which may still be outstanding;
- (iii) Detailed of outstanding subsidy payment required to be released by the Federal Government against the verified subsidy claims of Distribution Companies;



(iv) Information regarding the occurrence of such an instance since the start of CPPA G commercial operation up to the previous two years;

Information regarding the adverse effects that such non-compliance poses on the overall electricity sector and specifically to the NTDC or Generation Companies that have not been paid in full).

9.6.3. Upon intimation by CPPA-G, any Distribution Company that does not pay in full, shall

Authority, for the establishment of the reasons for default and the justification for corrective actions.

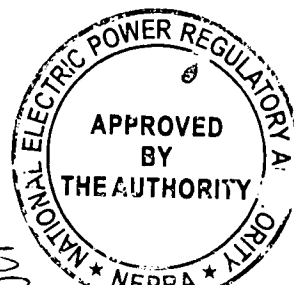
9.7. RECORD MAINTENANCE

9.7.1. CPPA-G shall maintain records of settlement payments to:

- (i) Each Generation Company having PPA with or novated to or administered by CPPA-G; and
- (ii) NTDC UoSC.

9.7.2. CPPA-G shall keep records of settlement payments received from:

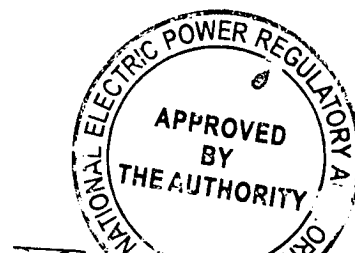
- (i) Each Distribution Company;
- (ii) Subsidy from the Federal Government; and
- (iii) Any other source, when and if applicable.



10. REPORTING MECHANISM

The Market Operator shall prepare following reports, the contents, periodicity, dates and authority to be submitted shall be as provided in the Annexure 4:

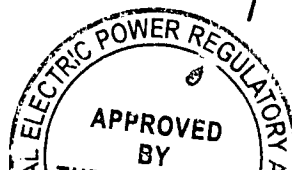
- (a) Settlement Report (including Preliminary Settlement Statement.
- (b) Settlement Report (including Final Settlement Statement)
- (c) Non Payment Report
- (d) Market Operator Annual Report



11. CPPA-G MARKET OPERATION FEE MECHANISM AND AUDITS

11.1. CPPA-G MARKET OPERATION FEE MECHANISM

- 11.1.1. The CPPA-G shall be financed through a charge imposed to Distribution Companies. Formerly, the costs associated with the operation of CPPA were incorporated into the UoSC of the NTDC. However, next NTDC determination after commencement of Market Rules and Commercial Code, the costs associated with CPPA shall be separated from the calculation of UoSC to form the 'CPPA-G Market Operation Fee' that shall be charged to the DISCOs in tandem to the UoSC. The mechanism for calculation of the CPPA-G Market Operation Fee shall remain the same as that being used for UoSC, and once calculated, shall be sent to Authority for approval in accordance with Section 7 Sub-section 2(j) of the Act.
- 11.1.2. The following costs associated with the operations of CPPA-G are to be recovered through the CPPA-G Market Operation Fee:
- (i) General Establishment and Administration Expenses;
 - (ii) Repair and Maintenance;
 - (iii) Insurance;
 - (iv) Depreciation, if any
 - (v) Financial Charges and other relevant costs
- 11.1.3. CPPA-G shall include in the costs detailed in 11.1.2, any estimated future capital expenditures required for compliance with current and future provisions contained in this Commercial Code such as costs associated with the development of competitive market.
- 11.1.4. The formula for calculating the CPPA-G Market Operation Fee shall be similar to UoSC, dividing total costs as established in 11.1.2 and 11.1.3 by peak demand of DISCOs.
- 11.1.5. Authority may request additional information or clarifications prior to approval of CPPA-G for incorporation into this Commercial Code.
- 11.1.6. Once the CPPA-G Market Operation Fee is approved, CPPA-G shall communicate this value to all Market Participants on the CPPA-G official website.



11.2. MARKET TRANSACTIONS AUDIT

11.2.1. Each year or every two years, the CPPA-G shall contract a qualified independent auditor to conduct an operational audit of the market administration services including the settlement and billing system, and implementation of the Market Rules and Commercial Code.

