

KARNATAKA ELECTRICITY REGULATORY COMMISSION

KERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006

Notification No. D/01/6 dated 31st May 2006

Preamble: According to Section 61 of the Electricity Act 2003, the Commission shall, subject to the provisions of the Act, specify the terms and conditions for determination of tariff, and shall be guided by factors from (a) to (i) specified therein. The factors specified therein include the National Electricity Policy and the Tariff Policy of Govt of India issued under Section 3 of the Act. The Govt of India has notified the National Electricity Policy on 12.02.2005 and the Tariff Policy on 06.01.2006.

In the said Tariff policy, various norms for generation, transmission and distribution of electricity have been specified. The Policy specifies Multi Year Tariff (MYT) framework to be adopted. The CERC, vide notification dated 26.03.2004 has already notified the CERC (Terms and Conditions of Tariff) Regulations 2004 which includes terms and conditions for determination of inter-state transmission tariff for the period from 01.04.2004 to 31.03.2009.

In exercise of powers conferred on it by Section 61 read with Section 181 of the Electricity Act 2003 (No. 36 of 2003), the Karnataka Electricity Regulatory Commission hereby makes the following regulations, namely:

Chapter I

Preliminary

1. Short title and Commencement

- (1) These regulations shall be called 'The Karnataka Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006'.**

- (2) These Regulations shall be applicable to any person engaged in the business of intra-state Transmission of electricity, within the State of Karnataka.
- (3) Where tariff has been determined through 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.
- (4) These Regulations shall come into force from the date of their publication in the official gazette.

2. Definitions

- (i) In these Regulations, unless the context otherwise requires:
 - (a) "Act" means the Electricity Act, 2003 (36 of 2003);
 - (b) "Aggregate Revenue Requirement" (ARR) means the revenue required to meet the costs pertaining to the licensed business, for a financial year, which would be permitted to be recovered through tariffs and charges by the Commission;
 - (c) "Base Year" means the financial year immediately preceding the first year of the Control Period;
 - (d) "CERC" means the Central Electricity Regulatory Commission established under Section 76 of the Act;
 - (e) "Commission" means the Karnataka Electricity Regulatory Commission;
 - (f) "Conduct of Business Regulations" means the Karnataka Electricity Regulatory Commission (General and Conduct of Proceedings) Regulations in force from time to time;
 - (g) "Consumer / User contributions" means any contributions made by those using or intending to use the Transmission network of a licensee. Any grant received by the Licensees would also be treated as Consumer / User contribution;
 - (h) "Control Period" means a multi-year period fixed by the Commission from time to time under the Multi year Tariff framework.
 - (i) "ERC" means the Expected Revenue from Charges that a licensee is permitted to recover pursuant to the terms of its licence;
 - (j) "Financial year" means the period commencing on 1st April of a calendar year and ending on 31st March of the immediately following calendar year;

- (k) "Grid Code" means the State Grid Code as specified by the Commission under clause (4) of Sub-section (1) of Section 86 of the Act.
- (l) "KER Act" means the Karnataka Electricity Reform Act, 1999;
- (m) "Licence" means a licence granted under Section 14 of the Act to transmit electricity within the State;
- (n) "Non-Tariff Income" means income relating to the licensed business other than from (i) tariffs for Transmission and (ii) Income from Other licensed Business;
- (o) "Open Access Agreement" means an agreement entered into by an open access customer with transmission and distribution licensees, generators, traders, consumers and others as applicable to him.
- (p) "Other Business" means any business engaged in by a Transmission Licensee under Section 41 of the Act for optimum utilization of the assets of the transmission business and shall include any business of the Licensee other than the Transmission business;
- (q) "Open Access customer" means a consumer permitted by the Commission to receive supply of electricity from a person other than the Distribution Licensee of his area of supply, and the expression includes a generating company and licensees, who have availed of or intends to avail of open access.
- (r) "State" means the State of Karnataka;
- (s) "STU" means the State Transmission Utility as specified by the State Government under Sub-section (1) of Section 39 of the Act.
- (t) "SLDC" or "State Load Despatch Centre" means the center established under Section 31 of the Act;
- (u) "Tariff" means a schedule of standard prices or charges for specified services which are applicable to all such specified services;
- (v) (i) "Transmission Business" means the business of transmitting electricity within the State;
- (ii) Words or expressions not defined in these Regulations shall bear the same meaning as in the Act/ KER Act. In case of any inconsistency between the Act and the KER Act, the provisions of the Act shall prevail.

