Model Regulations for Multi Year Distribution Tariff

July, 2011

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Model Regulations for Multi Year Distribution Tariff

"State" Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, "Notification Year"

In exercise of powers conferred by sub section (1) of section 181 and clauses (zd), (ze) and (zf) of sub section (2) of section 181, read with sections 61, 62, and 86, of the Electricity Act 2003 (36 of 2003) and all other powers enabling it in that behalf, the "State" Electricity Regulatory Commission hereby makes the following Regulations.

PART-I

PRELIMINARY

1. Short Title and Commencement

1.1 These regulations shall be called the "State" Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, "Notification Year".

1.2 These regulations shall come into force from the date of their notification in the Official Gazette.

2. Scope and Extent of Application

2.1 These regulations shall apply to all the Distribution Licensees in the State of [--------].

2.2 These Regulations shall be applicable for determination of tariff in all cases covered under these Regulations from April 1, [------------] and onwards up to FY [--------] [i.e., till March 31, (----------)].

2.3 These regulations shall be applicable where the capital cost based tariff is determined by the Commission.

2.4 Where tariff has been determined through the transparent process of bidding in accordance with the guidelines issued by the Central Government, the Commission shall adopt such tariff in accordance with the provisions of the Act.

2.5 These regulations shall extend to the whole of the "State".

3. Definitions

3.1 In these regulations, unless the context otherwise requires, -

(1) “**Act**” means the Electricity Act, 2003 (36 of 2003);

(2) “**Aggregate Revenue Requirement**” **or** “**ARR**” means the costs pertaining to the licensed business which are permitted, in accordance with these regulations, to be recovered from the tariffs and charges determined by the Commission;

(3) “**Base Year**” means the financial year immediately preceding first year of the control period and used for the purposes of these regulations;

(4) “**Commission**” means the “State” Commission;

(5) “**Conduct of Business Regulations**” means the “State” Electricity Regulatory Commission (Conduct of Business) Regulations, “Notification Year”,

(6) “**Control Period**” means a multi-year period comprising of five financial years of FY ----- to FY ---------, and as may be extended by the Commission, for submission of forecast in accordance with these Regulations;

(7) “**Financial Year**” means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;

(8) “**Licence**” means a licence granted under clause (b) of section 14 of the Act;

(9) “**Licensed Business**” means the functions and activities, which the licensee is required to undertake in terms of the licence granted by the Commission or being a deemed licensee under the Act;

(10) “**Licensee**” means a person who has been granted a licence and shall include a deemed licensee;

(11) “**Non-Tariff Income**” means income relating to the licensed business other than from tariff (wheeling and retail supply), and excluding any income from other business, cross-subsidy surcharge and additional surcharge;

(12) “**Other Business**” means any other business of the distribution licensee for optimum utilisation of its assets within the meaning of Section 51 of the Act;

(13) “**Retail Supply Business**” means the business of sale of electricity by a distribution licensee to the consumers within the area of supply in accordance with the terms of the licence for distribution and retail supply of electricity;

(14) “**Wheeling**” means the operation whereby the distribution system and associated facilities of a distribution licensee are used by another person for the conveyance of electricity on payment of charges to be determined under section 62, and in the event where use of the distribution system and associated facilities is by a consumer, on payment of a surcharge in addition to the charges for wheeling as may be determined by the Commission under the first proviso to sub-section (2) of Section 42, an additional surcharge on the charges of wheeling, as may be specified by the Commission, if applicable, to meet the fixed cost of such distribution licensee arising out of his obligation to supply, under Sub-section (4) of Section 42 and wheeling charges under clause (c) of sub-section (1) of Section 62;

(15) “**Wheeling Business**” means the business of operating and maintaining a distribution system for conveyance of electricity in the area of supply of the distribution licensee.

3.2 The words and expressions used and not defined in these Regulations, but defined in the Act, shall have the meanings respectively assigned to them in the Act.

3.3 The words “Application” or “Petition” shall be interpreted synonymously.

PART-II

GENERAL PRINCIPLES

4. Multi Year Tariff Framework

4.1 The Commission shall determine the tariff for distribution business under a Multi-Year Tariff framework with effect from April 1, _____:

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of Aggregate Revenue Requirement and expected revenue from tariff and charges for Distribution Business:

i. Control Period, before commencement of which a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission;

ii. A detailed Business Plan based on the Operational Norms and trajectories of performance parameters specified in the MYT Regulations, for each year of the Control Period, shall be submitted by the applicant for the Commission's approval;

iii. Based on the Business Plan as approved by the Commission by order, the applicant shall submit a petition with the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the

Control Period, and the Commission shall approve the tariff for each year of the Control Period;

iv. The mechanism for pass-through of approved gains or losses on account of uncontrollable factors as specified by the Commission in these Regulations;

v. The mechanism for sharing of approved gains or losses arising out of controllable factors as specified by the Commission in these Regulations;

5. Business Plan

5.1 The Distribution Licensee shall file a Business Plan, for the Control Period of _____ financial years from April 1,_____ to March 31, _____, which shall comprise but not be limited to detailed category-wise sales and demand projections, power procurement plan, capital investment plan, financing plan and physical targets.

Provided that in case the Commission issues guidelines and formats, from time to time, the same shall be adhered to by the Distribution Licensee.

5.2 The capital investment plan shall show separately, on-going projects that will spill into the year _________ under review and new projects (along with justification) that will commence but may be completed within or beyond the tariff period____. The Commission shall consider and approve the capital investment plan for which the Distribution Licensee shall provide relevant technical and commercial details.

5.3 The Distribution Licensees shall project the power purchase requirement after considering effect of target set for Energy Efficiency (EE) and Demand Side Management (DSM) schemes.

6. Forecast

6.1 The applicant shall, based on the Business Plan as approved by the Commission by order, submit the forecast of Aggregate Revenue Requirement and expected revenue from tariff, for the Control Period by a Petition in accordance with the [State Commission] (Conduct of Business), Regulations, [Year], by 30th November of the year prior to the commencement of the Control Period and accompanied by such fee payable, as specified in the [State Commission] (Fees and Charges), Regulations, [Year].

6.2 The forecast of Aggregate Revenue Requirement shall be developed using the assumptions relating to the behaviour of individual variables that comprise the Aggregate Revenue Requirement during the Control Period.

6.3 The forecast of expected revenue from tariff and charges shall be developed based on the following:

(a) Estimates of quantum of electricity to be supplied to consumers and wheeled on behalf of Distribution System Users for each financial year within the Control Period; and

(b) Prevailing tariff as at the date of making the application.