11.2.2. After the first audit, each new audit shall include reviewing changes and actions undertaken by the CPPA-G after the recommendations and observations of the previous audit. The Auditor's report will be sent to Authority, and published on the official website of CPPA-G.

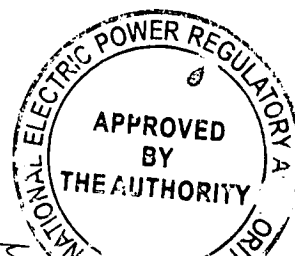
11.3. CPPA-G FINANCIAL AUDIT

11.3.1. At the end of each fiscal year, the CPPA-G will contract an independent auditor to conduct a financial audit of the CPPA-G and its budget administration.

11.3.2. The purpose of the financial audit shall be:

- (i) Ensure that the received funds are properly and transparently utilized;
- (ii) Assess the effectiveness of the CPPA-G in utilizing the fees received from Market Participants.

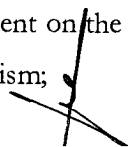
11.3.3. The Auditor's report shall be sent to Authority and published on the official website of the CPPA-G.



12. DATA SHARING AND COMMUNICATION

12.1. CPPA-G shall;

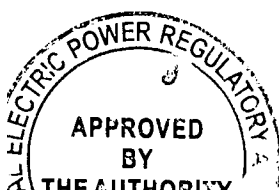
- (i) Have and maintain an official website for the purpose of communication, open access to information to the public, and data sharing with all the Market Participants and NTDC
- (ii) Provide an open and equal access to reports and non-confidential information on the CPPA-G official website to all Market Participants;
- (iii) Publish on its website the monthly results of the settlement and payment process, including (i) for Discos amounts and items invoiced, interests for late payment, payment made and amount still due; (ii) for generation, items and amount invoiced, liquidated damages, payment received and payment still due; and (iii) for NTDC, UoSC and amount, payment received and payment still due.
- (iv) Publish list and information of all Market Participants on its official website, which shall be updated regularly;
- (v) Publish, on its official website, this Commercial Code and all existing commercial standard operating procedures for its implementation, as well as publish for consultation proposals for its amendments or to the commercial standard operating procedures or new standard operating procedures;
- (vi) Publish any amendment or update to the Commercial Code or commercial Standard Operating Procedures and make public on the official website within reasonable time period after approval,;
- (vii) Liaise with other international bodies having market functions similar to CPPA-G or administering competitive power markets;
- (viii) Communicate in timely manner in accordance with this Commercial Code, all the Market Participants, the Preliminary Settlement Report, Final settlement Reports, Invoices to Distribution Companies, any corrections made there to and orders to the associated Banks for payments to the Distribution Companies;
- (ix) Communicate with the System Operator to temporally reduce the power allocation of a Distribution Company in the event that the funds in the affected Distribution Company's Escrow Account are deemed to be insufficient for payment of the Final Settlement Statement on the Payment Due Date, in accordance with the power pool allocation mechanism;



- (x) Collect information and statistics and publish reports and information related to billing and settlement, and performance of CPPA-G administered power market;
- (xi) Communicate the CPPA-G Market Operation Fee to all Market Participants;
- (xii) Publish financial audit and operation audit report, on CPPA-G official website;
- (xiii) Communicate any other information that is deemed necessary, from time to time as required in the implementation of the Market Rules and the Commercial Code.

12.2. NTDC (in the capacity of Transmission service provider and System Operator as established in its Transmission License) shall on a monthly basis provide CPPA-G the following information;

- (i) Provide the data on monthly basis for the payments of UoSC, including:
 - a. Use-of-System Charge as determined by Authority;
 - b. MDI of Discos;
 - c. Transmission network losses as determined by Authority;
- (ii) Provide information related to metering systems installation, commissioning, testing of metering systems and all other necessary information required to ensure that the commercial meters and settlement system is operational;
- (iii) to the register and regular update a of all Commercial Metering Equipment for settlement purposes at all Common Delivery Points;
- (iv) Within NTDC metering system and meter reading responsibilities, share data and information related to Meter Readings taken from CDPs by the Metering Reading Committees appointed by NTDC for the billing month on the Meter Reading form that CPPA G and NTDC will agree and may revise from time to time, to include:
 - a. Information from Generation Companies:
 - i. Name of Generation Company and ID Code;
 - ii. Metering Point Identification;
 - iii. Billing Month and Day of Meter Reading;
 - iv. Meter number and make;
 - v. Billing month Meter Reading for Energy units (Active [kWh] and Reactive [VARh]) and MDI [kW] for both Imports (energy extracted from the grid) and Exports (energy injected and sold);



