

**HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION
SHIMLA**

NOTIFICATION

Shimla, the 1st April, 2011

No. HPERC/Gen/479.- Whereas section 61 of the Electricity Act, 2003 (36 of 2003), provides that the Appropriate Commission shall specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the principles and methodologies specified by the Central Commission for determination of tariff applicable to generating companies and also by the National Tariff Policy formulated under the said Act;

And Whereas the Himachal Pradesh Electricity Regulatory Commission has framed the HPERC (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2007;

And Whereas the Central Commission has subsequently framed Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 specifying the principles and methodologies to be followed for determination of tariff applicable to generating companies and various changes have also been made in the National Tariff Policy;

And Whereas the Himachal Pradesh Electricity Regulatory Commission is making an exercise to determine the tariff for generating companies for the next control period starting from 1st April, 2011 and keeping in view the changes in National Tariff Policy and the methodologies of Central Commission, amongst others it has become necessary to amend/modify the existing regulations;

Now, therefore, in exercise of the powers conferred by clauses (zd), (ze) and (zf) of sub-section (2) of section 181 read with sections 61, 62 and 86, of the of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf and after previous publication, the Himachal Pradesh Electricity Regulatory Commission makes the following regulations for determination of generation tariff:-

REGULATIONS

PART-I

PRELIMINARY

1. Short title, extent and commencement

- (1) These regulations shall be called the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2011.
- (2) These regulations shall extend to the whole of the State of Himachal Pradesh.
- (3) These regulations shall come into force with effect from 1st April, 2011.

2. Scope and application

- (1) These regulations shall apply in all cases where tariff for a generating station or a unit thereof is to be determined by the Commission under section 62 of the Act, read with section 86 thereof. .
- (2) Where a power purchase agreement has been executed between the generating company and the utility before existence of the Commission, the Commission shall determine such tariff in accordance with the terms and conditions of such power purchase agreement.
- (3) Where a power purchase agreement has been executed between the generating company and the utility after existence of the Commission and the power purchase agreement has been approved by the Commission, the Commission shall determine such tariff in accordance with the terms and conditions of such approved power purchase agreement.
- (4) 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.

3. Definitions:

In these regulations, unless the context otherwise requires, -

- (1) “**Act**” means the Electricity Act, 2003 (36 of 2003);
- (2) “**additional capitalisation**” means the capital expenditure incurred or projected to be incurred, after the date of commercial operation of the project and admitted by the Commission after prudence check, subject to the provisions of regulation 13;

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- (3) “**Appendix**” means the appendix to these regulations;
- (4) “**applicant**” means a generating company who has made an application for determination of tariff or an application for annual performance review in accordance with the Act and under these regulations and includes a generating company whose tariff is the subject of a review by the Commission either suo motu or on a petition filed by any interested or affected person or as part of an annual performance review;
- (5) “**auxiliary energy consumption**” or “**AUX**” in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station, and transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;
- (6) “**base year**” means the financial year immediately preceding the first year of the control period;
- (7) “**beneficiary**” in relation to a generating station means the person purchasing electricity generated at such a generating station whose tariff is determined under these regulations;
- (8) “**capital cost**” means the capital cost as defined in regulation 11;
- (9) “**Central Commission**” means the Central Electricity Regulatory Commission as referred to in sub- section (1) of section 76 of the Act;
- (10) “**change in law**” means occurrence of any of the following events:-
 - (a) the enactment, bringing into effect, adoption, promulgation, amendment, modification or repeal of any law, or
 - (b) change in interpretation of any law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation, or
 - (c) change by any competent statutory authority, in any consent, approval or licence available or obtained for the project;
- (11) “**Commission**” means the Himachal Pradesh Electricity Regulatory Commission as referred to in sub- section (1) of section 82 of the Act;
- (12) “**Conduct of Business Regulations**” means the Conduct of Business Regulations specified by the Commission under sub-section (1) of section 92 of Act;