7. Specific trajectory for certain variables

7.1 The Commission shall stipulate a trajectory while approving the Business Plan for certain variables having regard to the reorganization, restructuring and development of the electricity industry in the State:

Provided that the variables for which a trajectory may be stipulated include, but are not limited to, Operation & Maintenance expense norms, supply availability and wires availability, distribution losses and collection efficiency.

7.2 The trajectory stipulated by the Commission in the order approving the Business Plan submitted by the applicant, shall be incorporated by the applicant in its forecast of Aggregate Revenue Requirement and/or expected revenue from tariff and charges under Regulation 6.

8. Annual Review of Performance and True Up

8.1 Where the aggregate revenue requirement and expected revenue from tariff and charges of a Distribution Licensee are covered under a Multi-Year Tariff framework, such Distribution Licensee shall be subject to an annual review of performance and True Up during the Control Period in accordance with this Regulation .

Provided that in case of an excruciating and extra-ordinary circumstances, at any time notwithstanding the Annual Review, the Distribution Licensee may file appropriate application before the Commission.

9. Controllable and uncontrollable factors

9.1 The "uncontrollable factors" shall comprise of the following factors which were beyond the control of, and could not be mitigated by the applicant:

(a) Force Majeure events, such as acts of war, fire, natural calamities, etc.

(b) Change in law;

(c) Taxes and Duties;

(d) Variation in sales; and

(e) Variation in the cost of power generation and/or power purchase due to the circumstances specified in Regulations 19 (d) and 20;

9.2 Some illustrative variations or expected variations in the performance of the applicant, which may be attributed by the Commission to controllable factors include, but are not limited to the following:

(a) Variations in capital expenditure on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events;
(b) Variations in Aggregate Technical & Commercial (AT&C) losses which shall be measured as the difference between the units input into the distribution system and the units realized (units billed and collected) wherein the units realized shall be equal to the product of units billed and collection efficiency (where Collection Efficiency shall be measured as ratio of total revenue realized to the total revenue billed for the same year);
Detailed methodology for computation of AT&C loss has been indicated in Appendix to these regulations;
(c) Distribution Losses which shall be measured as the difference between total energy input for sale to all its consumers and sum of the total energy billed in its license area in the same year;
(d) Variations in Return on Equity (RoE), depreciation and working capital requirements;
(e) Failure to meet the standards specified in the Standards of Performance Regulations, except where exempted;
(f) Variation in operation & maintenance expenses, except those attributable to directions of the Commission.
(g) Variation in Wires Availability and Supply Availability.

10. Mechanism for pass through of gains or losses on account of uncontrollable factors

10.1 The approved aggregate gain or loss to the Distribution Licensee on account of uncontrollable factors shall be passed through, as an adjustment in the tariff of the Distribution Licensee, as specified in these Regulations and as may be determined in the Order of the Commission passed under these Regulations.

11. Mechanism for sharing of gains or losses on account of controllable factors

11.1 The approved aggregate gain to the Distribution Licensee on account of controllable factor of aggregate technical and commercial (AT&C) losses shall be dealt with in the following manner:

(a) One-third of the amount of such gain shall be passed on as a rebate in tariff over such period as may be stipulated in the Order of the Commission;

(b) The balance amount, which will amount to two-third of such gain, may be utilised at the discretion of the Distribution Licensee.

11.2 The approved aggregate loss to the Distribution Licensee on account of controllable factor of aggregate technical and commercial (AT&C) losses shall be dealt with in the following manner:

(a) Two-thirds of the amount of such loss may be passed on as an additional charge in tariff over such period as may be stipulated in the Order of the Commission; and

(b) The balance amount of loss shall be absorbed by the Distribution Licensee.

11.3 The gain or loss on account of other controllable factors, unless otherwise specifically provided by the Commission shall be to the account of the Distribution Licensee.

PART-III

PROCEDURE

12. Procedures relating to making of an application for determination of Tariff

12.1 An application for approval of the Business Plan shall be made by [30th September] of the year prior to the commencement of the Control Period, in accordance with the [State Commission] (Conduct of Business), Regulations, [Year], and accompanied by such fee payable, as specified in the [State Commission] (Fees and Charges), Regulations, [Year]".

Provided that where no separate fees has been specified for filing of a Business Plan, the applicant shall pay fees as may be applicable for filing miscellaneous applications.

12.2 An application for determination of tariff shall be made by 30th November every year, in such form and in such manner as specified in this Regulation, and accompanied by such fees as may be specified under the Commission.

Proceedings to be held by the Commission for determination of tariff shall be in accordance with the_______________ (Conduct of Business) Regulations, _________, as amended from time to time.

12.3 The petition for determination of tariff shall be accompanied by information for the previous year, current year and the ensuing year for the entire control period capturing the expected revenues from the tariff and charges including miscellaneous charges along with detailed assumptions, parameters required in annual true-up exercise, etc.

Provided that the application shall be accompanied where relevant, by a detailed tariff revision proposal showing category-wise tariff and how such revision would meet the gap, if any, in Aggregate Revenue Requirement for each year of the Control Period.

Provided further that the information for the previous year shall be based on audited accounts and in case audited accounts for previous year are not available, audited accounts for the immediately preceding previous year should be filed along with un-audited accounts for the previous year:

12.4 The Distribution Licensee shall along with the aforesaid petition submit a statement on the status of compliance of directives, if any, issued by the Commission in its last tariff order.

12.5 The petition for determination of tariff shall include the details of actual subsidy received from the State Government vis-à-vis claimed by the Distribution Licensee and the True-up petition for the previous year:

12.6 The Commission may seek clarification and additional information on inadequacies in the application, if any, within 14 days of filing of the application for approval of the Business Plan and application for determination of tariff, as the case may be.

12.7 The Distribution Licensee shall respond within the next 10 days to the Commission with all clarification and information as required.

12.8 The Commission shall admit the application for approval of the Business Plan and application for determination of tariff, as the case may be, within seven days of submission of response to the clarifications by the Distribution Licensee.

12.9 Upon receipt of a complete application accompanied by all requisite information, particulars and documents in compliance with all the requirements specified in these Regulations, the application for approval of the Business Plan and application for determination of tariff, as the case may be, shall be deemed to be received and the Commission or the Secretary or the designated Officer shall intimate to the applicant that the application is ready for publication.

12.10 The applicant shall, within three (3) days of an intimation given to him in accordance with Regulation 12.9, publish a notice, in at least two (2) English and two (2) [-----vernacular] language daily newspapers widely circulated in the area to which the application pertains, outlining the proposed Business Plan or the proposed tariff, as the case may be, and such other matters as may be stipulated by the Commission, and inviting suggestions and objections from the public:

Provided that the applicant shall make available a hard copy of the complete application, to any interested party, at such locations and at such rates as may be stipulated by the Commission:

Provided further that the applicant shall also put up on its internet website, in downloadable spreadsheet format showing detailed computations, the application made to the Commission along with all regulatory filings, information, particulars and documents in the manner so stipulated by the Commission:

Provided further that the web-link to the information mentioned in the second proviso above shall be easily accessible, archived for downloading and shall be prominently displayed on the applicant's internet website:

Provided also that the applicant may not provide or put up any such information, particulars or documents, which are confidential in nature, with the prior approval of the Commission.