- vi. Previous month Meter Reading for Energy (Active [kWh] and Reactive [VARh]) and MDI [kW] for both Imports and Exports;
 - vii. Remarks by Metering Committee if any;
- b. Information from Distribution Companies CDPs:
- i. Name of Distribution Company and ID Code;
 - ii. Metering Point Identification;
 - iii. Billing Month and Day of Meter Reading;
 - iv. Meter number and make;
 - v. Billing month Meter Reading for Energy units (Active [kWh] and Reactive [VARh]) and MDI [kW] for both Imports and Exports;
 - vi. Previous month Meter Reading for Energy (Active [kWh] and Reactive [VARh]) and MDI [kW] for both Imports and Exports;
 - vii. Remarks by Metering Committee if any;
- (v) As system operator for verification of data from each Distribution Company:
- a. Allocation of Megawatts for each hour of the day;
 - b. Draw of Megawatts for each hour of the day;
 - c. Actual amount of kilowatt-hours for a billing month;
 - d. Maximum Demand Indicator (MDI) for a billing month;
- (vi) As system operator, for each power plant/complex:
- a. Information on hourly available capacity: Dependable Capacity; or Declared Available Capacity, Revised Declared Available Capacity, Adjusted Declared Available Capacity in kW;
 - b. Hourly despatch instruction (and revised despatch instruction when applicable);
 - c. Information on number of unit start-ups, and periods with Forced/Partial and Schedule Outages in kW;
- (vii) The Meter Reading Committee appointed by NTDC is responsible for providing information regarding meter reading at each cut-off delivery point for the energy imported by the Generation Company as per the agreed Performa each month in order to enable CPPA/G to work out the Back Feed electricity consumer bill/export energy invoices; and



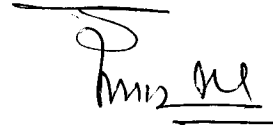
- (viii) Communicate any other information that is deemed necessary to implement this Commercial Code and the Market Rules.

12.3. Generation Companies shall;

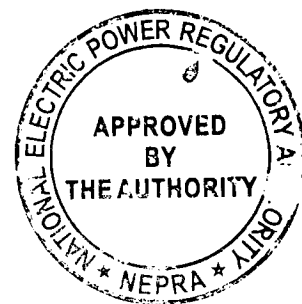
- (i) Provide the monthly invoices with sufficient detailed information (available capacity, net energy, prices, pass through items, fuel costs if and as applicable, etc.) to be able to verify and confirm that the calculation of the amounts shown in the invoice comply with the provisions of the PPA. The CPPA-G shall verify and reconcile the invoice from the Generation Company with the information provided by the System Operator based on despatch records.

12.4. Distribution Companies shall;

- (i) Inform the funds collected on daily basis to CPPA-G in accordance with the settlement procedures included in this Commercial Code;
- (ii) Immediately communicate to CPPA-G the status of a situation in case there are insufficient funds in the Escrow Accounts to fully cover payments;
- (iii) Provide the information required pursuant to the Power Procurement Agency Agreement.



(Syed Safer Hussain)
Registrar



ANNEXURES

Annexure 1

Energy and Capacity sold by Generation Companies:

The following mechanism is for calculating payments to a complex of a generation company (extracted from currently signed PPAs between IPPs and NTDC). After the meter readings are sent to CPPA-G, Energy and Capacity calculations are to be done in the following way:

a) Calculations for Capacity Payments

- **IPPS under 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:

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

$$\text{Capacity Payments}_h = \text{Capacity Price}_h * \text{Available Capacity}^3_h$$

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 + ROE⁴_h + ROE DC⁵_h

Debt Service Component_h = Debt Service Component [F]⁶_h + Debt Service Component [L]⁷_h

- **IPPs under Power Policy 1994**

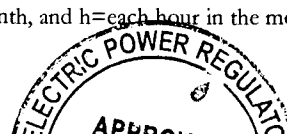
CPPA-G shall pay the Capacity Payment to the Generation Company, calculated as follows:

³ 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

⁴ ROE:- Return On Equity

⁵ ROE DC- Return On Equity During Construction

⁶ Debt Service Component [F]= Foreign Debt Service Component



$$\text{Capacity Payment} = \text{Capacity Purchase Price} * \text{Dependable}^8 \text{ Capacity}$$

The Capacity Purchase Price is established on the basis of a 60% plant factor⁹. 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 as:

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

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 CPPA-G 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.

