Uttar Pradesh Electricity Regulatory Commission
2nd Floor, Kisan Mandi Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow –226 010
No. UPERC/Secy/Regulation/2006-2101
Lucknow, dated October 6, 2006

In exercise of powers conferred under section 61 & 181 of the Electricity Act, 2003, and all other powers enabling it in this behalf, the Uttar Pradesh Electricity Regulatory Commission hereby makes the following regulations.

Chapter 1: Preliminary

1.1 Short Title and Commencement

1. These Regulations may be called the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006.

2. These regulations shall come into force from the date of their publication in the Official Gazette of the Government of Uttar Pradesh.

1.2 Scope and extent of application

1. These regulations shall apply, for the purposes of ARR filing and tariff determination, to all the transmission licensees including deemed Transmission Licensees within the State of Uttar Pradesh.

2. Notwithstanding anything contained in these regulations, the Commission shall adopt the tariffs as determined through transparent process of bidding, for any particular Transmission System/Network or part thereof, in accordance with the guidelines issued by the Central Government under section 63 of the Act.

1.3 Definitions and Interpretation

1.3.1 Definitions

Unless the context otherwise requires:

1. 'Act' means the Electricity Act, 2003 (36 of 2003);

2. ‘Aggregate Revenue Requirement’ means the annual revenue requirement of the Transmission Licensee for recovery (i.e. allowable expenses and return on equity pertaining to his Licensed Business for ensuing financial year), through tariffs and charges, in accordance with these Regulations;

3. ‘Annual Statement of Accounts’ means for each financial year the following statements, namely-

   a. Balance sheet, prepared in accordance with the form contained in Part I of Schedule VI to the Companies Act 1956.
   b. Profit and loss accounts, complying with the requirements contained in Part II of Schedule VI to the Companies Act 1956.
   c. Cash flow statement, prepared in accordance with the Accounting Standard on cash flow Statement (AS-3) of the Institute of Chartered Accountants of India.
   d. Report of statutory auditors of the licensee.
   e. Cost records if any, prescribed by the Central Government under Section 209 (1) (d) of the Companies Act 1956.
   f. Together with notes thereto, and such other supporting statements and information as the Commission may direct from time to time;

4. 'Additional Capitalisation' means the capital expenditure actually incurred after the date of commercial operation of the transmission system and admitted by the Commission after prudence check;

5. 'Allotted Transmission Capacity' means the power transfer in MW between the specified point(s) of injection and point(s) of drawal allowed to a long term transmission customer (including distribution licensee) on the intra-state transmission system under the normal circumstances and the expression "allotment of transmission capacity" shall be construed accordingly.

   Allotted Transmission Capacity to a long-term transmission customer shall be sum of the generating capacities allocated to the long-term

transmission customer from the State/Central Generating Stations and the contracted power, if any;

6. ‘Authority’ means Central Electricity Authority referred to in section 70 of the Act;

7. 'Availability' in relation to a transmission system for a given period means the time in hours during that period the transmission system is capable to transmit electricity at its rated voltage and shall be expressed in percentage of total hours in the given period and shall be calculated as per the procedure contained in Annexure-B to these regulations;

8. 'Beneficiary' means the person who has availed of the transmission system on payment of transmission/wheeling charges;

9. 'Capitalisation' means the capital expenditure actually incurred and capitalised for erection, commissioning, augmentation and/or extension of the transmission system and admitted by the Commission after prudence check. The word "Capitalise(d)" shall be construed accordingly;

10. 'Commission' means Uttar Pradesh Electricity Regulatory Commission;

11. ‘Conduct of Business Regulations’ means such regulations as may be specified under clause (zl) of sub-section (2) of Section 181 read with sub-section (1) of Section 92 of the Act;

12. 'Contracted Power' means the power in MW which the transmission licensee has agreed to carry or which the transmission licensee is required to carry as per firm allocation from ISGS/SSGS or the long-term agreement between the importing and exporting utility;

13. 'Core business' means the regulated activities of transmission of electricity and does not include any other business or activities of the transmission licensee like consultancy, telecommunication, etc.;

14. 'Cut off Date' means the date of first financial year closing after one year of the date of commercial operation of the transmission system;

15. 'Date of Commercial Operation' in case of transmission licensee shall mean the date of charging the transmission system to its rated voltage level or seven days after the date on which it is declared ready for charging by the transmission licensee, but is not able to charge for reasons not attributable to the transmission licensee, its suppliers or contractors;

    Provided that the date of commercial operation shall not be a date prior to the scheduled date of commercial operation mentioned in the implementation agreement or the transmission service agreement or the investment approval, as the case may be, unless mutually agreed to by all parties;

16. 'Existing Project' means the project declared under commercial operation on a date prior to notification of these regulations;

17. 'Force Majeure Event' means, with respect to any party(Transmission Licensee and long term transmission customers), any event or circumstance which is not with in the reasonable control of, or due to an act or omission of, that party and which, by the exercise of reasonable care and diligence, that party is not able to prevent, including, without limiting the generality of the foregoing:
    (i) acts of God, including but not limited to lightning, storm, action of the elements, earthquakes, flood, drought and natural disaster;
    (ii) strikes, lockouts, go-slow, bandh or other industrial disturbances;
    (iii) acts of public enemy, wars (declared or undeclared), blockades, insurrections, riots, revolution, sabotage, vandalism and civil disturbance;
    (iv) unavoidable accident , including but not limited to fire, explosion, radioactive contamination and toxic dangerous chemical contamination;