Explanation – for the purpose of this Regulation, the term “downloadable spreadsheet format” shall mean one (or multiple, linked) spreadsheet software files containing all assumptions, formulae, calculations, software macros and outputs forming the basis of the application.

12.11 Notwithstanding anything contained in these Regulations, in case of delay/ non-submission of the application for approval of the Business Plan and application for determination of tariff, as the case may be, additional information, the Commission may initiate suo-motu proceedings mandating the filing of the said applications.

Provided that in the event of the licensee not filing the application despite the aforesaid proceeding, the Commission may on its own, decide the tariff based on previous year’s tariff details and after incorporating suitable adjustments.

Provided further that the Commission may also pass directions under Section 129 and/or Section 142 of the Act, if required.

13. Order approving the Business Plan and Tariff Order

13.1 An Order approving or rejecting the Business Plan shall, as far as practicable, be issued within thirty (30) days from receipt of a complete Business Plan.

13.2 The Commission shall, within one hundred and twenty (120) days from receipt of a complete application for tariff determination and after considering all suggestions and objections received from the public:

(a) issue a Tariff Order accepting the application with such modifications or such conditions as may be specified in that Order;

(b) reject the application for reasons to be recorded in writing if such application is not in accordance with the provisions of the Act and the rules and Regulations made thereunder or the provisions of any other law for the time being in force:

Provided that an applicant shall be given a reasonable opportunity of being heard before rejecting its application.

13.3 The applicant shall publish the tariff approved by the Commission in at least two (2) English and two (2) local language daily newspapers having wide circulation in the area of supply and shall put up the approved tariff / tariff schedule on its internet website and make available for sale, a booklet containing such tariff or tariff, as the case may be, to any person upon payment of reasonable reproduction charges.

13.4 The tariff so published shall be in force from the date specified in the said Order and shall, unless amended or revised, continue to be in force for such period as may be stipulated therein.

14. True-Up Order

(a) The Commission shall True-Up expenses either as part of the Tariff order or issue Order/s for True-Up of expenses preceding the Tariff order of ensuing year.

(b) An order for True-Up of Expenses shall be issued on annual basis.

(c) An order for True-Up of Expenses shall be on the basis of expense estimates made in the beginning of the year under consideration and actual expenses booked in the audited books of account of the Distribution Licensee for the year.

(d) Where audited books of account are not available at the time of true-up provisional books of accounts shall be used for the True-Up process.

(e) Estimates of expenses for the ensuing year shall be on the basis of corresponding figures in the order for True-Up of Expenses of the previous year and Tariff order of the current year.

15. Adherence to Tariff Order

15.1 If a Distribution Licensee recovers a price or charge exceeding the tariff determined under Section 62 of the Act and in accordance with these Regulations, the excess amount shall be payable to the person who has paid such price or charge, along with interest equivalent to the Bank Rate of the Reserve Bank of India without prejudice to any other liability that may be incurred by such Distribution Licensee.

15.2 The Distribution Licensee shall submit periodic returns as may be required by the Commission, containing operational and cost data to enable the Commission to monitor the implementation of its Order.

PART IV

SALES, POWER PURCHASE QUANTUM AND COST

16. Metered Sales forecast

16.1 **Forecasting Methodology**

Metered sales shall be treated as an uncontrollable parameter:

Provided that open access transactions shall not form part of the sales:

Provided further that sales forecast shall be based on past trends in each of the slabs of consumer categories. The compounded annual growth rate (CAGR) of past 2 to 3 years of sales within each of the slabs of a consumer category as per audited books of account shall be used to forecast up to short and medium (5 years) time range:

Explanation - For instance, while filing for 2011-12 ARR, audited sales figures, by slab by consumer category, pertaining to 2007-08, 2008-09 and 2009-10 shall be used. In case audit of books of accounts of last year (2009-10) is still pending, corresponding sales figures pertaining to 2006-07, 2007-08 and 2008-9 shall be used and the Distribution Licensee must expedite the process so that audited sales figures of immediately preceding three years shall be available during ARR filing from next year onwards.

Provided also that in case of following occurrences, prudent adjustment of forecasted metered sales shall be carried out:

a) Abnormal variation in consumer mix in any given area (on the basis of proposed city plan, tax holidays, Government incentives for industrial establishments, migration of consumers due to open access, etc.)

b) Inflection point in economic cycle (boom, slowdown, recession or expansion)

c) Variations in weather conditions

d) Materially significant findings during audit check as per Regulation 16.2:

Provided also that in cases where slab-wise sales to each consumer category are not available in audited books of accounts and only consolidated sales are available, the Distribution Licensee shall include the slab-wise sales in annexure to its Annual Report from next year onwards:

Provided also that if Audited books of accounts are not available, the Distribution Licensee shall get the accounts audited within a year of roll out of these tariff regulations so as to ensure that audited sales figures, by slab by consumer category, for last three preceding years are available for sales estimation from next year onwards.

16.2 Overhaul Exercise

(a) A team shall be formed by Distribution Licensee consisting of an independent agency and designated team of the Distribution Licensee to validate the status of meters, load of metered consumers and category classification of consumers in the area of operations of Distribution Licensee.

(b) The overhaul exercise shall be a year-long assessment study conducted on monthly basis for the first year subsequent to the notification of these Regulations.

(c) For the overhaul exercise, consumers shall be sampled for a monthly overhaul from the circles served by the Distribution Licensee.

Provided that the Sample so chosen shall be close representation of geographic, demographic, industrial/ commercial/ residential/ agricultural spread served by the Distribution Licensee:

(d) In the event inconsistencies are found in the number of metered consumers, status of the meters, load at consumer premises or category classification of the consumers, the forecast arrived at in Regulation 16.1 on the basis of CAGR of historical (2-3 years) audited sales shall be adjusted accordingly as specified in Regulation 16.1.

17. Un-metered Sales Forecast

17.1 Methodology for determination of un-metered sales

(a) Till the time 100% metering of electricity consumers is achieved in area of operation of Distribution Licensee, an independent study shall be conducted by the Distribution Licensee to assess actual consumption of power by un-metered consumer segment:

(b) For three years including the date of notification of these Regulations, yearlong, month-wise, taluka-wise study shall be conducted by the Distribution Licensee and submitted to the Commission.