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:

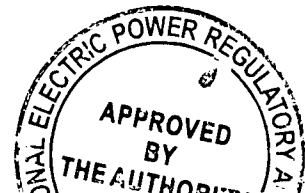
$$\text{Energy Payment}_h = \text{Energy Price}_h * \text{NEO}_h$$

Where,

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

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

⁸ With respect to Power Policy 1994, Dependable Capacity is Adjusted Capacity



$$\text{Energy Price}_h = \text{FCC}_h + \text{VO\&M}_h$$

Where,

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

$$\text{FCC}_h = (\text{FCC}_{\text{REF}} * \text{FCAF}_t) * K_h * \text{DH}_h$$

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 PPAs (for 1994 and 2002 Power Policy) for IPPs, CPPA-G shall calculate the LDs as follows:

i. IPPs under Power Policy 2002

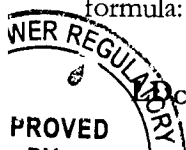
1. Delay in Commissioning;

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

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

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 COD is less than the Contract Capacity, then the Company shall pay to the Power Purchaser L.Ds as per following formula:



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

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Where,

$LD_C = LD$ due to 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 COD; The Generation Company shall pay LDs to the Power Purchaser as formulated hereunder;

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

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

II. When D.A.C is revised less than 4hours prior to the beginning of an Operating day.

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

III. If Company fails to comply with Dispatch Instructions.

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

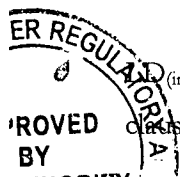
i. **IPPs under Power Policy 1994**

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

$LD = LD_{(initial)} * IE_t$

Where,

LD = the value if 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 1994 Power Policy and;

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

d) For New Generation Company

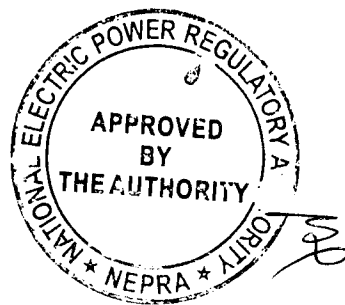
New Generation Companies that decide upon signing a legal agreement with the CPPA-G, the CPPA-G shall calculate the monthly associated liquidated damages (LD) in accordance with the provisions contained in the signed PPA.

(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 AUTHORITY, which may be different than the generation prices stated in their contract. The CPPA-G shall determine, for each complex the total amount of energy purchased from the network and its corresponding price. This would be referred as Back-Feed billing.

(ii) Energy Imports

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



Annexure 2

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

The Back-Feed billing of a Generation Company is adjusted against/net of the determination of ETR Rate as mentioned in clause 6.1.4. (i)(a), and the following mechanism is hereby used for raising the invoice of the back-feed/export energy invoices to the Generation Companies.

Back-Feed Electricity Consumer Bill is charge to generation companies for importing electricity from the NTDC Grid, and is referred to as Back Feed Billing or Export Energy Invoice. A maximum of 15 days are allocated to the Generation Company for bill payment.

Based on the information provided by NTDC, CPPA-G will work out the Export Energy Invoices/ Back-Feed Electricity Consumer Bills as per clause 12.2(vii) of the Commercial Code. The Export Energy Invoice/Back-Feed Electricity Consumer Bill has the following important parts:

- Energy and Capacity Details
 - 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 (MDI) of consumer in kW
- Power Factor and Low Power Factor Details
- Application of various Charges and Factors including GST
- Bill Adjustment (if any)

Electricity Consumer Bill Calculations

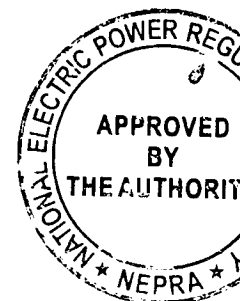
Following mechanism is used to prepare Export Energy Invoice payable by each Generation Company for the energy imported (which is the same as currently being used for raising the consumer bill by a Distribution Company as approved by Authority):

Electricity Consumer Bill

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

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 (e.g. Neelum-Jhelum Fund) in PKR
- LPF Penalty = Penalty arising in case of Low Power Factor (LPF) in PKR