Chapter II

MULTI-YEAR TARIFF FRAMEWORK AND APPROACH

2.1 Multi Year Tariff Framework

MYT framework shall be based on the following elements, for calculation of ARR and ERC :

- (i) Control Period, at the commencement of which, a forecast of the ARR and ERC shall be filed by the Transmission Licensee for approval of the Commission;
- (ii) Transmission Licensee's forecast of ARR and ERC during the Control Period shall be based on reasonable assumptions related to the expected behavior of the various operational and financial variables;
- (iii) Trajectory for specific variables as may be stipulated by the Commission, where the performance of the Licensee is sought to be improved through incentives and disincentives;
- (iv) Annual Review of performance vis-à-vis the approved forecast and categorisation of variations in performance into those that were caused by factors within the control of the Transmission Licensee (controllable factors) and those caused by factors beyond the control of the Transmission Licensee (uncontrollable factors);
- (v) Mechanism for pass through of approved gains or losses on account of uncontrollable factors;
- (vi) Mechanism for sharing approved gains or losses arising out of controllable factors;
- (vii) Determination of tariff for each financial year within the control period, based on the approved forecast.

2.2 Filing under the MYT Framework

Every Transmission Licensee shall file an application for approval of ARR and ERC under the MYT framework for the Control Period commencing

from FY08. The filing for the Control period shall be made by the licensee within a period not less than 120 days before the commencement of the Control Period. The filing shall be for the entire Control Period. The filing shall be in the same form as specified in the KERC (Tariff) Regulations, with year wise details for each year of the Control Period, duly complying with the principles for determination of ARR as specified in these Regulations.

2.3 Control Period

The first Control Period under the MYT framework shall be of a duration of 3 years commencing from FY08. Thereafter, each Control Period shall be normally a period of 5 financial years or such other period as may be specified by the Commission from time to time.

2.4 Contents of MYT Filing

2.4.1 The ERC filing under the MYT framework shall contain the following:

- a. The Operation and Maintenance (O&M) costs which include employee-related costs, repairs & maintenance costs and administrative & general costs, estimated for the Base Year and the actuals for the previous two years prior to the Base Year in complete detail, together with the forecast for each year of the Control Period based on the norms proposed by the Transmission Licensee including indexation and other appropriate mechanisms;
- b. Detailed scheme/project-wise Capital Investment Plan with a capitalisation schedule covering each year of the Control Period;
- c. A proposal for appropriate capital structure to meet the capital investment plan with details of cost of financing including interest cost on debt and return on equity.
- d. Range of Transmission losses (upper and lower) for each year of the Control Period for the purpose of incentive / penalties. The Licensee shall file a trajectory of the loss levels in respect of losses for each of the years of the control period, backed up by proper studies to justify the loss levels indicated;

- e. Details of depreciation and capitalisation schedule for each year of the Control Period;
- f. Description of external parameters proposed for indexation;
- g. Details of taxes on income;
- h. Any other relevant expenditure;
- i. Proposals for sharing of gains and losses;
- j. Proposals for efficiency parameter targets;
- k. Proposals for rewarding efficiency in performance;
- l. Any other matters considered appropriate.

2.4.2 **PERSPECTIVE PLAN**

1. The Transmission Licensee shall file a Perspective Plan for Commission's approval along with the MYT filing for the Control Period. **The perspective plan in the first instance shall for the period from 2007-08 to 2012-13 so as to coincide with the 11th plan period. Thereafter the perspective plan shall be for a period of every 5 years.**
2. The Perspective Plan shall inter alia contain the Load Forecast and a Capital Investment Programme consistent with the requirements of the Guidelines on Load Forecast and Practice Directions in respect of investment programme as approved by the Commission from time to time.