(c) The study referred to in clause (b) of this Regulation shall cover actual consumption in the zones (hours of usage, specifications of motor (power etc.)) demonstrating seasonal impact, economic development, demographics, consumption pattern, etc. This would aid to develop baseline norms pertaining to electricity consumption in un-metered consumer segments.

(d) Baseline norms shall be established after completion of study in the first year which shall be revised/fine-tuned in the remaining two subsequent years.

(e) After three years of annual study leading to streamlining of processes, study shall be conducted on alternate year basis.

(f) Stratified random sampling shall be used to identify consumers in taluka/district of study which would be, well distributed representation of the taluka under purview such that sampled consumers shall exhibit same demographic profile, energy consumption pattern, water level etc. as the taluka.

Provided that the sample selected shall be from all the talukas/districts in the state.

17.2 **Study of Agricultural feeders not segregated in significant numbers**

(a) The sample of consumers selected shall be monitored and the readings of consumption can be taken from the meters installed at each DT in the sample area.

(b) The load of all the consumers connected on the DT in each of the sample areas shall be validated each month to account for any additional load or replacement of old motor with new motor by the consumers.

(c) Based on the result of yearlong month-wise study, the consumption pattern for selected talukas/districts shall be established.

(d) The results of the study shall be extrapolated to adjoining areas with similar water level and the same cropping patterns.

(e) The month-wise analysis of the sample selected for the establishment of baseline shall be submitted to the Commission during regular intervals so that the directions of the Commission are incorporated before the completion of study.

17.3 **Study of Agricultural feeders segregated in significant numbers**

(a) During the study, meters shall be installed at input points of the feeder at the sub-station and based on the load flow study the technical loss of the feeder will be evaluated.

(b) The difference of the feeder meter consumption and technical losses will be agricultural consumption.

Provided that such computation of agricultural consumption may include commercial losses the percentage of which shall be worked out by the Distribution Licensee during the annual study.

(c) From every subsequent year, the study report shall be submitted to the Commission by 31st October for the Commission to have enough time bandwidth to conduct validation check and analysis in collaboration with an independent agency and with due assistance of team designated by the Distribution Licensee.

(d) The Distribution Licensee shall be informed as late as morning of the day scheduled for inspection by the Commission to have reality check and to ensure that power supply and the Distribution Licensee's personnel are available.

(e) Any significant deviation in the parameters reported in annual study from the baseline study may necessitate revision of norms by the Commission.

18. Treatment of Distribution Loss

18.1 Distribution Loss

Distribution loss shall be considered as a controllable parameter. Based on the assessment of metered and un-metered sales as per Regulations 16 and 17 of these regulations, the Commission shall update existing baseline of distribution losses:

Provided that circle-wise distribution loss reduction targets shall be approved by the Commission. On the basis of circle-wise distribution loss, circle-wise differential tariff by way of separate and distinct distribution loss surcharge shall also be implemented by the Commission.

19. Power Purchase Quantum and Cost

(a) Based on the demand estimates the power purchase quantum and cost shall be calculated.

(b) The approved Power Purchase cost shall be net of expected revenue from sale of surplus power, if any, during lean period.

(c) Revenue from sale of surplus power shall be estimated at per unit weighted average price of bilateral purchases and power exchange rates for the same quarter:

(d) If there is a short term requirement of power by the Distribution Licensee over and above the quantum as approved by the Commission and such requirement is on account of any factor beyond the control of the Licensee (shortage/non-availability of fuel, snow capping of hydro resources inhibiting power generation in sources stipulated in the plan, unplanned/forced outages of power generating units or acts of God), then the cost shall be directly passed on to the customer without prior approval of the Commission:

Provided that the cost of the additional power shall be allowed at the weighted average price of power exchange rates and bilateral market purchases for the same quarter.

Provider further that in such a case, the Distribution Licensee shall inform the Commission about the purchase of power over and above approved quantum with all of the supporting documents. Unless the Commission is satisfied that the additional power is capped by weighted average price of power exchange rates and bilateral market purchases for the same quarter, it may disallow the quantum and cost of this short term power procurement in the True Up order.

19.1 **Power Purchase Planning**

(a) Comprehensive Power Procurement Plan shall be submitted as part of MYT petition to the Commission.

(b) The Distribution Licensee shall prepare a short term (less than 1 year) and a medium term (5 years) plan, separately stated for peak and off-peak periods, for unrestricted demand of electricity for each consumer category in its area of operation as per Regulation 16 and Regulation 17 of these regulations. At the gross level, independent variables like Gross Domestic Product, Average tariff of electricity and population etc shall be regressed through econometric modeling for estimating long term total demand forecasting. Long term forecasting shall be done based upon the following multiple log linear econometric regression formula:

$\text{Log } E_t = a_o + a_1 \log(GDP_t) - a_2 \log(P_t) + a_3 \log(p_t)$

Where,

E_t = Demand of electricity for the period ‘t’

a_o = Constant term

a_1 = Percentage change in electricity demand for percentage change in GDP

a_2 = Price elasticity of electricity demand

a_3 = Percentage change in electricity demand for percentage change in population

GDP = Gross Domestic Product for period ‘t’

P_t = Average Tariff of Electricity for period ‘t’
p_t = Population for period ‘t’

Similarly, multiple log-linear regression analysis shall be carried out separately for each major category of consumers like domestic, agricultural, commercial and industrial. Each of categories could be regressed with independent variables like –

- Per capita income and/or population and/or average domestic tariff for estimating residential demand
- GDP for agricultural and/or pumpset and/or average agricultural tariff for estimating agricultural demand
- GDP for industry and/or Industrial output and/or average industrial tariff for estimating industrial demand
- GDP for service and/or average tariff for commercial category for estimating commercial demand

Based on the multiple log-linear regression analysis, statistically significant equation should be adopted for forecasting the demand.

(c) The demand projected as per above shall be augmented with distribution losses (as determined by Regulation 18 of these regulations) and transmission losses to arrive at power purchase requirement for the Distribution Licensee.

(d) The Distribution Licensee shall assess quantum of power available at its disposal from state’s generating plants, central generating utilities, IPPs etc. and month-wise deficit/surplus schedule shall be developed, separately stated for both peak and off-peak period:

(e) The procurement plan for medium term shall be by way of competitive bidding.

(f) The Licensee with generation mix having less coal or hydro resource, shall explore Joint Ventures with coal bearing states and with states well-endowed with hydro for development of power plants, to ensure right mix of power procurement from coal and hydro based plants to have diversified procurement base and potential of addressing seasonal variations, peak demand .

(g) Long-term power procurement plan shall include proposals about acquisition of demand side resources through "standard bid" or "competitive demand side resource bidding process". The procurement plan shall also include power from plants using renewable sources of energy at least to the extent as stipulated by Commission.