(v) any shut down or interruption of the grid, which is required or directed by the State or Central Government or by the Commission or the State Load Despatch Centre; and

(vi) any shut down or interruption, which is required to avoid serious and immediate risks of a significant plant or equipment failure;

18. 'Implementation Agreement' means the agreement, contract or memorandum of understanding, or any such covenant, entered into between the transmission licensees and the beneficiaries for the construction of the project;

19. 'Inter State Generating Stations' or 'ISGS' means a Central/other generating Station in which two or more states have shares and whose scheduling is to be coordinated by the RLDC.

20. 'Long Term Open Access Transmission Customer' means a person availing or intending to avail open access to the intra-state transmission system for a period as specified in UPERC (Terms and Conditions for Open Access) Regulations.

21. 'Operation and Maintenance Expenses or O&M Expenses' means the expenditure incurred in operation and maintenance of the transmission system or part thereof including the expenditure on manpower, repairs, spares, consumables, insurance and other administrative and general overheads;

22. 'Original Project Cost' means the actual expenditure incurred by the transmission licensee, as per the original scope of project up to first financial year closing after one year of the date of commercial operation of the last element as admitted by the Commission for the purpose of tariff;

23. 'Other Business' means any business engaged in by a Transmission Licensee under Section 41 of the Act for optimum utilization of the assets of such Transmission Licensee;

24. 'Project' includes a transmission system comprising specified transmission lines, sub-stations and associated equipment;

25. 'Rated Voltage' means the manufacturer's design voltage at which the transmission system is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with the beneficiary;

26. 'Short Term Open Access Transmission Customer' means a person availing or intending to avail open access to the intra-state transmission system for a period as specified in UPERC (Terms and Conditions for Open Access) Regulations.

27. 'SLDC' or the 'State Load Despatch Centre' shall mean the centre established under section 31 of the Act.

28. 'State Sector Generating Stations' or 'SSGS' means a State/other generating station in which the State has the majority share and whose scheduling is to be coordinated by the SLDC.

29. 'Transmission Service Agreement' means the agreement, contract, memorandum of understanding, or any such covenant, entered into between the transmission licensee and the beneficiary of the transmission service for the operational phase of the project;

30. 'Transmission licensee' means a person granted licence for transmission of electricity in the State of Uttar Pradesh and includes any person deemed to be a transmission licensee for transmission of electricity;

31. 'Transmission System' means a line with associated sub-stations or a group of inter-connected lines together with associated sub-stations and the term shall include equipment associated with transmission lines and sub-stations;

32. 'State Government' means the Government of Uttar Pradesh;

33. ‘Wheeling’ means the operation whereby the transmission system and associated facilities of a transmission licensee are used by another person for the conveyance of electricity on payment of charges to be determined by the appropriate Commission under section 62 of the Act;

34. 'Year' means a financial year.

Words or expressions used in these regulations and not defined herein but defined in the Electricity Act, 2003 shall have the meaning assigned to them under the Electricity Act, 2003. Expressions used herein but not specifically defined in these Regulations or in the Electricity Act, 2003 but defined under any law passed by a competent legislature and applicable to the electricity industry in the state shall have the meaning assigned to them in such law. Expressions used herein but not specifically defined in the Regulations or in the Acts or any law passed by a competent legislature shall have the meaning as is generally assigned in the electricity industry.

1.3.2 Interpretation

In the interpretation of these Regulations, unless the context otherwise requires:

a) words in the singular or plural term, as the case may be, shall also be deemed to include the plural or the singular term, respectively;

b) references herein to the “Regulations” shall be construed as a reference to these Regulations as amended or modified by the Commission from time to time in accordance with the applicable laws in force;

c) the headings are inserted for convenience and may not be taken into account for the purpose of interpretation of these Regulations;

d) references to the statutes, regulations or guidelines shall be construed as including all statutory provisions consolidating, amending or replacing such statutes, regulations or guidelines, as the case may be.

e) in case of dispute in interpretation between English and Hindi version of these regulations, English version shall prevail.

Chapter 2

Filing of Annual Revenue Requirement and Tariff Application

2.1 Filing of ARR/ Tariff Application

1. The Transmission Licensee shall file the Aggregate Revenue Requirement (ARR) petitions complete in all respect along with requisite fee as prescribed in the Commission's Fee and Fine Regulations on or before 30th November of each year containing the details of the estimated expenditure and the expected revenue that it may recover in the ensuing financial year at the prevailing tariff. Information as per formats specified in **Annexure A** to these regulations shall form part of the ARR filings.

2. Transmission licensee, in the ARR filing for the ensuing financial year, shall indicate the manner in which the gap, if any, between the expenses, which it is permitted to recover and the expected revenue for the ensuing financial year at existing tariffs, shall be bridged. The ARR filing shall include detailed tariff proposal for transmission and wheeling of electricity in case the gap is proposed to be bridged through tariff hike.