2.5 **The MYT Approach**

The MYT framework shall be based on the following approach, for calculation of ERC and ARR:

- 2.5.1 Base Year:** - Values for the Base Year of the Control Period will be determined based on the audited accounts available, best estimate for the relevant years and other factors considered appropriate by the

Commission, and after applying the tests for determining the controllable or uncontrollable nature of various items.

2.5.2 **Targets:** - Targets will be set for items that are deemed by the Commission as “controllable”. Trajectory for specific variables may be stipulated by the Commission where the performance of the applicant is sought to be improved upon through incentives and disincentives.

2.5.3 **Controllable and Uncontrollable items of ARR:-** The expenditure of the Transmission Licensee considered as “controllable” and “uncontrollable” shall be as follows:

Transmission Business	
ARR Item	“Controllable”/ “Uncontrollable”
Operation & Maintenance expenses	Controllable
Employee Cost	Controllable
Admn. & General Expenses	Controllable
Interest & Finance Charges	Controllable
Expenses on account of Inflation	Uncontrollable
Return on Equity	Controllable
Depreciation	Controllable
Taxes on Income	Uncontrollable
Non-tariff income	Controllable

2. 6 Disposal of Application under the MYT framework

2.6.1 The Commission will process the Transmission Licensee's filings under MYT framework in accordance with KERC(Tariff) Regulations read with KERC (General & Conduct of Proceedings) Regulations.

2.6.2 Based on the Transmission Licensee' filings and objections/ suggestions from public and other stakeholders, the Commission may accept the application with such modifications and/or such conditions as may be deemed just and appropriate and issue, within 120 days of the receipt of

the application, complete in all respects, an Order containing *inter alia* targets for controllable items and the approved ARR for the Control Period.

- 2.6.3 The Commission shall also approve the Perspective Plan with appropriate modifications as may be considered necessary for the Control Period.

2.7 ANNUAL REVIEW OF PERFORMANCE

- 2.7.1 The Transmission Licensee shall be subject to an annual performance review during the Control Period. The Licensee shall make an application for annual performance review not less than 120 days before the close of each financial year in the Control Period. The Licensee shall provide such information as may be stipulated by the Commission from time to time to assess the reasons and extent of any variation in the performance from the approved forecast.
- 2.7.2 The Transmission Licensee may, as a result of additional information not previously known or available to him at the time of forecast under the MYT framework for the Control Period, apply for modification of the ARR and ERC for the remainder of the control period, as part of annual performance review.
- 2.7.3 In case the variation in expenses or income in any financial year in the control period is more than 10% of the approved expenses/income for that year, the licensee can seek readjustment of the tariff for the subsequent period.
- 2.7.4 The Commission may, as a result of additional information not previously known or available to it at the time of approval of the forecast under the MYT framework for the Control Period, either suo motu or on application made by any interested party, modify the approved forecast of ARR/ ERC and tariff for the remainder of the control period as part of the annual performance review.

2.7.5 The Commission shall review an application in the same manner as the original application for determination of ARR/ERC and tariff and upon completion of such review, either approve the proposed modification with such changes as it deems appropriate or reject the application for reasons to be recorded in writing.

2.7.6 Upon completion of annual performance review, the Commission shall pass an order recording:

- a) The approved aggregate gain or loss to the Licensee on account of uncontrollable factors and the mechanism by which the Licensee shall pass through such gains or losses.
- b) The approved aggregate gain or loss to the Licensee on account of Controllable factors and the mechanism to share such gains or losses.
- c) The approved modifications to the forecast for the remainder period of the Control period, if any.
- d) The approved modification to the tariff, if any, for the remainder period of the control period.