- Electricity Duty = Application of 1.5% Electricity Duty in PKR
- GST = Application of GST (as notified in percentage [%]) in PKR
- Adjustment = Any addition or reduction in Bill (if required) in PKR
- Arrears/LPS = Any addition or reduction in Bill (if required) in terms of Arrears or Late Payment Surcharge (LPS) in PKR

Calculation of Net Energy, Net Reactive Energy and Capacity Components

Net Energy usage shall be calculated for a billing month based on the Meter Reading Performa submitted from the Metering Committee. Monthly Net Energy Usage is calculated for both Active (in kWh) and Reactive Energy (kVARh). Moreover, Maximum Demand (referred to as MDI on Meter Reading Performa) (in kW) is also based on the reading provided in the Performa.

Calculation of Power Factor and Low Power Factor

Power Factor (PF) is a unit less 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 = Wattles component of Apparent Power, measured in VAR, calculated from Net Reactive Energy usage

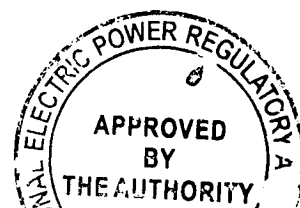
Power Factor should be 0.9; otherwise a Low Power Factor Penalty is applied. LPF is calculated as follows:

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

Where,

- LPF = Low Power Factor
- PF = Power Factor

Application of Variable and Fixed Charges/Factors ✓



A generation company is considered as a consumer of DISCO during electricity import. Hence, the application of tariff is dependent on:

1. Location of a generation company in territory of a specific DISCO and;
2. Tariff guidelines for the respective DISCO, based on latest notification

CPPA-G will identify and highlight the Tariff category applicable for each generation company.

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)

Authority issues a monthly Fuel Price Adjustment (FPA) statement depending on the cost of electricity dispatched. FPA is charged per kWh and CPPA G will apply the notified FPA (negative or positive) to the Consumer Bill depending on the directives of Authority.

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

Where,

- FPA_{Month} = positive or negative, in PKR, based on Fuel Price Adjustment, for a specific month
- $FPA_{\text{Month Rate}}$ = Fuel Price Adjustment Rate for a specific month, in PKR per kWh, as notified by Authority
- $\text{Total Energy Imported}_{\text{Month}}$ = 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 the basis of notifications. The Miscellaneous Charge is calculated as follows:



$$\mathbf{Misc. C = Tariff \times Total Energy Imported}$$

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

Power Factor should be at least 0.9 and a LPF Penalty is applied as follows:

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

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:

$$\mathbf{ED = ED\% \times VC}$$

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

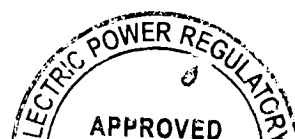
GST, as notified in percentage (%) by GOP, is taxed as follows:

$$\mathbf{GST = GST\% \times (VC + FC + ED)}$$

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



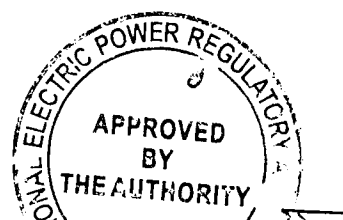
Bill is adjusted (added or subtracted as required) if the need arises.

Application of Arrear/LPS

CPPA-G can also adjust the bill by incorporating Arrears or Late Payment Surcharge (LPS) if required (in PKR).

Application of Late Payment Surcharge (LPS)

In case of payment after the due date, a LPS penalty (in PKR) will be levied on the Electricity Consumer Bill and amount will be raised fittingly. At present, an 8.5% penalty is applicable.



Annexure 3

INITIAL SETTLEMENT, BILLING AND PAYMENT PROCEDURES

The settlement process involves the daily settling of receipts from Distribution Companies and corresponding payments to Generation Companies and NTDC. It begins with the billing and verification process leading to payments to the Generation Companies.