3. Till such time the State Government establishes a separate Centre to look after the SLDC functions as specified under the Act, STU shall operate the SLDC. However, STU shall endeavor to prepare separate accounts for the SLDC function. Till complete segregation of accounts between SLDC function and Transmission function, STU shall apportion its costs between (i) SLDC function and (ii) Transmission function, based on an Allocation Statement. However, basis of such apportionment shall be clearly indicated in the ARR petition.

4. The Commission may broadly classify costs incurred by licensee as controllable and non-controllable. However, till the implementation of Multi-year tariff framework, the Commission may set annual targets for all controllable costs. These targets shall be used for computing revenue requirement. The Commission may index some of the controllable costs to appropriate indices/rates like Consumer Price

Index (CPI), Wholesale Price Index (WPI), Bank Rate etc. as specified in the subsequent sections of these regulations.

5. All non-controllable costs as checked by the Commission with due diligence and prudence shall be allowed as pass-through while determining the ARR of the transmission licensee.

6. The Commission may require a long-term business plan from each licensee for adopting the multi-year tariff framework, which the licensee shall scrupulously comply.

7. The Commission shall initiate benchmarking studies to determine the desired performance standards for each transmission licensee. Till completion of such studies, the Commission shall determine the tariff by taking suitable assumptions.

8. On completion of the benchmarking studies, the Commission shall make necessary changes in the tariff regulations to implement Multi Year Tariff Framework and define the control period for such framework.

9. Every transmission licensee shall prepare annual statement of account, annual reports and also such statistics as network growth, energy transmitted/wheeled and manpower utilization ratios etc. for its transmission business as may be specified by the Commission and submit the same along with the ARR/ Tariff filing.

10. Transmission Licensee engaged in other business for optimum utilization of its assets shall maintain separate account for such other business and submit the statement of accounts for such other business along with the business plan for the ensuing financial year to the Commission as a part of ARR/Tariff filing. The proportion of revenue from other business that shall be utilized in the core business i.e. transmission business for reducing the transmission and wheeling charges as stipulated in UPERC (Treatment of Income of Other Businesses of Transmission Licensees and Distribution Licensee) Regulations 2004 and amendments thereof if any.

11. The Commission may initiate suo-moto proceedings for tariff determination in case the licensee fails to file its tariff revision petition in time as per these regulations; any revenue gap on account of delay in filing/non filing will be on account of licensee.

2.2 Schedule and procedure of ARR/Tariff Filing

The schedule and procedure for filing of ARR/ Tariff filing shall be as per the provisions of the UPERC (Conduct of Business) Regulations 2004 subject to any modifications made herein or any other amendment issued by the Commission.

2.3 Additional Information for the admission of the petition:

1. The Commission, after the petition has been filed, may require the transmission licensee to furnish any further information, particulars, documents, public records etc. as the Commission may consider appropriate to enable the Commission to assess the petitioner's calculations, assumptions and assertions. The period of 120 days as provided in section 64 (3) of the EA 2003 shall be counted from the date of acceptance of ARR complete in all respects to the reasonable satisfaction of the Commission and thereupon its admittance by the Commission.

2. After receipt of required information, the Commission may make appropriate orders regarding admittance of petition, initiation of proceedings and determination of ARR / Tariff in accordance with the provisions of its Conduct of Business Regulations. The licensee shall, within 7 days of the issuance of the admittance order by the Commission, publish the salient points of the ARR/Tariff petition in such abridged format and manner, as approved by the Commission, in at least two national daily newspapers (one English and one Hindi) circulated in its area of operation for public objections/suggestions/ comments.

Chapter 3: Principles of Transmission Tariff Determination

3.1 General Principles:

1. The Commission, while determining tariff, shall be guided by the principles as contained in section 61(a) to 61 (i) of the Act.

2. For the purpose of tariff, the capital cost of the project shall be broken up into parts / distinct units forming part of the project. Where break-up of the project cost is not available and in case of on-going projects, the common facilities shall be apportioned on the basis of the installed capacity of lines or sub-stations.

3.2 Open Access to Transmission

1. Transmission Licensee shall, in accordance with section 40 (c) of the EA 2003, provide non-discriminatory open access to its transmission system for use by-

   (i) any licensee or generating company on payment of the transmission charges as determined by the Commission; or

   (ii) any consumer as and when such open access is provided by the Commission under sub-section (2) of section 42, on payment of the transmission charges and a surcharge thereon, as may be specified by the Commission;

2. The tariff for Short-term Open Access customers shall be determined as per these regulations and UPERC (Terms and Conditions for Open Access) Regulations, 2004 with amendments thereof if any. Further, revenues collected from short-term open access customers would be adjusted towards reduction of transmission/wheeling charges for long-term open access customers as per the provisions of above-mentioned Open Access Regulations.

3.3 Treatment of Transmission Loss

1. Energy loss in the transmission system shall be called Transmission Loss.

2. Overall Transmission loss shall be calculated as the difference between the energy initially injected into the transmission system and the sum of energy transmitted to all the users connected to the system.