CHAPTER III

PRINCIPLES FOR COMPUTATION OF ARR AND TARIFF

3.1 Annual Revenue Requirement

The ARR for transmission of electricity on intra-state transmission system shall comprise of the following, namely:

- (a) Operation and maintenance expenses
- (b) Interest on loan capital
- (c) Return on equity
- (d) Depreciation
- (e) Interest on working capital
- (f) Taxes on Income
- (g) Other expenses if any
- (h) Less: Non-tariff income and income from Other Business

3.2 Target Availability for recovery of full transmission charges shall be as follows:

- (1) Target Availability for intra-state transmission availability shall be 98%.
- (2) Recovery of fixed charges below the level of target availability shall be on pro-rata basis. At Zero Availability, no transmission charges shall be payable.
- (3) Target Availability shall be calculated in accordance with the procedure specified in Appendix-1.

3.3 Auxiliary Energy Consumption in the sub-station

The charges for auxiliary energy consumption in the sub-station/offices for the purpose of air-conditioning, lighting, technical consumption, etc. shall be borne by the Transmission Licensee as part of its normative operation and maintenance expenses.

3.4 Treatment of losses

3.4.1 Transaction should be charged on the basis of average losses arrived at for the transmission system. The loss framework should ensure that the loss compensation is reasonable and linked to applicable technical loss benchmark determined by the Commission.

3.4.2 Transmission Losses at normative level as approved by the Commission shall be debitable to energy account of users of the transmission system.

In case the actual transmission loss exceeds the normative loss level approved by the Commission, such excess loss shall be to the account of the Transmission Licensee and the Transmission Licensee shall compensate the Users at the weighted average cost of power purchase in that Financial year.

3.4.3 In case the actual transmission loss is less than the approved loss level, such savings shall be shared between the Transmission Licensee and the Users in the ratio of 70:30 during the first Control Period and in the ratio as may be decided by the Commission in the subsequent Control periods.

3.5 Capital Expenditure and determination of ARR:

3.5.1 Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of ARR/tariff. The final tariff shall be determined based on

the admitted capital expenditure actually incurred up to the date of commercial operation of the transmission system and shall include capitalised initial spares subject to a ceiling norm as 1.5% of original project cost.

Provided that where the implementation agreement or the transmission service agreement entered into between the Transmission Licensee and the long-term transmission customers provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff.

Note: 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 determination of tariff.

Note: While allowing the capital cost, the Commission would ensure that these are reasonable and to achieve this objective, requisite benchmark on capital costs would be evolved by the Commission.

3.5.2 In the case of the existing projects, the project cost admitted by the Commission prior to issue of these Regulations shall form the basis for determination of ARR/tariff.

3.6 Additional capitalisation:

3.6.1 The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and 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) Procurement of initial capital spares in the original scope of works subject to the ceiling norm specified ;
- (iv) Liabilities to meet award of arbitration or compliance of the order or decree of a court; and
- (v) On account of change in law.

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for tariff after the date of commercial operation of the transmission system.

Note: Cut off date means the date of first financial year closing after one year of the date of commercial operation of the transmission system.

3.6.2 Subject to the provisions of clause 3.6.3 of this regulation, 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 relating to works/services within the original scope of work;
- (ii) Liabilities to meet award of arbitration or compliance of the order or decree of a court;
- (iii) On account of change in law; and
- (iv) Any additional works/services, which have become necessary for efficient and successful operation of the project, but not included in the original project cost.

3.6.3 Any expenditure on minor items/assets bought after the cut off date like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, T.V., washing machine, heat-convector, mattresses, carpets, etc shall not be considered for additional capitalisation for determination of tariff after issue of these Regulations.

Note: The list of items is illustrative and not exhaustive.

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 on normative debt-equity ratio specified in these Regulations.

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 by the Commission for determination of tariff on account of new works not in the original scope of work shall be serviced on normative debt-equity ratio specified in these Regulations.

Note 4: Any expenditure admitted by the Commission for determination of tariff on renovation and modernization and life extension shall be serviced on normative debt-equity ratio specified in these Regulations after writing off the original amount of the replaced assets from the original capital cost.