(h) Due to in-firm nature of power from renewable sources of energy, alternate firm source of power (equivalent in terms of energy units) shall be specified in the procurement plan (over and above total energy required).

(i) Fixed cost pertaining to such alternate firm source of power shall be allowed to the Distribution Licensee and actual cost shall be Trued Up.

(j) If excess power beyond the procurement plan is required on long term basis, the Distribution Licensee shall invite bids through Case 1 or Case 2 bidding for power procurement in the "Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees" as notified by the Central Government from time to time.

20. Treatment of Incremental Power procurement cost

20.1 Identification of Incremental cost and process of recovery

(a) The Distribution Licensee shall recover the incremental cost incurred due to the following:

1. Cost due to variation in fuel surcharge rate
2. Cost of incremental power required over and above the plan approved by the Commission

(b) The incremental cost on account of variation in fuel surcharge shall be computed and charged on the basis of actual variation in fuel surcharge rate vis-a-vis the cost approved in the tariff order and shall not be computed on the basis of estimated or expected variation in fuel surcharge:

(c) The incremental cost due to incremental power purchase for reasons stipulated in clause (d) of Regulation 19, shall be computed on the basis of formula provided in regulation 20.2 below, and shall be charged for the quarter within first 15 days of the quarter end, on the consumer from the first month of the second quarter itself within the ceiling of 10% of variable component of tariff, without prior approval of the Commission and under or over recovery shall be carried forward to the next quarter.

(d) The Distribution Licensee shall submit details of the incremental cost incurred and to be charged to all consumers for the entire quarter, along with the detailed computations and supporting documents as may be required for verification by the Commission within first 28 days of the quarter end.

(e) The Commission shall examine the incremental cost charged by the Distribution Licensee against supporting documents as submitted:

Provided that discrepancies, if any shall be notified to the Distribution Licensee before the end of the second quarter:

Provided further that the Distribution Licensee shall adjust for the discrepancy notified by the Commission in third quarter's charge computation.

(f) In case the Distribution Licensee is found guilty of charging unjustified adjustment cost to the consumers on regular basis, the Commission shall adjust the unjustified additional cost along with interest on the same.

(g) The interest rate shall be in accordance with the State Bank Advance Rate (SBAR) as of the date on which the application of determination of tariff is made and benefits shall be passed on to the consumers.

(h) The Distribution Licensee shall upgrade the billing and IT systems to incorporate Incremental Costs (IC) as a component in tariff design.

20.2 **Formula for computation of Incremental cost**

The formula for calculation of the incremental charge will be as under:

Variables shall be in INR crores unless otherwise stated

$IC_{q1} = C_{q1} + F_{q4} + A_{q3}$

IC_{q1} = Incremental Cost incurred in Q1

C_{q1} = Change in cost due to:

1. Variation in Fuel surcharge rate
2. Total cost incurred to procure power over and above the plan as approved in Regulation 8 of these regulations (capped by weighted average cost of bilateral purchase and power exchange price)

Explanation.- 1: The norms for parameters such as station heat rate, auxiliary consumption, transit loss shall be approved by the Commission for each year as controllable factor at the time of determination of generation tariff for each state generating station. The change in fuel surcharge shall be considered only for the computation of incremental cost.

F_{q4} = Carry forward factor for over-recovery / under-recovery of IC_{q3} in Quarter 4 from previous year

Explanation.- 2:Fuel adjustment cost to be incorporated in subsequent quarter shall be up to 10 % of variable cost of the quarter, any difference would roll into following quarter to be adjusted as Fq.

A_{q3} = Adjustments on the basis of the Commission's order pertaining to discrepancies, if any, in computation of IC_{Q3} from previous year

Similarly IC for respective quarters will be computed.

20.3 **Incremental cost per unit of electricity consumption**

(a) Calculation of IC (INR/kWh) shall be as per the following formula:
IC (INR/kWh) = (IC/(Metered sales + Unmetered sales estimates + excess distribution losses))*10

Where IC is in INR lakhs and Unit sales are in Million units
Excess distribution loss = Energy Input – Energy Sales – (distribution loss % as specified by the Commission * Energy input)

(b) The Licensee shall provide information related to Incremental cost per unit of electricity consumption so as to enable the Commission to expedite the process of validation of IC recovered from the consumers within a month on the basis of information furnished by end of previous month, for any discrepancy to be taken into account in the month of August.

(c) The Commission may notify ceiling of incremental charges that can be recovered from the consumers on monthly basis.

PART V

FINANCIAL PRINCIPLES

21. Principles for determination of ARR

The Aggregate Revenue Requirement for the Distribution Business of the Distribution Licensees for each year of the Control Period, shall contain the following financial parameters:

A. Operation and Maintenance expenses;
B. Capital Investment Plan;
C. Depreciation
D. Contingency Reserves;
E. Interest on Loan;
F. Interest on Working Capital;
G. Return on Equity;
H. Income Tax;
I. Non-Tariff Income; and
J. Income from Other Business

22. Operation & Maintenance Expenses

(a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz., Employee cost, R&M expense and A&G expense.
Provided that such norms may be specified for a specific Distribution Licensee or a class of Distribution Licensees.

(b) Norms shall be defined in terms of combination of number of personnel per 1000 consumers and number of personnel per substation along with annual expenses per personnel for Employee expenses; combination of A&G expense per personnel and A&G expense per 1000 consumers for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses:

(c) One-time expenses such as expense due to change in accounting policy, arrears paid due to pay commissions etc., shall be excluded from the norms in the trajectory.

(d) The expenses beyond the control of the Distribution Licensee such as dearness allowance, terminal benefits in Employee cost etc., shall be excluded from the norms in the trajectory.

(e) The One-time expenses and the expenses beyond the control of the Distribution Licensee shall be allowed by the Commission over and above normative Operation & Maintenance Expenses after prudence check.

(f) The norms in the trajectory shall be specified over the control period with due consideration to productivity improvements.

(g) The norms shall be determined at constant prices of base year and escalation on account of inflation shall be over and above the baseline.

(h) The Distribution Licensee specific trajectory of norms shall be identified by the Commission on the basis of absolute and relative analysis.

(i) In absolute analysis, Distribution Licensee’s audited accounts of operations for last three years, expenses claimed for control period, historically approved cost, and prudence check shall be used by the Commission to estimate values of norms.

(j) In relative analysis, performance parameters of other Distribution Licensees within the same state or in other states, shall be considered by the Commission to estimate norms.

Provided that other Distribution Licensees so chosen shall have similar profile as that of the Distribution Licensee under consideration in terms of consumer mix, type of license area (city, state, etc.) type of distribution networks, viz., underground/overhead, HT-LT ratio, etc.