3. Transmission loss above and up to a particular voltage level shall be calculated as the difference between the sums of all energy initially injected into the Transmission System from different interface points and sum of energy transmitted to all Distribution Companies and users connected with the Transmission System. Percentage Transmission Loss above and upto a particular voltage level shall be expressed in terms of Transmission Loss upto that voltage level as a percentage of the energy injected into the system.

4. The auxiliary energy consumption in the sub-station for the purpose of air-conditioning, lighting, technical consumption, etc. shall be considered as part of transmission losses.

5. Transmission Licensee shall submit to the Commission data related to voltage wise Transmission Losses for the past three years and also the estimated loss levels for current and ensuing year.

6. To set the base line of transmission loss estimate, the Commission may either require the licensee to carry out proper loss estimation studies under its supervision, or initiate a study itself.

7. The Commission shall approve a realistic loss target for the year under review based on the opening loss levels from the above study and/or licensee's filing, submissions and objections raised by the stakeholders.

8. Transmission Losses as approved by the Commission shall be debited to the energy account of the beneficiaries of the Transmission System.

3.4 Norms of Operations to be ceiling norms

For removal of doubts, it is clarified that the norms of operation as specified herein are the ceiling norms and this shall not preclude the Commission from stipulating or the transmission licensee and the beneficiaries from agreeing to improved norms of operation and in that case such improved norms shall be applicable for determination of tariff.

3.5 Target Availability for recovery of full Fixed Costs

1. The target availability for AC system shall be 98% for recovery of full fixed cost (Net ARR). Recovery of Net ARR below the level of target availability shall be on pro-rata basis. At zero availability, no transmission/wheeling charges shall be payable.

2. The target availability shall be calculated in accordance with procedure specified in **Annexure B.**

3.6 Capital Investment Plan

1. The licensee shall identify projects for the ensuing year and subsequent four years and submit detailed capital investment plan along with a financing plan for undertaking the identified projects in order to meet the requirement of load growth, refurbishment and replacement of equipment, reduction in transmission losses, improvement of voltage profile, improvement in quality of supply, system reliability, metering, communication and computerization, etc.

2. The Commission shall consider and approve the licensee's capital investment plan, subject to prudence check. The costs corresponding to the approved investment plan of the licensee for a given year shall be considered for determining its annual revenue requirement.

Provided that approval would not be required in cases where the project cost is below Rs. 10 crores.

Licensee's ARR filing shall separately show ongoing projects that will spill into the year under review, and new projects that will commence but may be completed within or beyond the tariff period. For the new projects, the filing must provide the justification as stipulated under investment guidelines of the Commission.

4. The licensee shall demonstrate that his financing plan matches his investment requirement plan.

5. In addition to the approved capital investment plan, the licensee can seek provision for additional capital expenditure anytime during the tariff year to meet expenditure incurred due to natural calamities involving substantial investments. The Commission shall examine and if satisfied shall approve the corresponding costs for inclusion in revenue requirement in the next period.

6. In presenting the justification for new projects, the licensee shall detail the specific nature of the works, and outcome sought to be achieved. The detail must be shown in the form of physical parameters, e.g., addition of new capacities in terms of sub-stations, lines, VAR compensating devices, tele-metering equipments & communication systems etc, so that it is amenable for physical verification. This is necessary to ensure that the approved investment plans are implemented and the licensee does not derive improper financial benefit by delaying or neglecting to make the proposed investment. In case of any significant shortfall in physical implementation, the Commission shall require the licensee to explain the reasons, and may proportionately reduce the provision, including the interest and the return component, made towards revenue requirement, in the next period.

7. The Transmission Licensee shall provide Completion Report in respect of all capital projects as and when they achieve the Commercial Operation Date to the Commission.

8. Capitalization of works by the Transmission Licensee shall be linked to the physical completion of the works. The Commission will not accept any capitalization that does not have work completion certificates and the work is put to beneficial use of consumers.

9. The Transmission Licensee shall maintain asset registers at each operating circle/ division that will capture all necessary details on the asset, including the costs incurred, date of commissioning, location of asset, and all other technical details. Data in financial accounts shall be consistent with that in the asset registers.

3.7 Treatment of Capital Expenditure

1. Only such Capital expenditure as is incurred or proposed to be incurred with the approval of the Commission, including those exempted from prior approval under these regulations or as per the UPERC (General Conditions of Transmission Licence) Regulations 2005, shall be considered for tariff purposes. The Transmission Licensee shall duly comply with the provisions of above Regulation, guidelines, directions and orders as the Commission may issue from time to time in regard to the investments to be made in the Transmission Business.

2. The final tariff shall be fixed based on the admitted capital expenditure of the transmission system and shall include capitalized initial spares subject to a ceiling norm of 1.5 % of the 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.

3. In case of the existing projects, the project cost admitted by the Commission prior to these regulations shall form the basis for determination of tariff.

4. The Commission may consider the capital expenditure actually incurred for any additional works/services, which become necessary for efficient and successful operation of transmission system, but not included in the original capital cost, subject to prudence check.

Note:

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.