3.7 Debt-Equity Ratio:

3.7.1 For financing of future capital cost of projects, a Debt: Equity ratio of 70:30 should be adopted. The Licensee would be free to have higher quantum of equity investments. The equity in excess of this norm shall be treated as loans advanced at the weighted average rate of interest and for a weighted average tenor of the long term debt component of the project after ascertaining the reasonableness of the interest rates and taking into account the effect of debt restructuring done, if any. In case of equity below the normative level, the actual equity would be used for determination of Return on Equity in tariff computations.

3.7.2 Debt including its tenure shall be structured with a view to reduce the tariff. Savings in cost on account of subsequent restructuring of debt shall be allowed to be shared between the Licensee and the beneficiaries in the ratio of 70:30 during the first Control Period and in such proportion as may be decided by the Commission in the subsequent Control periods.

3.8 Interest on loan Capital

- 3.8.1 Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in sub clause 3.7 above.
- 3.8.2 The loan outstanding as on 01.04.2007 shall be worked out as the gross loan minus cumulative repayment as admitted by the Commission up to 31.03.2007. The repayment for the period FY08 to FY10 shall be worked out on normative basis.
- 3.8.3 In case any moratorium period is availed of by the Transmission Licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- 3.8.4 Foreign exchange variation risk, if any, shall not be a pass through. In the case of projects where tariff has not been determined on the basis of competitive bids, appropriate costs of hedging and swapping to take care of foreign exchange variation will be allowed for debt obtained in foreign currencies.

3.9 Depreciation

- 3.9.1 Depreciation shall be computed in the following manner, namely:
- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
 - (ii) Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates prescribed in Appendix-2 to these Regulations.
 - (iii) The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset.

- 3.9.2 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.
- 3.9.3 The above said rate of depreciation shall be applicable both for the purpose of tariff as well as accounting.
- 3.9.4 The Commission may consider allowing 'advance against depreciation' to the extent of difference between the amount of depreciation computed and the debt repayment for the financial year.
- 3.9.5 Benefit of reduced tariff after the assets have been fully depreciated shall remain available to the consumers.

3.10 Return on Equity

Return on equity shall be computed on the equity base determined in accordance with clause 3.7 above and shall be @ 14% per annum.

For the purpose of return on equity, any cash resources available to the Licensee from its share premium account or from its internal resources that are used to fund the equity commitments of the project under consideration shall be treated as equity subject to limitation contained in clause 3.7above.

3.11 Operation and Maintenance expenses

- 3.11.1 In the case of existing Transmission Licensee, the Licensee in its filings shall submit the consolidated O&M expenses for the Base Year of the Control Period and for the two years preceding the Base Year. The O&M expenses for the Base Year shall be determined based on the latest audited accounts, best estimates of Licensee of the actual O&M expenses for

relevant years and other factors considered relevant. The O&M expenses for the Base Year, if required, will be used for projecting the expenses for each year of the control period. The Licensee shall also propose determination of the admissible O&M expenses on the basis of per ckt-km of lines and per bay of substation for the base year and appropriate Inflation Factor Norms for operation and maintenance expenses for the first control period.

3.11.2 The O&M cost per ckt-km of lines and per substation bay for the Base Year of second and subsequent Control Periods shall be determined on the basis of actual O&M cost of lines and substations to be filed separately by the Licensee.

3.11.3 In the case of new Transmission Licensee undertaking intra-state transmission projects, the norm of operation and maintenance expenses per ckt-km and per bay shall be as under:

Norms for O&M expenses per ckt-km and per bay

Particulars	Years		
	2007-08	2008-09	2009-10
O&M expenses (Rs. in lakh per ckt-km)	0.255	0.266	0.277
O&M expenses (Rs. in lakh per bay)	31.63	32.90	34.22

3.12 Interest on Working Capital

3.12.1 Working capital shall cover:

- (a) Operation and maintenance expenses for one month;
- (b) Maintenance spares at 1% of the historical cost of assets at the beginning of the year and
- (c) Receivables equivalent to two months of transmission charges calculated on target availability level.

3.12.2 Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1st April of the year. The interest on working capital shall be payable on normative basis notwithstanding that the Transmission Licensee has not taken working capital loan from any outside agency.