The procedures to be initially followed by CPPA-G for settlement and payment are based on the procedures being followed at CPPA of NTDC, until new settlement and payments procedures are drafted by CPPA-G, approved by Authority and implemented. The initial settlement and payment procedures that CPPA-G shall follow are detailed below:

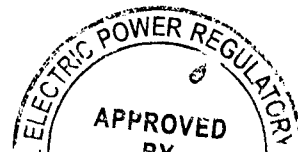
1. CPPA-G shall verify the invoices sent by the Generation Companies. Once the invoices have been verified, the total amount payable to the concerned Generation Company for the month will be calculated by applying the Authority's determined capacity price (CPP) and insurance component on the verified capacity readings and the Authority's determined FCC and variable operation and maintenance (O&M) rate on the verified energy readings –net energy output or NEO.
2. After the application of Authority's determined rates, the invoice along with an "Advice", mentioning the verified capacity reading in kW and energy reading in kWh, shall be sent to CPPA-G Senior Officials for approval.
3. A Demand Form shall then be prepared directing the Treasury Department of CPPA-G to arrange funds for the said payment amounts.

Demand Form and its Contents

The Demand Form consists of two types; one contains capacity payments and the other contains energy payments for each Generation Company. For capacity payments, two Demand Forms carrying particulars of the current billing month amount (70% advance payment) and the previous billing month amount (30% verified payment) are sent to the CPPA-G Treasury Department. Similarly, two Demand Forms for energy payments for Net Energy Output (NEO) and applicable GST amounts are sent to the CPPA-G Treasury Department.

The contents of the Demand Form are:

- Name of Generation Company;



- Invoice number of the associated Generation Company;
 - Amount required to be paid by CPPA-G Treasury Department; and
 - Due date of payment.
4. Following is a list of reports/statements essential in the settlement process, with associated purposes and functions of each report/statement.

Revenue Collection & Remittance Statement (sent by DISCOs)

The Revenue Collection and Remittance Statement is prepared by each Distribution Company and sent to the CPPA-G Treasury Department. It contains the daily record of remittances from a Distribution Company to CPPA-G and the amount retained by the Distribution Company for its own expenditure, mentioned under the heading of “Retention”.

The contents of the Revenue Collection & Remittance Statement are:

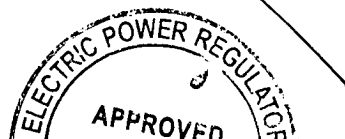
- Names of the Banks and General Post Office (GPO) associated with CPPA-G for remittances by Distribution Company;
- Amount transferred in each bank account on a particular day;
- Previous day transactions;
- Final cumulative amount of remittances; and
- Retained amount under “Retention”, often containing a break-up of the amount e.g. office expenses, pensions, salaries, income tax.

Bank Statements of Daily Transactions

The banks associated with CPPA of NTDC, will be associated with CPPA-G till the new settlement and payment procedures are drafted by CPPA-G, approved by Authority and implemented in accordance with this Commercial Code.

A Bank Statement is a computer generated transaction statement sent by the banks associated with CPPA-G to the CPPA-G Treasury Department on a daily basis.

Cash Collection Report /



The Cash Collection Report shall be prepared by CPPA-G Treasury Department and will contain the following data:

- Collections from each Distribution Company for a particular day named “Today’s collection”;
- Collections from each Distribution Company for the previous day named “Previous Day”;
- Balance in each associated bank; and
- Total collections and available balances.

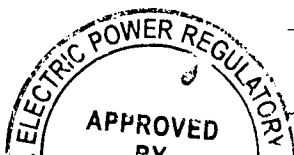
Daily Payment Instructions

CPPA-G shall form a CPPA-G Settlement Committee. The committee will be responsible for preparing a Daily Payment Instruction for the CPPA-G Treasury Department for payments to be made to each Market Participants. These Instructions are divided into:

- Generation Company-wise Payment Instructions
- Bank-wise Payment Instructions

The following factors are being considered for issuance of Daily Payment Instructions by the CPPA-G Settlement Committee:

- Total payments to be made to each Generation Company;
- Bank-wise break-up of Payments Instruction i.e. how much payment to be made from which bank account;
- For IPPs under 1994 & 2002: based on yesterday’s Net Electrical Output (NEO);
- Additional funds if any to be allocated based on the following:
 - Percentage of total payables as of yesterday.
 - Percentage of capacity payments due beyond 45 days.