3.8 Additional Capitalization

1. The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and upto the cut off date, whether included in the original scope of work or not, may be admitted by the Commission subject to prudence check:

   (a) Deferred liabilities,
   (b) Works deferred for execution,
   (c) Procurement of initial capital spares in the original scope of works subject to the ceiling norm of 1.5% of the original project cost,
   (d) Liabilities to meet award of arbitration or compliance of the order or decree of a court,
   (e) On account of change in law, and

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

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

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:

   (a) Deferred liabilities relating to works/services within the original scope of work,
   (b) Liabilities to meet award of arbitration or compliance of the order or decree of a court,
   (c) On account of change in law, and
   (d) Any additional works/services, which have become necessary for efficient and successful operation of the project but not included in the original project cost.

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 clause 3.9.1.

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 in the normative debt-equity ratio as specified in clause 3.9.1.

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 as specified in clause 3.9.1 after writing off the original amount of the replaced assets from the original capital cost.

3.9 Debt Equity Ratio

1 In case of all projects, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

Provided that in case of the projects where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

Provided further that in case of existing projects, the actual debt equity shall be used for tariff determination.

The debt and equity amounts arrived at in accordance with clause (1) above shall be used for calculating interest on loan, return on equity and Advance Against Depreciation.

3.10 Contingency Reserve

1. The Commission may consider provisions for contingency reserve up to 0.5% of opening gross fixed assets to be invested in Government securities. The contingency reserve so created shall be utilized to meet cost of replacement of equipment damaged due to force majeure situations. Contingency reserve shall be included in the ARR requirement of the licensee.

2. The interest on such securities shall be added back to this reserve.

3. The licensee shall be entitled to draw money from this reserve only with the prior permission of the Commission.

4. The amount in this reserve shall not be treated as part of the equity reserves.

3.11 Transmission/Wheeling Charges

1. In case of more than one long term of customers of the Transmission System (distribution licensee/long term open access customers) utilizing the transmission system, the monthly transmission/wheeling charges leviable on such customers shall be computed as per the following formula:

Transmission/Wheeling charges payable by the long term of customers of the Transmission System for use of transmission system for a month

= (**Net ARR/12)*(CL/SCL)**

Where:

Net ARR = Annual Revenue Requirement of the Transmission Licensee for the ensuing financial year computed in accordance with these regulations, **less**

1. Non Tariff Income under Regulation 5.1.2,
2. Such percentage of revenue recovered from Short-term open access customers, as specified in the UPERC Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Open Access) Regulations, 2004, as amended from time to time,;

CL = Allotted Transmission Capacity in MW of particular long term of customers of the Transmission System as per Transmission Service Agreement.

SCL = Sum of the Allotted Transmission Capacities (in MW) to all the long-term customers of intra-State Transmission System .

2. It is mandatory for all long-term transmission system customers and the short-term transmission system customers including the distribution licensees to enter into an agreement, in terms of the Open Access Regulations of the Commission, with the Transmission Licensee.

3. Wheeling charges for short-term open access customers shall be in accordance with Open Access Regulations of the Commission as amended from time to time.

3.12 Recovery of Full Fixed Costs (Net ARR)

Full Fixed Costs (Net ARR) of Transmission Licensee shall be fully recoverable at the target availability stipulated in regulation 3.5. Payment of transmission charge below the transmission availability shall be on pro-rata basis. The transmission charge shall be calculated on monthly basis.

3.13 Incentive

1. The transmission licensee shall be entitled to incentive on achieving annual availability beyond the target availability as per regulation 3.5, in accordance with the following formula
   Incentive = Net ARR X [Annual availability achieved – Target availability]/ Target availability

2. Incentive shall be shared by the distribution licensees/ long term open access customers connected to the transmission system in the ratio of their average allotted transmission capacity for the year.

3.14 Late Payment Surcharge:

If the beneficiaries of the Transmission System do not pay the Transmission /Wheeling charges by the due date, Transmission licensee shall levy late payment surcharge as per the rate specified in the tariff orders of the Commission.

3.15 Amendment of Tariff

1. No tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year.

2. Subject to other provisions of these regulations, the ARR determined by the commission for any financial year shall be trued up on the basis of audited financial and operational results. Any deficit or surplus arising out of such true up shall be adjusted while determining the tariff for the subsequent years.

   Provided that the Commission shall allow higher expenditure actually incurred by the licensee in any financial year on account of non controllable factors only after due verification of such expenses and prudence check.

3.16 Multi year tariff principle

1. Section 61(f) of the Electricity Act, 2003 envisages implementation of a multi year tariff framework featuring performance based regulation. The Commission also intends to introduce a MYT framework encompassing rate design and also the service standards. However, since the transmission loss studies and benchmarking of performance standard studies have not yet to be conducted, the Commission is deferring the implementation of the Multi Year Tariff Framework for the time being. The Commission has however laid down multiyear tariff principles for determining various costs of the transmission licensee, which shall be utilized for determining the ARR requirement of the Transmission Licensee. Wherever there are gaps the Commission shall fill them up through suitable assumptions. The Commission may further utilize data from the most efficient similarly placed utilities from within and/or outside the State for the above purposes. When these information are established in credible manner, the Commission would specify a MYT based transparent and formulaic mechanism for revenue requirement and rate determination.