3.13 Taxes on Income

3.13.1 Taxes on Income, if any, on the income stream of the licensed business of the Transmission Licensee shall be treated as an expense and shall be recoverable through ARR/tariff.

3.13.2 Tax on any income stream other than the transmission business shall not constitute a pass through component in tariff and tax on such other income shall be payable by the Transmission Licensee.

3.13.3 The benefit of tax holiday as applicable in accordance with the provisions of the Income Tax Act 1961 shall be passed on to the beneficiaries.

3.13.4 Credit for carry forward losses and unabsorbed depreciation, if any, shall be passed on by the Transmission Licensee to the beneficiaries.

3.14 NON -TARIFF INCOME

All income being incidental to transmission business and derived by the Licensee from sources, including but not limited to profit derived from disposal of assets, income from investments, rents, penalties for over/under-utilization of transmission system and any other miscellaneous receipts from Users, shall constitute Non-Tariff Income.

3.15 TRANSMISSION TARIFF

3.15.1 The transmission tariff payable by the open access customers of the Transmission system shall be determined in accordance with the following formula:

$$TR = \text{Net ARR} / (12 * TCC)$$

Where,

TR: Transmission Rate in Rs./kW/month

Net ARR: Net ARR, as determined.

TCC: Total Contracted Capacity in kW of the Transmission system by all Long-Term open access customers.

Note: 1. The above charges shall be applicable to all the open access customers including the Distribution Licensees.

2. For short term open access customers the transmission charges shall be as follows:

$$\text{Short Term Rate} = 0.25 * \left[\frac{\text{Transmission expenditure}}{\text{Annual peak}} \right] / 365$$

[ST rate] per day

$$\text{Upto 6 hrs in a day in one block: } 0.25 * \text{ST rate}$$

$$\text{More than 6 Hrs and upto 12 hrs in a day in one block: } 0.50 * \text{ST rate}$$

$$\text{More than 12 Hrs and upto 24 hrs in a day in one block: } \text{equal to ST rate}$$

3. Till such time the transmission charges are determined on KW basis, the transmission charges may be continued to be determined by the Commission on per kWh basis.

3.15.2 Each Transmission User (including the Distribution Licensees) shall have to execute an agreement in terms of the Open Access Regulation duly mentioning, inter alia, contracted capacity with the Licensee. Variations in revenue recovery over approved revenue requirement on account of variations in transmission usage will be adjusted in the subsequent year.

3.16 Payment of Transmission Charges:

Full annual transmission charges shall be recoverable at the target availability stipulated in Regulation 3.02. Payment of transmission charges

below the target availability shall be on *pro rata* basis. The transmission charges shall be calculated on monthly basis.

3.17. Incentive:

(1) The transmission licensee shall be entitled to incentive on achieving annual availability beyond the target availability as per regulation 3.2, in accordance with the following formula:

$$\text{Incentive} = \text{Annual Transmission Charges} \times \frac{[\text{Annual availability achieved} - \text{Target Availability}]}{\text{Target Availability}};$$

Provided that no incentive shall be payable above the availability of 99.75%.

(2) 50% of the Incentive shall be shared by the long-term customers in the ratio of their average allotted transmission capacity for the year.

3.18 Rebate:

For payment of bills of transmission charges through letter of credit on presentation, a rebate of 2% shall be allowed. Where payments are made subsequently through opening of letter of credit or otherwise, but within a period of one month of presentation of bills by the Transmission Licensee, a rebate of 1% shall be allowed.

3.19 Late payment surcharge:

In case the payment of bills of transmission charges by the beneficiary (s) is delayed beyond a period of 1 month from the date of billing a late payment surcharge at the rate of 1.25% per month shall be levied by the Transmission Licensee.

CHAPTER – IV
MISCELLANEOUS

4.1 POWER TO AMEND

Commission may, at any time add, vary, alter, modify, delete or amend any provisions of these Regulations.

4.2 POWER TO REMOVE DIFFICULTIES

If any difficulty arises in giving effect to any of the provisions, 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.

4.3 Nothing in these Regulations shall bar the Commission from adopting, in conformity with the provisions of the Act, a procedure, at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.