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- (13) “**control period**” means a multi-year period fixed, by the Commission, from time to time, for which the principles of determination of revenue requirement and tariff will be laid down;
- (14) “**cut-off date**” means 31st March of the year closing after two years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation;
- (15) “**date of commercial operation**” or “**COD**” means in relation to a unit of hydro generating station, the date declared by the generating company from 0000 hour of which, after notice to the beneficiaries, scheduling process in accordance with the Indian Electricity Grid Code and/or the Himachal Pradesh Electricity Grid Code is fully implemented, and in relation to the generating station as a whole, the date declared by the generating company after demonstrating peaking capability corresponding to installed capacity of the generating station through a successful trial run, after notice to the beneficiaries.

Note-

1. In case the hydro generating station, with pondage or storage, is not able to demonstrate peaking capability corresponding to the installed capacity for the reasons of insufficient reservoir or pond level, the date of commercial operation of the last unit of the generating station shall be considered as the date of commercial operation of the generating station as a whole, provided that it will be mandatory for such hydro generating station to demonstrate peaking capability equivalent to the installed capacity of the generating unit or the generating station as and when such reservoir /pond level is achieved.
 2. In case of purely run-of-river hydro generating station if the unit or the generating station is declared under commercial operation during lean inflows period when the water is not sufficient for such demonstration, it shall be mandatory for such hydro generating station or unit to demonstrate peaking capability equivalent to the installed capacity as and when sufficient inflow is available.
- (16) “**day**” means the 24 hour period starting at 0000 hour;
- (17) “**declared capacity**” or “**DC**” in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any time-block of the day or whole of the day, duly taking into account the availability of water, and subject to further qualification in the relevant regulation;
- (18) “**design energy**” means the quantum of energy which could be generated in a 90% dependable year with 95% installed capacity of the hydro generating station;

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- (19) “**existing station**” means a hydro generating station declared under commercial operation from a date prior to 01.04.2011;
- (20) “**existing project**” means a project declared under commercial operation from a date prior to 01.04.2011;
- (21) “**financial year**” means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
- (22) “**infirm power**” means electricity generated prior to commercial operation of the unit of a hydro generating station;
- (23) “**installed capacity**” or “**IC**” means the summation of the name plate capacities of all the units of the generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the Commission from time to time;
- (24) “**new station**” means a hydro generating station declared under commercial operation on or after 01.04.2011;
- (25) “**Normative Annual Plant Availability Factor**” or “**NAPAF**” in relation to a generating station means the availability factor specified in clause (a) of sub-regulation (1) of regulation 23 for hydro generating station;
- (26) “**original project cost**” means the capital expenditure incurred by the generating company within the original scope of the project up to the cut-off date as admitted by the Commission;
- (27) “**Plant Availability Factor (PAF)**” in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity in MW reduced by the normative auxiliary energy consumption;
- (28) “**project**” means a hydro generating station and includes the complete hydro power generating facility covering all components such as dam, intake, water conductor system, power generating station and generating units of the scheme as apportioned to power generation;
- (29) “**run-of-river power station**” means a hydro electric power generating station which does not have upstream pondage;
- (30) “**run-of-river power station with pondage**” means a hydro electric power generating station with sufficient pondage for meeting the diurnal variation in power demand;
- (31) “**scheduled energy**” means the quantum of energy scheduled by the State Load Despatch Centre to be injected into the grid by a generating station over a day;

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- (32) **“scheduled generation”** or “SG” at any time or for any period or time-block means schedule of generation in MW or MWh ex-bus, given by the concerned Load Despatch Centre;
- (33) **“storage type power station”** means a hydro electric power generating station associated with large storage capacity to enable variation of generation of power according to demand;
- (34) **“State” means the State** of Himachal Pradesh;
- (35) **“unit”** in relation to a hydro generating station means turbine-generator and its auxiliaries;
- (36) **“useful life”** in relation to a unit of a hydro generating station shall be 40 years from the COD;
- (37) **“year”** means a financial year; and
- (38) the words and expressions used in these regulations and not defined herein but defined in the Act shall have the meanings respectively assigned to them in the Act.