The Commission shall be issuing a separate concept paper on Multi Year Tariff Framework. The Commission shall finalize the Multi Year Tariff Framework based on the comments/objections/suggestions from various stakeholders on the above concept paper and results of benchmarking studies.

Chapter 4: Computation of Annual Revenue Requirement

4.1 Main items of the ARR:

The ARR of the Transmission licensee for the ensuing financial year shall consist of following items:

(a) Operation & Maintenance expenses
(b) Depreciation including Advance against depreciation
(c) Interest on Loan Capital
(d) Interest on working capital
(e) Return on equity
(f) Contingency Reserve
(g) Taxes on Income
(h) Any other relevant expenditure

Provided further that the State Transmission Utility, when also looking after the SLDC function, shall file segregated costs for SLDC operations and any surplus / deficit in recovery of SLDC costs vis-à-vis SLDC fee and charges collected by the STU shall form part of its ARR.

4.2 Operation and Maintenance Expenses

1. The O&M expenses for the base year shall be calculated on the basis of historical/audited costs and past trend during the preceding five years. However, any abnormal variation during the preceding five years shall be excluded. O & M expenses so calculated for the base year shall then be escalated on the basis of prevailing rates of inflation for the year as notified by the Central Government and shall be considered as a weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60:40. Base year, for these regulations means, the first year of tariff determination under these regulations.

2. Where such data for the preceding five years is not available the Commission may fix O&M expenses for the base year as certain percentage of the capital cost.

3. Incremental O&M expenses for the ensuing financial year shall be 2.5% of capital addition during the current year. O&M charges for the ensuing financial year shall be sum of incremental O&M expenses so worked out and O&M charges of current year escalated on the basis of predetermined indices as indicated in regulation 4.2.1 above.

4. However, the Commission may direct the utilities to bring down the O & M expenses to an efficient level i.e., by fixing norms based on the circuit kilometers of transmission lines, transformation capacity at the sub-stations, number of bays in substation etc. of similarly placed efficient utilities, within such span of time, as may be determined by the Commission.

5. The Commission shall examine and if satisfied shall allow inclusion in revenue requirement in the next period additional O&M expenses on account of war, insurgency, and change in laws or like eventualities for a specified period.

4.3 Depreciation including Advance Against Depreciation

1. Depreciation

For the purposes of tariff, depreciation shall be computed in the following manner, namely:

a. The value base for the purpose of depreciation shall be the historical cost as provided in the Fixed Assets Register, excluding consumer contribution or capital subsidy/grant utilized for capitalization of the assets.

b. The approved/accepted cost shall include foreign currency funding converted to equivalent rupee at the exchange rate prevalent on the date of foreign currency actually availed.

c. Depreciation shall be calculated annually on straight-line method at the rates specified by the Central Electricity Regulatory Commission in its Terms and Conditions of Tariff Regulations, 2004 as amended from time to time.

d. The residual value 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.

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

f. 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.

Provided that where the Fixed Assets Registers are not maintained, the Commission shall allow only as much depreciation as it may consider appropriate.

2. Advance against Depreciation

a. In addition to allowable depreciation, the transmission licensee shall be entitled to an advance against depreciation, computed in the manner given hereunder.

AAD = Loan repayment amount as per regulation 4.4 subject to a ceiling of 1/10th of loan amount as per regulation 3.8 minus depreciation as per schedule.

Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year;

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between

cumulative repayment and cumulative depreciation up to that year.

b. Notwithstanding anything contained in Regulation 4.3.2 above, the commission may discontinue with the provision of AAD subsequent to revision of depreciation rates by the Central Electricity Regulatory Commission in line with the National Tariff Policy.

4.4 Interest and finance cost:

1. Interest and finance charges on loan capital shall be computed on the outstanding loans based on the existing agreements and arrangements terms regarding the interest rate and the repayment schedules.

2. The interest rate on new loans shall ordinarily be restricted to bank rate as specified by the Reserve Bank of India from time to time plus an appropriate margin, as may be decided by the Commission to realistically reflect the rate at which the licensee can raise debt from the market. However, Licensees would be required to submit justification for the terms and conditions of the loans raised by them.

3. Interest on fresh loans shall be allowed only on loan raised for projects approved and undertaken in accordance with the guidelines contained in Para 3.7 of these regulations. In case of non-compliance of the stipulated guidelines, no interest shall be allowed by the Commission.

4. The Transmission Licensee shall furnish the project-wise details for fresh loans proposed to be raised in the ensuing financial year

   i. Name of the Project
   ii. Scheduled COD
   iii. Total Project Cost
   iv. Total Loan amount

v. Rate of Interest

vi. Terms of Repayment

5. For loans outstanding at the beginning of the year, the licensees will indicate in their filings the expected interest outgo for each year. This will be considered towards revenue requirement of the licensees for such years. The licensees shall make efforts to reduce the cost of the outstanding loans, in case of declining interest rates.

6. The transmission licensee shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers.

7. The benefit on account of loan swapping / restructuring of debts shall be shared equally between the transmission licensee and the long-term transmission customers over the balance tenure of loan.

   Provided that interest and finance charges of renegotiated loans agreements shall not be considered, if they result in higher charges,

   Provided further that the Commission will allow the cost of debt restructuring/swapping of loans while determining the Annual Revenue Requirement of the licensee.