BY ORDER OF THE COMMISSION

Secretary

Procedure for calculation of Transmission System Availability

i) Availability shall be calculated and declared separately for each voltage level.

The transmission system availability shall be declared as per the formula mentioned below. The transmission elements shall be grouped into following categories for the purpose of calculation of availability of Transmission Systems:

(a) AC transmission lines: Each circuit of AC transmission line shall be considered as one element.

(b) Inter-Connecting Transformers (ICTs): Each ICT bank (three single phase transformer together) shall form one element.

(c) Static VAR Compensator (SVC): SVC along with SVC transformer shall form one element. However, 50% credit to inductive and 50% to capacitive rating shall be given.

(d) Switched Bus Reactor: Each switched Bus Reactor shall be considered as one element.

ii) The Availability of Transmission system shall be calculated as under:

% System Availability for the system

$$= \frac{o \times AV_o + p \times AV_p + q \times AV_q + r \times AV_r}{o + p + q + r} \times 100$$

Where

o is Total number of AC lines.

AV_o is Availability of o number of AC lines.

p is Total number of switched bus reactors .

AVp is Availability of p number of switched bus reactors.

q is Total number of ICTs.

AVq is Availability of q number of ICTs.

r is Total number of SVCs.

AVr is Availability of r number of SVCs.

(iii) The weightage factor for each category of transmission elements shall be as

under:

(a) For each circuit of AC line – Surge Impedance Loading for Uncompensated line (SIL) multiplied by Circuit Km. (SIL rating for various voltage level and conductor configuration shall be as per the procedure adopted for power system analysis)

(b) For each ICT bank – The rated MVA capacity.

(c) For SVC – The rated MVAR capacity (inductive & capacitive).

(d) For switched Bus reactor – The rated MVAR capacity.

(iv) The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of Availability of each category of the Transmission elements are as per Enclosure-I.

(v) The transmission elements under outage due to following reasons not attributable to the Transmission Licensee shall be deemed to be available:

(a) Shut down of transmission elements availed by other agency/agencies for maintenance or construction of their transmission system.

(b) Manual tripping of line due to over voltage and manual tripping of switched bus reactor as per the directions of RLDC / SLDC.

(vi) Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration.

(a) Outage of elements due to acts of God and force majeure events beyond the control of the Transmission Licensee.

(b) Outage caused by grid incident/disturbance not attributable to the Transmission Licensee, e.g. faults in substation or bays owned by other agency causing outage of the Transmission Licensee's elements, tripping of lines, ICTs, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalising the system following grid incident/disturbance within reasonable time, the element will be considered not available for whole period of outage and outage time shall be attributable to the Transmission Licensee.

Enclosure-1

AV_o (Availability of o no. of AC lines) =

$$\frac{\sum_{i=1}^o (W_i(T_i - T_{NAi}) / T_i)}{\sum_{i=1}^o W_i}$$

AV_q(Availability of q no. of ICTs) =

$$\frac{\sum_{k=1}^q (W_k(T_k - T_{NAk}) / T_k)}{\sum_{k=1}^q W_k}$$

AVr(Availability of r no. of SVCs) =

$$\left[\sum_{m=1}^r 0.5 (Wl_m(Tl_m - TNAl_m) / Tl_m) \right] + \left[\sum_{m=1}^r 0.5 (Wc_m(Tc_m - TNACm) / Tc_m) \right] \left[\sum_{m=1}^r 0.5Wl_m + \sum_{m=1}^r 0.5Wc_m \right]$$

AVs (Availability of s no. of Switched reactor=

$$\sum_{n=1}^s (Wn(Tn - TNAn) / Tn) / \sum_{n=1}^s Wn$$

Where W_i = Weightage factor for i^{th} transmission line

W_k = weighted factor k^{th} ICT

Wl_m & Wc_m = Weightage factors for inductive & capacitive operation of m^{th} SVC

W_n = Weighted average factor for n^{th} bus reactor

$T_i, T_k, Tl_m, Tc_m, T_n$ - The total hours of i^{th} AC line, k^{th} ICT, m^{th} SVC

(Inductive Operation), SVC (Capacitive Operation) & n^{th} Switched Bus Reactor during the period under consideration (excluding time period for outages not attributable to Transmission Licensee)

$TNA_i, TNA_k, TNAl_m, TNACm, TNAn$ - The non-availability hours (excluding the time period for outages not attributable to Transmission Licensee) for i^{th} AC line, k^{th}

ICT, m^{th} SVC (Inductive Operation), m^{th} SVC (Capacitive Operation) & n^{th} reactor.