(k) Suitable average of outcomes of absolute and relative analysis shall be taken by the Commission to fix the norms over the control period for the Distribution Licensee.

22.1 Employee Cost

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Distribution Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears and Interim Relief, governed by the following formula:

EMP_n = (EMP_b * CPI inflation) + Provision
Where:
EMP_n: Employee expense for the year n
EMP_b: Employee expense as per the norm
CPI inflation: is the average increase in the Consumer Price Index (CPI) for immediately preceding three years
Provision: Provision for expenses beyond control of the Distribution Licensee and expected one-time expenses as specified above

22.2 Repairs and Maintenance Expense

Repairs and Maintenance expense shall be calculated as percentage (as per the norm defined) of Opening Gross Fixed Assets for the year governed by following formula:
$R\&M_n = K_b * GFA_n$
Where:
$R\&M_n$: Repairs & Maintenance expense for n^{th} year
GFA_n: Opening Gross Fixed Assets for n^{th}year
K_b: Percentage point as per the norm

22.3 Administrative and General Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Distribution Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:
$A\&G_n$ = ($A\&G_b$ * WPI inflation) + Provision
Where:
$A\&G_n$: A&G expense for the year n
$A\&G_b$: A&G expense as per the norm
WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years
Provision: Cost for initiatives or other one-time expenses as proposed by the Distribution Licensee and validated by the Commission.

23. Capital Investment Plan

(a) Capital expenditure shall be considered on scheme wise basis.

(b) For capital expenditure greater than INR 10 Crore, the Distribution Licensee shall seek prior approval of the Commission.

(c) The Distribution Licensee shall submit detailed supporting documents while seeking approval from the Commission.

Provided that supporting documents shall include but not limited to purpose of investment, capital structure, capitalization schedule, financing plan and cost-benefit analysis:

(d) The approval of the capital expenditure by the Commission for the ensuing year shall be in accordance with load growth, system extension, rural electrification, distribution loss reduction or quality improvement as proposed in the Distribution Licensee's supporting documents.

(e) The Commission may also undertake a detailed review of the actual works compared with the works approved in the previous Tariff Order while approving the capital expenditure for the ensuing year.

(f) In case the capital expenditure is required for emergency work, the licensee shall submit an application, containing all relevant information along with reasons justifying the emergent nature of the proposed work, seeking post facto approval by the Commission.

(g) The Distribution Licensee shall take up the work prior to receiving the approval from the Commission provided that the emergent nature of the scheme has been certified by its Board of Directors.

(h) If capital expenditure is less than INR 10 Crore, the Distribution Licensee shall undertake the execution of the plan with simultaneous notification to the Commission with all of the relevant supporting documents.

(i) During the true-up exercise, the Commission shall take appropriate action as is mentioned in Regulation 19.1 of these regulations.

(j) Consumer's contribution towards cost of capital asset shall be treated as capital receipt and credited in current liabilities until transferred to a separate account on commissioning of the assets.

(k) An amount equivalent to the depreciation charge on such assets for the year shall be appropriated from this account as income to the profit and loss account over the useful life of the asset.

24. Treatment of Depreciation

(a) Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year.

(b) Depreciation shall not be allowed on assets funded by capital subsidies, consumer contributions or grants.

(c) Depreciation shall be calculated annually on the basis of rate and schedule to be specified by Commission.

(d) The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.

Provided that Land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset:

(e) Depreciation shall be charged from the first year of operation of the asset.

Provided that in case the operation of the asset is for a part of the year, depreciation shall be charged on proportionate basis:

(f) A provision of replacement of assets shall be made in the capital investment plan.

25. Treatment of Interest on loan

(a) The Distribution Licensee shall provide detailed loan-wise, project-wise and utilization-wise details of all of the pending loans.

(b) If the equity actually deployed is more than 30 % of the capital cost, equity in excess of 30 % shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loan:

(c) Actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation.

(d) The normative loan outstanding as of 1st April of control period shall be computed by deducting the cumulative repayment as approved by the Commission (basis as mentioned below) up to 31st March of current period (a year before control period) from the gross normative loan.

(e) The repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.

(f) Notwithstanding any moratorium period availed by the Distribution Licensee, the repayment of the loan shall be considered from the first year of the control period as per annual depreciation allowed.

(g) The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or non-convertible debentures:

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest:

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects:

(h) The Distribution Licensee shall make every effort to refinance the loan as long as it results in net benefit to the consumers.

Provided that the cost associated with such refinancing shall be eligible to be passed through in tariffs and the benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 50:50 between the Distribution Licensee and the consumers.

Provided further that the Distribution Licensee shall submit the calculation of such benefit to the Commission for its approval.

(i) The Distribution Licensee shall enable tracking of the loans converted into grants under schemes like APDRP by providing information and data regularly to the Commission and for ensuring that the interest on these loans which has been passed on to the consumers inappropriately in the earlier years shall be recovered from the Distribution Licensee.

26. Interest on Working Capital

The Distribution Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

a) O&M expenses for one month
b) Two months equivalent of expected revenue
c) Maintenance spares @ 40% of R&M expenses for one month:

Less:

Security deposits from consumers, if any.

Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission.

Provided further that interest shall be allowed on consumer security deposits and security deposits from Distribution System users at the Bank Rate as of the date on which the petition for determination of tariff is accepted by the Commission.

27. Contribution to Contingency Reserve

(a) If the Distribution Licensee has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR:

(b) The amount so appropriated shall be invested in securities authorized under the Indian Trusts Act, 1882 within a period of six months of close of the financial year.

Provided that no diminution in the value of contingency reserve be allowed to be adjusted as a part of tariff.

(c) The Contingency Reserve shall not be drawn upon during the term of the license except to meet such charges as may be approved by the Commission, such as following:

(i) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;
(ii) Expenses on replacement or removal of plant or works other than expenses requisite for normal maintenance or renewal;

(iii) Compensation payable under any law for the time being in force and for which no other provision is made:

Provided that such drawl from contingency reserve shall be computed after making due adjustment for any other compensation that may have been received by the Licensee as part of an insurance cover:

28. Treatment of Return on equity

(a) Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:

Provided that assets funded by consumer contribution, capital subsidies/grants and corresponding depreciation shall not form part of the capital base. Actual equity infused in the Distribution Licensee as per book value shall be considered as perpetual and shall be used for computation in this Regulation:

(b) The return on the equity invested in working capital shall be allowed from the date of start of commercial operation:

(c) 16% post-tax return on equity shall be considered irrespective of whether the Distribution Licensee has claimed return on equity in the ARR petition.