   Provided further that interest and finance charges on works in progress shall be excluded and shall be considered as part of the capital cost.

8. In case of any dispute relating to swapping of loans, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment as ordered by the Commission to the transmission licensee during pendency of any dispute relating to swapping of loan.

9. 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 the interest on loan capital shall be calculated accordingly.

4.5 Interest on Working Capital

1. Working capital shall be worked out to cover

   (i) Operation and Maintenance expenses, which includes Employee costs, R&M expenses and A&G expenses, for one month;

   (ii) One-twelfth of the sum of the book value of stores, materials and supplies at the end of each month of current financial year.

   (iii) Receivables equivalent to 60 days average billing of consumers less security deposits by the beneficiaries (if any)

2. Rate of interest on working capital shall be the Bank Rate as specified by Reserve Bank of India as on 1st April of the relevant year plus a margin as decided by the Commission.

4.6 Return on Equity:

1. Return on equity shall @14%, on the equity base determined in accordance with Regulation 3.9 of these regulations.

2. Equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the prevailing exchange rate.

3. The premium raised by the transmission licensee while issuing share capital and investment of internal resources created out of free reserves, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing return on equity, provided such share capital, premium amount and internal resources

are actually utilized for meeting the capital expenditure of the transmission system and forms part of the approved financial package.

4. Return on equity shall be chargeable from the first year of operation. In case of infusion of equity during the year, return on equity shall be charged on pro-rata basis.

4.7 Foreign Exchange Risk Management:

The Licensee should take appropriate cover to mitigate foreign exchange variation risk. The Commission shall allow such hedging cost in respect of debt / equity obtained in foreign currency while determining the annual revenue requirement of the licensee. Any loss incurred by the licensee on account of Foreign Exchange Variation for inadequacy of foreign exchange variation risk cover shall be borne by the licensee.

4.8 Tax on Income

1. Tax on the income streams of the transmission licensee from its core business, shall be treated as expense and recovered from long term customers of the transmission licensee.

2. Any under-recoveries or over-recoveries of tax on income shall be adjusted every year on the basis of income-tax assessment under the Income-Tax Act, 1961, as certified by the statutory auditors.

   Provided that tax on any income stream other than the core business shall not constitute a pass through component in tariff and tax on such other income shall be payable by the transmission licensee.

   Provided further that the benefits of tax-holiday as applicable in accordance with the provisions of the Income-Tax Act, 1961 shall be passed on to the beneficiaries.

Provided further that in the absence of any other equitable basis the credit for carry forward losses and unabsorbed depreciation shall be given in the proportion as provided in clause 4.8.2 above.

Provided further that the long-term transmission customers shall share the income-tax liabilities of the transmission licensee in proportion to their annual transmission charges.

4.9 Tax Escrow Mechanism:

1. The long term customers of the Transmission Licensee shall maintain an interest-bearing tax escrow account in a scheduled bank, to which all amounts of interest shall be credited .

2. Transmission Licensee shall assess its tax liability in advance for the ensuing financial year at least two months before the commencement of next financial year and allocate it to the long term customers of the its transmission system in proportion to their allotted Transmission Capacity. The transmission licensee shall however endeavour to minimize its liability on account of taxes recoverable from the long-term customers.

3. The transmission licensee shall be authorised to withdraw the amounts for settling the income-tax liability on presentation to the escrow holder, a certificate from their statutory auditors that the amounts are immediately due and payable to the taxing authority.

4. The generating company or the transmission licensee shall pay into the tax escrow account any refund received from the taxing authority.

5. The refunds, if any, shall not be paid back to the beneficiaries and shall be adjusted in the escrow account. Any balance due or returnable shall be rolled over to the next year.

6. The escrow accounts shall be reflected in the books of accounts of the beneficiaries as their bank account.

4.9 Cess/Duty/Royalty/Tax imposed by State Government

Any cess or duty or royalty or tax imposed by the State Government shall be allowed as pass through to be recovered from the distribution licensees / long term open access consumers in proportion of their allotted capacity or quantity of energy delivered, as the case may be.

Chapter 5: Revenue Forecast and Revenue Gap

5.1 Forecast of Revenues

1. The revenues of the transmission licensee from the business of the transmission of electricity shall comprise of the following components:

   (a) Revenue from transmission/wheeling charges
   (b) Revenue from SLDC charges, in case STU is operating the SLDC, collected in accordance with UPERC (Procedure, Terms & Conditions for payment of Fee and Charges to State Load Despatch Centre and other related provisions) Regulation.
   (d) Non-tariff income

2. The Non-tariff income shall comprise of:

   (a) Delayed Payment Surcharge,
   (b) Income from investments,
   (c) Miscellaneous receipts from customers, and
   (d) Share of income from the other businesses of the transmission licensee as per UPERC (Treatment of Income from Other Business of Transmission Licensee and Distribution Licensee) Regulations 2004 as amended from time to time.
   (e) Any other income.

Revenue Gap

1. For the tariff year, the difference between the Expected Expenditure and the Forecast Revenue at applicable tariffs (i.e. from transmission/wheeling charges + Non Tariff Income) shall be called the Revenue Gap.