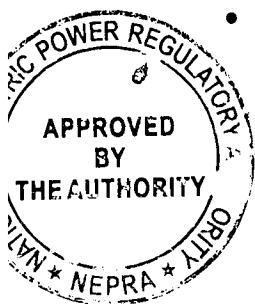
Total capacity payments due as of yesterday. ✓

- Tariff differential subsidy is being released by Federal Government for onward payment to PSO to maintain generation level at HUBCO, KAPCO & GENCOs;
- GENCOs: Salaries, pension and medical share expenses have to be paid by 27th of the each month according to respective demands of each GENCO out of revenue collection;
- NTDC: Salaries, pension and medical share expenses have to be paid by 27th of the each month according to NTDC demands out of revenue collection;
- WAPDA Hydel is being paid according to its monthly energy invoice from revenue collection;
- Payments to Chashma Nuclear Power Plant / Shydo Hydel Power are being made out of revenue collection on the basis of monthly invoice viz. number of days in the month.

List of Pending Liabilities Report

The CPPA-G Treasury Department shall prepare the Pending Liabilities Report on a daily basis according to the payment demands received. A Summarized Pending Liabilities Report is also prepared using the List of Pending Liabilities and is updated twice a day (day start and day end). A Pending Liabilities Report contains the following information:

- Due date for the payment along with its Demand Form no. and the company name;
- Nature of the payment for each demand and subsequent payments;
- Payment (in millions) for each associated Demand Form no.;
- Additional information such as:
 - a. Month's opening balance for each power producer;
 - b. Additions made during the month for each power producer; and
 - c. Total payables and accumulated payment before a specific day.



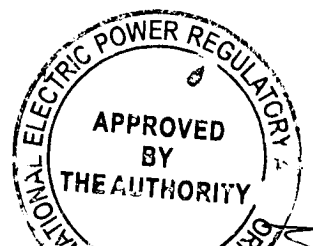
5. The Government of Pakistan provides subsidy to consumers on the following factors:

✓

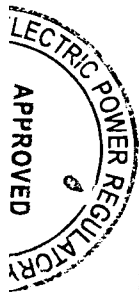
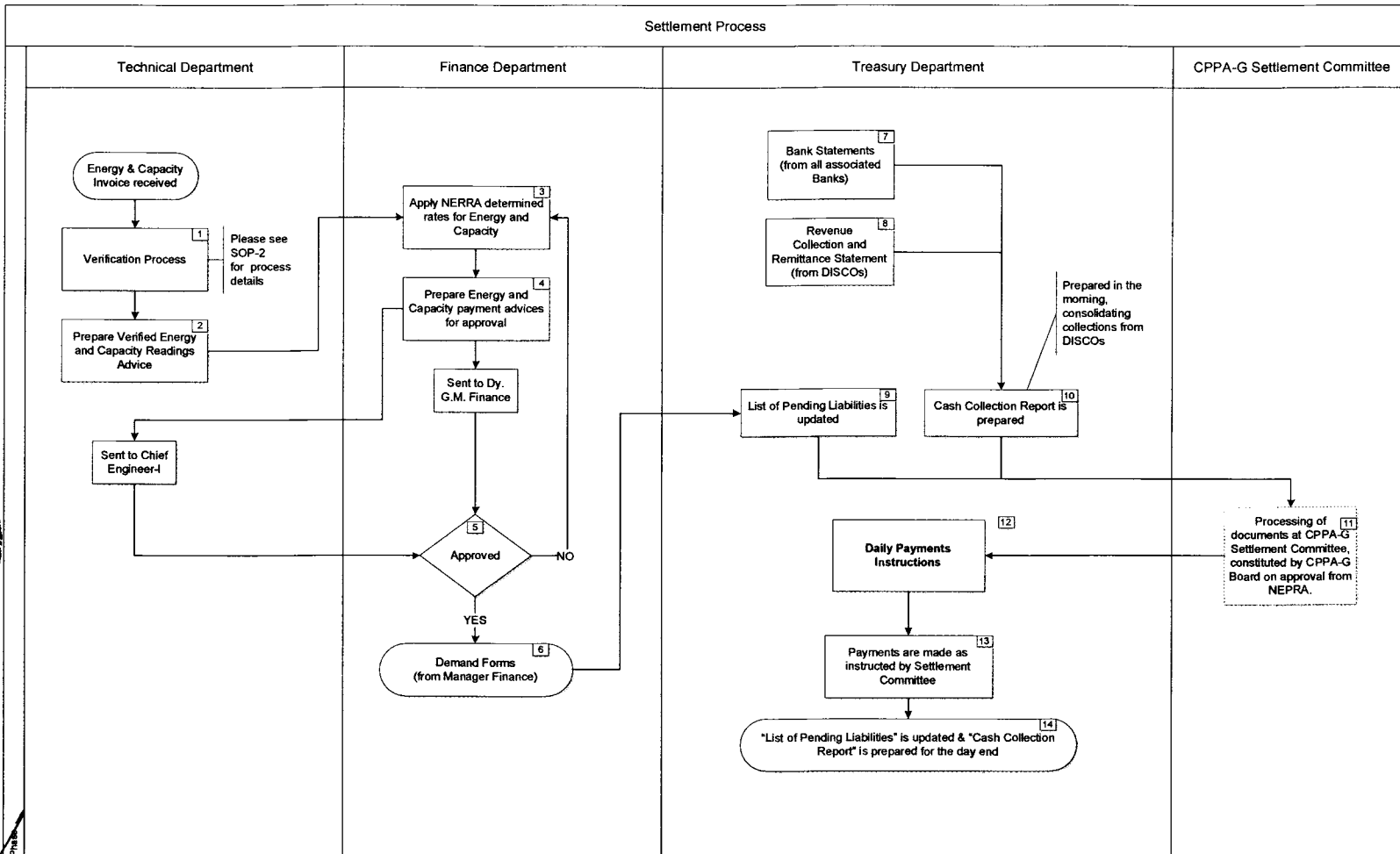
- Tariff Differential Subsidy (TDS) as identified in the notified tariff schedule for Discos;
- Consumption of electricity for agricultural usage to Discos.