29. Income Tax

a) Income Tax, if any, on the Licenced business of the Distribution Licensee shall be treated as expense and shall be recoverable from consumers through tariff. However, tax on any income other than that through its Licenced business shall not be a pass through, and it shall be payable by the Distribution Licensee itself.

b) The income tax actually payable or paid shall be included in the ARR. The actual assessment of income tax should take into account benefits of tax holiday, and the credit for carry forward losses applicable as per the provisions of the Income Tax Act 1961 shall be passed on to the consumers.

c) Tax on income, if any, liable to be paid shall be limited to tax on return on the equity component of capital employed. However any tax liability on incentives due to improved performance shall not be considered.

30. Non-Tariff Income

a) All incomes being incidental to electricity business and derived by the Licensee from sources, including but not limited to profit derived from disposal of assets, rents, delayed payment surcharge, meter rent (if any), income from investments other than contingency reserves, miscellaneous receipts from the consumers and income to Licensed business from the Other Business of the Distribution Licensee shall constitute Non-Tariff Income of the Licensee.

b) Interest on security deposits, in excess of the rate specified by the Commission shall be considered as Non Tariff income of the Licensees.

c) The amount received by the Licensee on account of Non-Tariff Income shall be deducted from the aggregate revenue requirement in calculating the net revenue requirement of such Licensee.

31. Income from Other Business

Where the Licensee is engaged in any other business, [the income from such business will be deducted] from the Aggregate Revenue Requirement in calculating the revenue requirement of the Licensee in the manner and in proposition as may be specified by the Commission.

Provided that the Licensee shall follow a reasonable basis for allocation of all joint and common costs between the Distribution Business and the Other Business and shall submit the Allocation Statement as approved by the Board of Directors to the Commission along with his application for determination of tariff;

Provided further that where the sum total of the direct and indirect costs of such Other Business exceed the revenues from such Other Business or for any other reason, no amount shall be allowed to be added to the aggregate revenue requirement of the Licensee on account of such Other Business.

32. Treatment of Regulatory Assets

(a) Regulatory assets shall not be created against cost/loss incurred in normal course of business.

Provided that in such a case, financing arrangement or capital restructuring shall be deployed to cover the gap.

(b) The amortization schedule corresponding to the regulatory asset shall be prepared and put in effect along with creation of the regulatory asset.

(c) The carrying cost of the regulatory asset shall be in line with the State Bank Advance Rate (SBAR) for the tenure for which regulatory asset has been created.

(d) There shall not be a long gap in truing up of accounts of the Distribution Licensee so as to prevent the need for creation of the regulatory asset.

PART-VI

WHEELING AND RETAIL SUPPLY BUSINESS

33. Segregation of Wheeling Business and Retail Supply Business

The Distribution Licensee shall maintain separate books of accounts for Wheeling Business and Retail Supply Business. For such period until accounts are segregated and separate books of accounts are maintained, the Commission shall stipulate the ratio of allocation of all expenses and return component, based on data obtained from the Distribution Licensees. The following broad principles shall be followed for allocation of costs towards wheeling business and supply business, out of the total annual revenue requirements determined:

(a) Power purchase cost shall be allocated to the Supply business ;
(b) Operation and Maintenance expenses shall be segregated between wheeling and supply businesses in such manner as may be determined by the Commission;
(c) Majority of the capital expenditure related expenses, viz., depreciation, interest and return on equity, shall be included under the wheeling business;

Note - The Supply Business would require only a small component of the capital expenditure towards billing and collection activity.

PART- VII

NORMS OF OPERATION

34. Target Availability and Recovery of ARR

(a) Recovery of the Annual Revenue Requirement determined as per the norms under these regulations shall be based on achievement of the target availability index as under:

The Availability index shall be computed for both Wheeling Business and Supply Business of the Distribution Licensee on yearly basis as per following:
For Wheeling Business:
Wheeling Network Availability Index (%) = (1-(SAIDI/8760)) X 100
Where,
SAIDI = Sum of all customer interruption durations/Total number of consumers served

For Supply Business:

The Supply Availability shall be measured on the basis of power contracted by the Distribution Licensee on a long-term basis as per the power procurement plan under following heads:

Base Load Supply Availability = ((Actual Contracted Base Load Supply (MW)) X (Number of Off-Peak hours)) / ((Base Load in MW) X (Number of Off-Peak hours))
Peak Load Supply Availability = ((Actual Contracted Peak Load Supply (MW)) X (Number of Peak hours)) / ((Peak Load in MW) X (Number of Peak hours))
Supply Availability Index = 75% of Base Load Supply Availability + 25% of Peak Load Supply Availability

(b) The Distribution Licensee shall maintain data on planned maintenance outages, load shedding, force majeure outages and trippings.

(c) The incentive/disincentive shall exclude the circumstances when the actual supply differs from the contracted supply due to force majeure situations, weather conditions, extreme monsoon failure, station outages, etc. which are beyond the control of the Distribution Licensee.

(d) The Commission shall specify progressively increasing normative levels of Availability for Wires and Supply Business of the Distribution Licensee on the basis of past performance over the control period.

Provided that the Availability of Supply Business shall not be lower than 90% and shall gradually increase to 95% or 98% in no less than three years[1].

(e) The additional ARR shall be considered as +/- 0.2% of ARR for every percentage point increase/decrease in Availability vis-à-vis the normative levels of availability.

Provided that the maximum additional return that can be earned/reduced shall be +/- 2% of ROE

PART-VIII

SUBSIDY, CROSS SUBSIDY AND TARIFF DESIGN

35. Subsidy

(a) The Commission shall determine the ARR and Tariff without considering subsidy.

Provided that if the State Government declares subsidy for the categories of consumers after notification of Tariff Order, the licensee shall incorporate the same in the tariff and intimate the Commission with the revised Tariff Schedule that shall be charged if the subsidy is received in advance:

Provided further that in case the State Government declares subsidy in advance or during tariff filing proceedings and the licensee incorporates the subsidy in the petition, the Commission shall notify two tariff schedules, one with subsidy and the other without subsidy:

Provided also that the Government's subsidy provided for or declared shall be supported by documentary evidence of time schedule of payment, mode of the payment of the subsidy and categorization of the subsidy amount into subsidized consumer categories:

(b) The Commission may clarify in the tariff order, post the declaration from the Government, the quantum of Government's subsidy as applicable to the fuel cost adjustment along with the range (%) of variable cost upto which the fuel adjustment cost shall not be passed to the consumers, category wise classification, mode of payment and schedule of payment etc.

(c) In case of no disbursement or delayed disbursement of subsidy by the Government, the licensee shall charge consumers as per the tariff schedule which is approved by the Commission without consideration of subsidy.

36. Cross Subsidy, Allocation of Cost to Serve and Tariff Design

(a) The Commission shall notify a roadmap for reduction of cross subsidies within six months from the notification of these Regulations. The road map shall also have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.