PART-II

GUIDING PRINCIPLES

4. General Approach:

- (1) Tariff determined by the Commission and the directions given in the tariff order made by the Commission shall be quid pro quo and mutually inclusive. The tariff determined shall, within the period specified by it, be subject to the compliance of the directions to the satisfaction of the Commission and their non-compliance shall lead to such amendment, revocation, variations and alterations of the tariff, as may be ordered by the Commission.
- (2) The tariff order shall, unless amended or revoked, continue to be in force for such period as may be specified in the tariff order. In the event of failure on the part of the generating company to file the aggregate revenue requirement (ARR) under Part-V, the tariff determined by the Commission shall cease to operate, unless allowed to be continued for a further period with such variations or modifications, as may be ordered by the Commission.

5. Multi Year Tariff (MYT) Framework

- (1) The Commission shall adopt multi year tariff framework for determination of tariff for each year of the control period.

- (2) The multi year tariff framework shall be based on the following: -
- (a) **Business plan** (with plant-wise details) for the entire control period, which the applicant shall submit to the Commission for approval, prior to the beginning of the control period;
 - (b) **Forecast of expected tariff for sale of power** which shall be submitted by the generating company (plant-wise) for each year of the control period, based on reasonable assumptions of the underlying financial and operational parameters, as submitted in the business plan;
 - (c) **Trajectory for specific parameters**, stipulated by the Commission, where the performance of the applicant is sought to be improved through incentives and disincentives;

6. Determination of Baseline

- (1) The baseline values (operating and cost parameters) for the control period shall be determined by the Commission, based on previously approved values, the latest audited accounts, estimate of the actuals for the relevant year, prudence check and other factors considered appropriate by the Commission.
- (2) The Commission shall normally not revisit the performance targets even if the targets are fixed on the basis of un-audited accounts.

7. Capital Investment

Subject to the provisions of the Act, and the rules and policies made thereunder, the Commission shall approve the capital investment plan of a generating company for the control period commensurate with generation capacity growth. The investment plan shall also include a capitalisation schedule and financing plan for the planned investment. Adjustment for the actual capital investment vis-à-vis approved capital investment shall be done at the end of the control period.

8. Performance Targets

- (1) The Commission shall set targets for each year of the control period for the items or parameters that are deemed to be “controllable” and which will include-
 - (a) Normative Annual Plant Availability Factor;
 - (b) Auxiliary energy consumption;
 - (c) Operation and Maintenance Expenses which includes employee expenses, repairs and maintenance expenses, administration and general expenses and other miscellaneous expenses viz. audit fees, rents, legal fees etc;

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- (d) Financing cost which includes cost of debt including working capital (interest), cost of equity (return); and
 - (e) Depreciation.
- (2) The Commission will normally not revisit the performance targets, once determined even if the targets are fixed on the basis of un-audited accounts.

9. True Up

- (1) The true up across various controllable parameters shall be conducted as per principles stated below: -
- (a) any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR; and
 - (b) at the end of the control period –
 - (i) the Commission shall review actual capital investment vis-à-vis approved capital investment;
 - (ii) depreciation and financing cost, which includes cost of debt including working capital (interest), cost of equity (return) shall be trued up on the basis of actual/audited information and prudence check by the Commission.
- (2) Notwithstanding anything contained in these regulations, the gains or losses in the controllable items of ARR on account of *force majeure* factors shall be passed on as an additional charge or rebate in ARR over such period as may be laid down in the order of the Commission.

10. Refund of excess amount

If a generating company recovers the charges exceeding the tariff determined by the Commission, the excess amount shall be refunded to beneficiaries, who have paid such excess charges, alongwith interest equal to the prevalent Short Term Prime Lending Rate of the State Bank of India, without prejudice to any other liability incurred by such licensee.

