Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Distribution Tariff) Regulations, 2004][1]

Terms & Conditions for determining ARR

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Jharkhand State Electricity Regulatory Commission (JSERC), Ranchi, Notification, No. JSERC/FC/405, dated the 20th September, 2004.—JSERC (Terms and Conditions for distribution tariff) Regulation.

PART-I

In exercise of powers conferred under Section 181 of the Electricity Act, 2003 (hereinafter referred to as the Act), and all other powers enabling in this behalf, the Jharkhand State Electricity Regulatory Commission (hereinafter referred to as the JSERC or the Commission) hereby makes the following regulations, namely:—

1. Short title and Commencement.—1.1 These regulations may be called the JSERC (Terms and Conditions for Distribution Tariff) Regulations, 2004.

1.2 These regulations extend to the entire State of Jharkhand.

1.3 These regulations shall come into force on the date of their publication in the Official Gazette.

1.4 Words and expressions used in these regulations and not defined herein but defined in the Act, shall have the meaning assigned to them under the Act.

2. Metered consumption.—2.1 The Commission shall estimate the consumption for metered categories based on billing data of the last 12 months, as provided by the Petitioner.

3. Un-metered consumption.—3.1 The Commission shall estimate unmetered consumption as a residue of total sales net of metered sales.

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1. Published in Jharkhand Gazette (ex.-ord.) dated 21.9.2004.

3.2 Unmetered domestic and commercial consumption shall be based on the proportion of consumption that is unmetered in these categories. The basis for this proportion shall be scrutinised by the Commission taking into account any sample study that had been undertaken by the Petitioner.

3.3 Public Lamp consumption shall be calculated on the basis of actual hours use for urban areas and for rural areas.

3.4. The Commission shall take into account the results of joint verification of public lamps that has to be done by Petitioner in co-ordination with the Municipal Corporation.

3.5 Agriculture consumption shall be based on—

Number of pump sets,

Percentage of the pump sets working on an average,

Average rating of the pump sets in terms of BHP,

Average usage of pump sets in terms of number of hours per year,

Provided adequate bases is made available by the Petitioner for the aforementioned parameters,

3.6 Data for the norms specified above shall be collected and verified through field studies directed to be conducted by the Petitioner from time to time.

4. Sales Forecast.—4.1 Sales for the ensuing year shall be based on the past trend. Suitable adjustments shall be undertaken to reflect the effect of known and measurable changes with respect to number of consumers, the connected load and the energy consumption. Such changes may include the Petitiioner's plan for expansion of capacity, change in operating conditions and consumers' price elasticity of demand.

4.2 The energy requirement for each consumer category for the ensuing year shall be determined taking into account the trend growth rates for average specific consumption and the forecasted number of consumers.

4.3 The petitioner may also use econometric modelling incorporating different economic factors affecting the demand for forecasting the sales estimated.

4.4 Sales may also be forecasted on monthly basis to better reflect the influence of seasonality.

5. Energy loss.—5.1 The level of energy losses of the Petitioner shall be reduced in a phased manner. The Commission shall specify a multi year framework with respect to reduction targets after consulting the Petitioner in this regard. The loss levels shall be brought down gradually to acceptable norms of efficiency.

5.2 The financial gains anticipated on account of reduction in energy losses by the Petitioner shall be accounted for in the determination of its expected revenue requirement.

5.3 The Distribution system losses shall be estimated separately. The technical losses shall be estimated by System Simulation Study/Load Flow Analysis. The Commercial losses shall be determined on the basis of a proper and regular energy audit identifying geographical locations of the feeders on which losses are abnormally high. In absence of such a study, the total Technical and Commercial (T&C) losses shall be estimated based on the energy input in the system and energy billed for the previous year.

5.4 The Board may furnish information on circle-wise energy input and enrgy billed in system.

5.5 T&C losses for the ensuing year shall be fixed taking into account *inter alia* the plan submitted by the Petitioner for reduction of these losses, which shall include, information on energy auditing measures, improveent in Information Technologies, theft reduction measures etc.

6. Power Purchase Cost.—6.1 The energy available from various sources of power that supply to the Petitioner shall be determined. The fixed and the variable charge for these stations shall be determined.