(b) The Distribution Licensee shall compute the consumer category-wise cost of supply as per the methodology elaborated below.

(c) **Allocation of Cost:** The Cost to serve shall be allocated to the consumer categories in the following manner:

Step 1: Functionalization of Cost - Total cost shall be divided on the basis of functions performed such as power purchase, distribution etc.

Step 2: Classification of Cost –Each of the functionalized costs shall be further classified, based on its intrinsic nature into Demand related cost, Energy related cost and Customer related cost. Demand related costs shall generally be of fixed nature, related to capacity creation and shall include interest on capital borrowing, depreciation etc. Energy cost shall be related to quantum of electricity consumption of consumer, such as fuel cost, interest on working capital, etc. Consumer related cost shall include operating expenses associated with meter reading, billing and accounting.

Step 3: Allocation of Cost

i. **Allocation of Demand Costs:** Demand costs of all three functions shall be allocated among consumer categories on the basis of average coincident peak demand of the tariff categories (average of past 12 months). To facilitate determination of average coincident peak demand for the various tariff categories, load research shall be made an integral part of the operations of the DISCOMs and systematic load research exercises shall be initiated.

ii. **Allocation of Energy Costs:** Energy related costs of Distribution functions shall be allocated to consumer categories on the basis of ratio of electricity consumption of each consumer category to the total electricity consumption under the purview of the Distribution Licensee. Energy related costs of Power purchase shall be allocated to various tariff categories on the basis of block approach on merit order dispatch and incremental principle, where each tariff category shall be allocated the incremental (energy related) power purchase cost on the basis of their respective share in the incremental power purchase. For the purpose of operationalising the block approach and incremental principle, the Commission shall identify and notify a suitable year as the "base year". .

iii. **Allocation of Customer Costs:** Customer related costs shall be allocated to consumer categories on the basis of the ratio of number of consumers in each category to total number of consumers under the purview of the Distribution Licensee.

(d) Summation of allocated Demand cost, Energy cost and Customer cost across functions shall be total Cost to serve for respective consumer categories. Cost to serve reduced by revenue from a consumer category shall give total subsidy for that category. Total subsidy for a consumer category reduced by Government subsidy, if any, shall be cross-subsidy for that consumer category.

(e) The consumers below poverty line who consume power below a specified level, say 30 units per month, shall receive a special support through cross subsidy.

(f) Cross-subsidy surcharge and additional surcharge in Open Access

(1) The amount received or to be received by the licensee on account of cross-subsidy surcharge and additional surcharge, as approved by the Commission from time to time in accordance with the Regulations specified by the Commission, shall be shown separately against the consumer category that is permitted open access as per the phasing plan.

(2) Cross-subsidy surcharge and additional surcharge shall be shown as revenue from the tariff from the consumer categories who have been permitted open access and such amount shall be utilized to meet the cross-subsidy requirements of subsidized categories and fixed costs of the Distribution Licensee arising out of his obligation to supply.

Provided that the licensee shall provide such details in its annual filings.

(g) Tariff Design

(1) The Commission shall be guided by the objective that the tariff progressively reflects the efficient and prudent cost of supply of electricity.

(2) After the costs have been allocated based on the method specified in clauses (c) and (d) above, tariffs for different consumer categories shall be designed with due regard to factors provided under section 62(3) of the Act.

(3) The time of day tariff would be structured across three time slabs to denote normal, peak and off-peak periods. The time-periods would vary according to different seasons of the year i.e. summer, winter and the monsoon season. The peak tariff would be 20%-30% higher than the normal tariff and the off-peak tariff would be priced 15%-20% lower than the normal tariff.

(4) The peak and off-peak hours during seasons shall be as notified by the State Load Desptach Centres in advance.

(5) Time of Day tariff shall be introduced in a phased manner, wherein in phase 1 it would be compulsory for HT Consumers, in phase 2 – compulsory for LT consumers consuming more than 25 KW and in phase 3 compulsory for LT consumers consuming more than 10 KW.

PART IX

MISCELLANEOUS

37. Power to amend

The Commission may, at anytime, amend any provisions of these Regulations.

38. Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.

39. Repeal and savings

(a) Save as otherwise provided in these Regulations, the [State Commission] (Terms and Conditions of Determination of Tariff) Regulations [----year], are hereby repealed.

(b) Notwithstanding such repeal, any proceedings before the Commission pertaining to the period prior to the commencement of the Control Period, including Petitions for True up of expenses, annual performance review, etc. shall be governed by [State Commission] (Terms and Conditions of Determination of Tariff) Regulations [----year].

APPENDIX

Forum of Regulators methodology for computation of AT&C loss

Name of State				
Name of DISCOM				
S. No.	**Particulars**	**Calculation**	**Unit**	**Year**
1	Generation (own as well as any other connected generation net after deducting auxiliary consumption) within area of supply of DISCOM.	A	MU	
2	Input energy (metered Import) received at interface points of DISCOM network	B	MU	
3	Input energy (metered Export) by the DISCOM at interface points of DISCOM network	C	MU	
4	Total Energy available for sale within the licensed area to the consumers of the DISCOM	D=A+B-C	MU	
5	Energy billed to metered consumers within the licensed area of the DISCOM	E	MU	
6	Energy billed to un-metered consumers within the licensed area of the DISCOM [@]	F	MU	
7	Total Energy Billed	G=E+F	MU	
8	Amount billed to consumer within the licensed area of the DISCOM	H	Rs	
9	Late payment Surcharge	I	Rs.	
10	Amount realized by the DISCOM out of the amount Billed at H#	J	Rs	
11	Subsidy Amount Received	K	Rs.	
12	Amount Realised on account of theft cases	L	Rs.	

13	Energy Realized on account of theft cases	M= (LxG)/H	MU	
14	Collection Efficiency (%)	N=(J-I+K+L/H+K+L)x100	%	
15	Energy Realized by the DISCOM	P=NxG	MU	
16	Distribution Loss (%)	Q={(D-G)/D}x100	%	
17	AT&C Loss (%)	R={(D-(P+M))/D}x100	%	
# Amount received in the current year for the amount billed in the previous years should not be excluded in this head. However, subsidy received against the current year's sale of electricity should be considered in this head.				
@ Norms for determining the energy billed to un-metered consumer may be specified. This should be only for two categories i.e. agricultural consumers and the households below poverty line. The norms could be on the basis of sample metering in case of the agricultural consumers which could be further refined on the basis of the results of the consultancy study on cost of supply to agricultural consumers.				
Note: Audited figures must be taken from the Commercial Department of the utility (Billing and Revenue Section) for computing the AT&C losses.				