2. The revenue gap shall be bridged by measures such as improvements in efficiency, Government grant/subsidy, utilization of reserves, tariff hikes etc., as may be approved by the Commission.

Chapter 6: Miscellaneous

6.1 Savings

1. Nothing in these Regulations shall be deemed to limit or otherwise affect the power of the Commission to make such orders as may be necessary to meet the ends of justice.
2. Nothing in these regulations shall bar the Commission from adopting in conformity with provisions of the Act, a procedure which is at variance with any of the provisions of these regulations, if the Commission, in view of the special circumstances of a matter or a class of matters, deems it just or expedient for deciding such matter or class of matters.
3. Nothing in these regulations shall, expressly or impliedly, bar the Commission dealing with any matter or exercising any power under the Act for which no regulations have been framed, and the Commission may deal with such matters, powers and functions in a manner, as it considers just and appropriate.

6.2 Transitional Provisions

Notwithstanding anything to the contrary contained in these regulations, the Commission may determine the tariff for a transmission licensee under the existing procedure and principles which are at variance with the provisions of these regulations, if the Commission, in view of the special circumstances of a matter, deems it just or expedient for adoption of such procedure or principles.

6.3 Powers to Remove Difficulties

If any difficulty arises in giving effect to any of the provisions of these regulations, the Commission may by general or special order give directions, not being inconsistent with the Act, which appears to the Commission to be necessary or expedient for the purpose of removing difficulties.

6.4 Power to Amend

The Commission may, at any time add, vary, alter, modify or amend any provision of these regulations. Regulations may also be amended in view of changes in National Electricity Policy and National Tariff Policy, if deemed necessary.

By Order of the Commission
(Sangeeta Verma)
Secretary
Uttar Pradesh Electricity Regulatory Commission

Annexure – B

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 AC Transmission system shall be calculated as under:

% System Availability for AC system

$$= \frac{o \times AVo + p \times AVp + q \times AVq + r \times AVr}{o + p + q + r} \times 100$$

Where

O	is	Total number of AC lines.
Avo	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 is given in Annexure-I. However, for the voltage levels and/or conductor configurations not listed in Annexure-I, appropriate SIL based on

technical considerations may be used for availability calculation under intimation to long-term transmission customers.

(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 Annexure-II.

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 RLDC / SLDC while normalizing 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.

SURGE IMPEDANCE LOADING (SIL) OF AC LINES

S.No.	Line voltage (kv)	Conductor Configuration	SIL (MW)
1.	765	Quad Bersimis	2250
2.	400	Quad Bersimis	691
3.	400	Twin Moose	515
4.	400	Twin AAAC	425
5.	400	Quad Zebra	647
6.	400	Quad AAAC	646
7.	400	Tripple Snowbird	605
8.	400	ACKC(500/26)	556
9.	400	Twin ACAR	557
10.	220	Twin Zebra	175
11.	220	Single Zebra	132
12.	132	Single Panther	50
13	66	Single Dog	10

Formulae for calculation of Availability of each category of transmission elements

Avo (Availability of o no. of AC lines) $= \sum_{i=1}^{o} \frac{W_i(T_i - T_{NAi})}{T_i} \Big/ \sum_{i=1}^{o} W_i$

AVq(Availability of q no. of ICTs) $= \sum_{k=1}^{q} \frac{W_k (T_k - T_{NAk})}{T_k} \Big/ \sum_{k=1}^{q} W_k$

AVr(Availability of r no. of SVCs) $= \left(\sum_{l=1}^{r} 0.5 \frac{W_{Il} (T_{Il} - T_{NAIl})}{T_{Il}} + \sum_{l=1}^{r} 0.5\, W_{Cl} \frac{(T_{Cl} - T_{NACl})}{T_{Cl}} \right) \Big/ \left(\sum_{l=1}^{r} 0.5 W_{Il} + \sum_{l=1}^{r} 0.5\, W_{Cl} \right)$

Avs (Availability of s no. of Switched Bus reactors) $= \sum_{m=1}^{s} \frac{W_m(T_m - T_{NAm})}{T_m} \Big/ \sum_{m=1}^{s} W_m$

Where

W_i	=	Weightage factor for i^{th} transmission line
W_k	=	Weightage factor for k^{th} ICT
$W_I l$ & W_{Cl}	=	Weightage factors for inductive & capacitive operation of lth SVC
W_m	=	Weightage factor for m^{th} bus reactor
T_i, T_k, $T_{I\,l}$, T_{Cl}, - &T_m		The total hours of ith AC line, k^{th} ICT, l^{th} SVC (Inductive Operation), lth SVC (Capacitive Operation) & m^{th} Switched Bus Reactor block during the period under consideration (excluding time period for outages not

	attributable to Transmission Licensee for reasons given in Para vi of the procedure)
T_{NAi} , T_{NAk} - T_{NAIl}, & T_{NACl},	The non-availability hours (excluding the time period for outages not attributable to Transmission Licensee taken as deemed availability as per Para 5 of the procedure) for i^{th} AC line, k^{th} ICT , l^{th} SVC (Inductive Operation), l^{th} SVC (Capacitive Operation) & m^{th} Switched Bus Reactor block .

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