6.2 The power purchase cost shall be estimated on the basis of merit order despatch, which may be determined on the basis of variable cost.

6.3 Due consideration shall be given to the technical constraints and long term contractual obligations while determining power purchase costs on the basis of merit order principle.

6.4 The availability from the state owned generators shall be estimated taking into account the generation figures approved by the Commission.

6.5 The Plant Load Factors pertaining to the previous financial year shall be taken into account for determining energy available with thermal Central Generating Stations (CGS). The energy from hydro CGS shall be estimated considering the average availability in the previous years.

6.6 The Commissiion shall determine the implications of Availability Based Tariff (ABT) regime provided details on the energy drawn at system peak frequency from all sources of generation alontwith the quanturm of incentives/penalties paid should be made available to the Commission on monthly basis.

[1][6.7. Additional power purchase cost on account of increase in Power Purchase Cost and in a case of own generation, increase in the fuel cost will be adjusted as per the Fuel and Power Purchase Cost Adjustment which has been detailed below:—

1.0 FPPCA shall be computed as per the following formulate:

$$FPPCA = \frac{FOG + PP_0 + B}{SE}$$

Where:

FPPCA is the Fuel and Power Purchase Cost Adjustment in Rs./KWH

Part	Code	Description
Part-I	FOG	Own Generation Fuel Cost Price Adjustment and relates to the adjustment on account of variations in the landed price of fuel at Licencee's own thermal stations, upto the level of generation as determined by JSERC from time to time.
Part-2	PPPo	Power Purchase Cost Adjustment for variation in unit price of power purchase, for the permitted quantity, from that specified for power purchase from other entities, including Central Sector

1. "Item 6.7 of Regulation 6" added vide Notifin. No JSERC/Apptt. 6-275, dated 15.7.2006 (Published in Jharkhand Gazette (Ex-ord.) dated 20.7.2006).

* Determined levels/Permitted quantity have the connotation as approved by JSERC in Tariff Order or any other annual reviews/Orders.

		Stations, State Sector Stations, other licensees, Independent Power Producers, Non-conventional Energy Producers, Captive Power Plants etc., as determined from time to time.
Part-3	B	A balancing term B to take care of under or over adjustment of revenue through previous FPPCA due to actual units sold in the present quarter being different from the forecast based on the previous quarter.

SE Total energy sold less energy consumption (sold) to the Agricultural and Rural Domestic category of consumers in the previous "Control Period" in Million Units (The Control Period shall mean a Quarter of the particular financial year *i.e.* 1st Qrt April-June, 2nd Qrt July-Sept, 3rd Qrt Oct-Dec, 4th Qrt Jan-March.)

These components are explained in details in paragraphs below:

1.1. Own Generation Fuel Cost Adjustment:

The part for 'Own Generation Fuel Cost Adjustment' shall be computed as follows:

$$^{k}Fog = E[OGD_{B}x(VC_{A} - VC_{B})$$

Where:

FOG	Adjustment on account of variation in landed price of Fuel at Thermal Power Statilons of the licensee in Rs. millions.
n	1 to K, the thermal power station of the Licensee.
OGD_B	is the approved base level of delivered energy as considered by JSERC at the bus bar from thermal plants (million units)
VC_B	Is the base variable cost per unit in Rs/kwh calculated on the net output using permitted auxiliary consumptions as approved by JSERC in Tariff Order
VC_A	Is the actual variable cost per unit for the previous control period on the basis of actual landed price of fuel (determined as per the mode approved by JSERC) at Licensee's generation stations, expressed in Rs./Kwh calculated on the net output using permitted auxillary consumption and the actual fuel cost and actual Gross Calorific value and the SHR approved by JSERC.