Each Distribution Company shall raise a subsidy invoice per the subsidy mechanism notified by GOP to the Ministry of Water & Power. The Ministry of Water & Power, after due verification, shall submit the subsidy invoice claims to the Ministry of Finance for onward disbursement of funds to the Distribution Companies.

6. The Ministry of Finance will order for the disbursement of funds into the CPPA-G Bank Account, against the verified subsidy invoices raised by Distribution Companies, received from Ministry of Water & Power.
7. On receipt of funds from the Ministry of Finance, the CPPA-G Settlement Committee shall utilize the funds for discharging the liabilities of the Generation Companies, NTDC and CPPA-G. Further, the CPPA-G Treasury Department shall issue a credit memo to all Distribution Companies for the subsidy adjustment made to the Distribution Companies' Payables towards CPPA-G.



Settlement Process



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Annexure 4

Report	Content	Periodicity	Dates	Submitted to
Preliminary Settlement Report (Preliminary Settlement Statement)	<ul style="list-style-type: none"> • Results of the Preliminary Settlement; • Metering quantities utilized for the Preliminary Settlement; • CPPA-G comments on the settlement produced, including the assumptions used or metering quantities that have been replaced; • Enough information for the Market Participants be able to reproduce (and eventually challenge) the calculations performed by the CPPA-G 	Monthly	Within 10 Days after the beginning of each month	All Market Participants
Final Settlement Report (Final Settlement Statement)	<ul style="list-style-type: none"> • Complaints received to the Preliminary Settlement Statement, with clear indication regarding if they were accepted or rejected; • Results of the Final Settlement; • Metering quantities utilized for the Final Settlement; • CPPA-G comments on the settlement produced, including the assumptions used or metering quantities that have been replaced; • Enough information for the Market Participants be able to 	Monthly	Within 10 Days after the beginning of each month)	<ul style="list-style-type: none"> • All Market Participants and made publically available on the CPPA-G website



	reproduce (and eventually challenge) the calculations performed by the CPPA-G			
Payment Report	<ul style="list-style-type: none"> • Identification of the Market Participants who have not paid the invoices issued by the CPPA-G; • Outstanding amounts; • Impact on payments to GENCOs, IPPs or the WPPO; • Other relevant information which permit Authority, the Ministry of Water and Power or the Ministry of Finance to adequately realize of 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 Market Particip • Authority • Ministry of Water Power • Ministry of Financ
Market Operator Annual Report	<p>Description of the activities performed during the previous year;</p> <ul style="list-style-type: none"> • Statistical statements covering the whole previous year; • Comments on the any major incidence occurring in the previous year; • Proposals for Commercial Code amendments; • Market Operator Financial Statements 	Yearly	Within the first two months of the following year	<ul style="list-style-type: none"> • All Market Particip and made publically available on the web • Authority • Ministry of Water Power



Market Operator Annual Report