Depreciation Schedule

Description of Assets	Useful Life of the Assets (years)	Rate (Calculated with Reference to 90%)	
	1	2	3=1*2
A. Land owned under full title	Infinity	---	
B. Land held under lease:			
(a) for investment in land.	The period of lease or the period remaining unexpired on the assignment of lease.	----	
(b) for cost of clearing site	The period of lease remaining unexpired at the date of clearing the site.	----	
C. Assets:			
Purchased new :			
(a) Plant and machinery in generating including plant foundations.			
(i) Hydro-electric	35	2.57	90
(ii) Steam-electric NHRS & Waste Heat Recovery Boilers/Plants	25	3.60	90
(iii) Diesel-electric & gas plant	15	6.00	90
(b) Cooling towers and circulating water systems	25	3.60	90
(c) Hydraulic works forming Part of hydro-electric system including:-			

(i) Dams, Spilways weirs, canals reinforced concrete Flumes & syphons	50	1.80	90
(ii) Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge (tanks) hydraulic, control valves and other hydraulic works.	35	2.57	90
(d) Building & civil engineering works of a Permanent character, not mentioned above:-			
(i) Offices & showrooms	50	1.80	90
(ii) Containing thermo- electric generating plant	25	3.60	90
(iii) Containing hydro- electric generating plant	35	2.57	90
(iv) Temporary erection such as wooden structures	5	18.00	90
(v) Roads other than kutcha roads	50	1.80	90
(vi) Others	50	1.80	90
(e) Transformers, transformer (Kiosk) sub-station equipment & other fixed apparatus (including plant foundations):			
(i) Transformers (including foundations) having a rating of 100 kilo volt amperes and over	25	3.60	90
(ii) Others	25	3.60	90
(f) Switchgear, including cable connections	25	3.60	90
(g) Lightning arrestors:			
(i) Station type	25	3.60	90
(ii) Pole type	15	6.00	90
(iii) Synchronous condenser	35	2.57	90
(h) Batteries:	5	18.00	90
(i) Underground Cable Including joint boxes and disconnected boxes	35	2.57	90
(ii) Cable duct system	50	1.80	90
(l) Overhead lines including supports:			
(i) Lines on fabricated steel supports operating at nominal voltages higher than 66	35	2.57	90

KV			
(ii) Lines on steel supports operating at nominal voltages higher than 13.2 Kilo volts but not exceeding 66 Kilo volts	25	3.60	90
(iii) Lines on steel or reinforced concrete supports	25	3.60	90
(iv) Lines on treated wood supports	25	3.60	90
(j) Meters	15	6.00	90
(k) Self propelled vehicles	5	18.00	90
(l) Air conditioning plants:			
(i) Static	15	6.00	90
(ii) Portable	5	18.00	90
(m) (i) Office furniture and fittings	15	6.00	90
(ii) Office equipments:	15	6.00	90
(iii) Internal wiring including fittings and apparatus	15	6.00	90
(iv) Street light fittings	15	6.00	90
(o) Apparatus let on hire:			
(i) Other than motors	5	18.00	90
(ii) Motors	15	6.00	90
(p) Communication equipment:			
(i) Radio and higher frequency carrier system	15	6.00	90
(ii) Telephone lines and telephones	15	6.00	90
(q) Assets purchased second hand and assets not otherwise provided for in the schedule	Such reasonable period as the competent Government determines in each case having regard to the nature, age and condition of the assets at the time of its acquisition by the owner.		