1.2 Power Purchase Cost Adjustment :

The part for 'Power Purchase Costs Adjustment' shall be computed as follows:

k

$$PPP_{0} = \{\Sigma(TC_{A} - TC_{B})x\theta_{A}\}$$

n = 1

Where:

PPPo	Adjustment on account of variation power purchase price from other entitles in Rs. Million
TC_A	Is the base total cost per unit of the power purchased from a particular source, inclusive of transmission charge, computed based on the principles laid down in the respective arrangements in Rs./KWh for the previous control period.
TC_B	is the actual total cost per unit of delivered energy, inclusive of transmission change, computed based on the principles laid down in the respective arrangements approved by the Commission in Rs./KWh for the previous control period.
Q_A	Is the permitted level of power purchases from each source in million units by th JSERC as per tariff order
n	Number of sources of power from 1 to k

1.3 Balancing Term B:

A balancing term B shall be added in the formulate to take care of under or over adjustment of revenue through previous FPPCA due to actual units sold in the present quarter being different from the forecast based on the previous quarter and shall be computed as:

$B=FPPCA_{n-1}\ (QA_{n-1}-QA_{n-2})$

Where,

$FPPCA_{n-1}$=Fuel and Power Purchase Cost Adjustment in Rs./Kwh in the previous control period (quarter)

QA_{n-1}=Actual units sold in quarter previous to the present one.

QA_{n-2}=Actual units sold to quarter previous to the prsent one.

Note.—Balancing Term "B" shall be calculated separately for each applicable category and added together to compute "B".

1.4. Total Energy on which FPPCA is to be distributed:

SE=Total of sold energy in the control period less (—) energy sold to agriculture and rural domestic category of consumers.

2.0. Implementation of FPPCA:

(i) Only cost of fuel and power purchase as per the Tariff Order with respect to Methodology and Merit Order of Power Purchase from each entity shall be allowed.

(ii) FPPCA shall be computed due to variation in cost of fuel and power purchased made on the basis of the levels of generation of power and those of purchase of power from other sources as determined by the Commission in the Tariff Order.

(iii) The FPPCA will be recovered in the form of an incremental energy charge (Rs./KWH) and shall be recovered from all consumers other than Agricultural and Rural Domestic Category of Consumers.

(iv) The formulate for computation of FPPCA per Kwh for each category of consumer is given below:

The total cost of fuel surcharge shall be distributed amongst the different categories of consumers in proportion to the revenue contribution of the category of consumer as percent of the total revenue for the base years as per Tariff Order excluding revenue from rural domestic and agricultural category of consumers. Within each category, the apportioned fuel surcharge shall be spread equally over each unit (Kwh) of consumption/sale for that category.

Let:

R_1 = Revenue contribution of 1th category of consumer in Rupees.

R_{ag} = Revenue contribution of rural domestic and agricultural category of consumer in Rupees.

ES_1 = No. of units sold to 1th category of consumer.

FS_1 = Fuel surcharge apportioned in Rupees to 1th category of consumer.

FPPCA = Total fuel surcharge (Rupees).

$FPPCAU_1$ = Fuel surcharge per unit (Rs/Kwh) to 1th category of consumer.

$$FS1 = \frac{R_1}{ER_1 - R_{ag}} * FPPCA$$

FPPCAU1 = FS_1/Rs per Kwh.

FPPCAU1 = ES_1 x 100 Paise per kwh.

(v) Licensee will submit the calculations of FPPCA and with all relevant informations and supporting documents to the Commission within 20 days of the start of the quarter for approval. The Commission after due scrutiny and clarifications obtained if any from licensee shall approve the FPPCA to be charged within 30 days of the start of the quarter.]

7. Transmission and Wheeling Charge.—The Inter State Transmission charges shall be estimated as per orders of the CERC. The Intra State Transmission and wheeling charge shall be estimated as per regulations of the JSERC.

7.1 *Employee costs.*—7.1 The increase in Dearness Allowance (DA) shall be price indexed.

7.2 The Commission shall follow a process of benchmarking, comparing performance of the Petitioner over a period of time and with respect to its counterparts in other States.

7.3 The employee productivity (employee cost per unit of sale or any other indicator) shall be brought up to the all India average within a span of years that would be determined by the Commission separately.

8. Administration and General (A&G) Expenses.—8.1 The A&G expenses shall be estimated keeping in view the rate of inflation.

8.2 The Commissiion shall follow a process of benchmarking, comparing performance of the Petitioner over a period of time and with respct to its counterparts in other States.

8.3 The average A&G cost shal be brought up to the all India average within a span of years that would be determined by the Commission separately.

9. Repair and Maintenance (R&M) Expenses.—9.1 The R&M expenses shall be based on a certain percentage of opening balance of gross fixed assts for distribution works, as may be specified by the Commission from time to time.

9.2 The R&M expenses shall be adjusted for any extraordinary repair and maintenance work proposed to be undertaken by the Petitioner.

10. Provision for Bad and Doubtful Debts.—10.1 No amount can be allowed to be passed on the consumer on the ground of it being bad and doubtful debt as it wil lead to inefficiency in collectioin.

11. Interest on loans.—11.1 Interest on loan capital shall be computed loan-wise on the actual outstanding loans duly taking into account the schedule of repayment and actual interest rate.

11.2 Normative Loan will be equal to the loan and amount of equity in excess of thirty percent (30%) invested into the project provided that the total of actual loans, equity and the normative loan shall not exceed the cost of the project.

11.3 In case of the existing distribution licensee, the normative loan shall be the opening normative loan after taking into account repayments worked out on normative basis. The weighted average rate of interest on loan shall be worked out on the actual outstanding loan and applied to the normative loan for calculation of interest on loan in the respective year.

12. Interest on Working Capital.—12.1 Interest on working capital that is required to meet the shortfall in collection over and above the target approved by the Commission, shall be allowed.

12.2. Rate of interest on working capital shall be the short-term Prime Lending Rate of State Bank of India as on 1st April of the year for which the tariff is determined.

13. Interest on Consumer security deposits.—13.1 Interest on Consumer security deposits shall be equivalent to the bank rate or more, as may be specified by the Commission from time to time.

14. Depreciation.—14.1 The capital base for the purpose of depreciation shall be the historical cost of the asset.

14.2 Depreciation shall be calculated annually as per straight-line method at the rate of depreciation as prescribed in the schedule attached to the regulations at Appendix-II:

Provided that the total depreciation during the life of the project shall not exceed 90% of the approved original cost.

14.3 On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

14.4 Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.

15. Advance Against Depreciation.—15.1 Advance Against Depreciation (AAD) shall be permitted wherever loan repayment considered for working out interest on loan exceeds the depreciation allowable as per schedule and shall be computed as follows:—

AAD=Loan repayment as referred above amount subject to a ceiling of 1/10th of original loan amount minus Depreciation as per schedule.

15.2 Advance Against Depreciation in a year shall be calculated by considering actual or normative loan arrived at in the manner indicated in regulation 24.

16. Contingency Reserve.—16.1 A provision towards Contingency Reserve shall be created subject to incidence of uncertainties with respect to such items of revenue requirement, as may be specified by the Commission.

16.2 Liabilities in this regard shall be allowed subject to a scrutiny by the Commission.

16.3 The amounts available in these reserves shall be invested in approved Government securities and shall be drawn upon with prior approval of the Commission.

17. Capital Expenditure.—17.1 The petitioner shall provide projectwise details of the expenditure incurred in the previous year and expenditure proposed to be incurred in the ensuing year.

18. Additional capitalisation.—18.1 The capital expenditure within the original scope of work relating to following nature actually incurred after the date of commercial operation up to the cut-off date may be admitted by the Commission subject to prudence check.

(i) Deferred liabilities,

(ii) Works deferred for execution,

(iii) Liabilities to meet award of arbitration or in satisfaction of the order or decree of a court, and

(iv) On account of change in law:

Provided that original scope of works alongwith estimates of expenditure shall be submitted alongwith the application for provisional tariff.

18.2 The capital expenditure of the following nature actually incurred after the cut-off date may be admitted by the Commission subject to prudence check:

(i) Deferred liabilities relatinig to works/services within the original scope of work,

(ii) Liabilities to meet award of arbitration or in satisfaction of the order or decree of a court,

(iii) On account of change in law:

(iv) Any additional work/service which has become necessary for efficient and successful operation of plant but not included in the original capital cost.

Impact of additional capitalisation in tariff revision within the approved project cost may be considered by the Commission once in a tariff period.

Note 1.—Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio arrived at in the manner indicated in regulation 18.

Note 2.—Any expenditure on replacement of old assets shall be considered after writing-off the entire value of the original assets from the original capital cost.

Note 3.—Any expenditure admitted on account of new works not in the original scope of work shall be serviced in the normative debt equity ratio of 70 : 30.

Note 4.—Any expenditure admitted on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio of 70:30 after writing-off the original amount of the replaced assets from the original capital cost.

Note 5.—The scrutiny of the project cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology and such other matters for the purposes of determination of tariff.

19. Debt Equity Ratio.—19.1 Debt Equity ratio as on the date of commercial operation for the purpose of determinaton of tariff shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Where actual equity employed is less than 30%, the actual equity shall be considered.

20. Return on Equity.—20.1 The return shall be computed @ 14% on the equity base calculated, as aforementioned.

21. Non-Tariff Income.—21.1 Non tariff income shall be the revenue in excess of the revenue collected on account of tariffs, as approved by the Commission; and shall include such items as Delayed Payment Surcharge (DPS) and Meter rent.

Delayed Payment Surcharge

21.2. DPS shall be estimated taking into account the uncollected amount and the prevailing bank rate.

Meter rent

21.3 The meter rent shall be based on the amount being charged on this account and the number of metered consumers.

22. Net Revenue Requirement.—22.1 Net Revenue Requirement is the Annual Revenue Requirement less Non-tariff income.

23. Regulatory Asset.—23.1 The Commission shall specify the terms and conditions for provision of Regulatory Asset and its related administrative mechanisms through appropriate regulations.

PART-II

Terms and Conditions for Tariff determination

24. Cost standard.—24.1 The tariffs for various categories shall be bench marked with the average cost of supply based on historical or embedded costs that are prudently incurred by the Petitioner in its operations pending any such study that reasonably establishes the category wise cost to supply. The category wise cost to supply factors in such characteristics of a category as the load factor, voltage, extent of technical and commercial losses etc.

25. Cross subsidy.—25.1 The cross subsidy shall be reduced gradually and in a phased manner.

25.2 The Commission shall be issuing a draft regulation, in accordance with Section 61(g) of the Act, and as per powers defined under Section 181 of the Act. The Commission shall also set out the methodology for computation of surcharge for cross-subsidy compensation in terms of Section 42(2) of the Electricity Act, 2003.

26. Rationalization of the Tariff structure.—26.1 the slab structure shall be determined in a way that similarly placed consumers in any tariff category pay similar tariffs and the tariff structure ensures an efficient consumption of electricity.

26.2 The Commission shall undertake suitable mergers of categories and of sub-categories in light of a simple, easy to comprehend and logical tariff structure.

26.3. The Commission shall not show any undue preference to any consumer but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.

27. Two Part Tariff.—27.1 In accordance with Section 45(3) the charges for electricity supplied may include—

a. A fixed charge in addition to the charge for the actual electricity supplied.

b. A rent or other charges in respect of any electric meter or electrical plant provided by the Petitioner.

27.2 The Commission, shall, follow a two-part tariff structure enabling the Petitioner to recover its fixed costs through fixed charge and variable cost through energy charges.

28. Peak and Off-Peak Tariffs.—28.1 The Commission may determine a differential tariff for peak and off-peak hours to promote demand side management. This may be done in a phased manner. specifying these tariffs for industrial consumers in the beginning gradually covering other consumer categories.

29. Subsidised Tariffs.—29.1 The Commission shall allocate the subsidy provided the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the Commission under Section 62 of the Act.

29.2 The State Government shall, notwithstanding any direction which may be given under Section 108 of the Act, pay in advance on a quarterly basis this amount of subsidy to the Petitioner. This amount shall be deposited in the account of the Petitioner at the beginning of each quarter.

30. Seasonal Tariff.—3.1 The terms and conditions for categorising seasonal industries may be specified by Commission from time to time.

30.2 The seasonal industries identified by the Petitioner shall be approved by the Commission.

30.3 The Commission shall determine the season/off-season tariff from time to time.

31. Rebates.—31.1 The Commission may specify rebates on the tariff for purchasing electricity at higher voltages from time to time.

The Forms mentioned in the Regulation are available in the office of the Jharkhand State Electricity Regulatory Commission, 2nd Floor, Rajendra Jawan Bhawan-cum-Sainik Market, Main Road, Ranchi-834001.