PART-III

PRINCIPLES FOR DETERMINATION OF HYDRO GENERATION TARIFF

11. Capital cost of project

(1) Capital cost for a project shall include-

- (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;
- (b) capitalised initial spares subject to the ceiling norms as per regulation 12;
- (c) additional capital expenditure determined under regulation 13:

Provided that the assets forming part of the project, but not in use, shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission, after prudence check, shall form the basis for determination of tariff:

Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff:

Provided further that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert and in that event the capital cost as vetted by such agency or expert may also be considered by the Commission while determining the tariff for the hydro generating station:

Provided further that the Commission may issue guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects of a developer (not being a State controlled or owned company) as envisaged in the tariff policy:

Provided further that in case the site of a hydro generating station is awarded to a developer (not being a State controlled or owned company) by the State Government, by following a two stage transparent process of bidding, any expenditure incurred or committed to be incurred by the project developer for getting the project site allotted shall not be included in the capital cost:

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Provided further that the capital cost in case of such hydro generating station shall include -

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with R&R Policy and R&R package as approved by the State Government; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) project in the affected area:

Provided further that where the power purchase agreement entered into between the generating company and the beneficiaries provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff:

Provided further that in case of the existing projects, the capital cost admitted by the Commission prior to 01.04.2011 and the additional capital expenditure projected to be incurred for the respective years of the control period, as may be admitted by the Commission, shall form the basis for determination of tariff.

12. Initial Spares

For hydro generating stations, initial spares shall be capitalised as a percentage of the original project cost, subject to the ceiling norm of 1.5%:

Provided that the Commission, may for sufficient reasons to be recorded in writing, after exercising due diligence and applying prudence check, deviate from the above ceiling norm.

13. Additional Capitalisation

- (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date, may be admitted by the Commission, subject to prudence check,:-
 - (a) Undischarged liabilities;
 - (b) Works deferred for execution;
 - (c) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 12;
 - (d) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
 - (e) Change in law:

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Provided that the details of works included in the original scope of work, along with estimates of expenditure, undischarged liabilities and the works deferred for execution, shall be submitted along with the application for determination of tariff.

- (2) The capital expenditure incurred on the following counts after the cut off date may, in its discretion, be admitted by the Commission, subject to prudence check,:-
 - (a) liabilities to meet award of arbitration or for compliance of the order or decree of a court;
 - (b) change in law;
 - (c) any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation:

Provided that in any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalisation for determination of tariff w.e.f. 1.4.2011.

14. Renovation and Modernisation

- (1) The generating company for meeting the expenditure on renovation and modernization for the purpose of extension of life beyond the useful life of the generating station or a unit thereof shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, record of consultation with beneficiaries and any other information considered to be relevant by the generating company.
- (2) Where the generating company makes an application for approval of its proposal for renovation and modernisation, the approval shall be granted after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

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- (3) Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernisation expenditure and life extension, and after deducting the accumulated depreciation already recovered from the original project cost, shall form the basis for determination of tariff.

15. Sale of Infirm Power

Supply of infirm power shall be accounted as Unscheduled Interchange (UI) and paid for from the regional or State UI pool account at the applicable frequency-linked UI rate:

Provided that any revenue earned by the generating company from sale of infirm power shall be applied for reduction in capital cost.

16. Debt-Equity Ratio

(1) Existing Stations:

- (a) For existing generating stations the amount of loan capital shall be equal to the sum of the outstanding balance of all long term loans taken to finance the generating station, at the commencement of the financial year for which tariff is to be determined, as reflected in the tariff orders of the Commission.
- (b) The equity capital shall be taken as specified by the generating company, subject to prudence check by the Commission.
- (c) Any fresh infusion of capital in the existing generating stations shall be considered only after prior approval by the Commission, and would have a debt-equity ratio of 70:30.

(2) New Stations:

- (a) For new stations, the normative debt-equity ratio shall be considered to be 70:30 for determination of tariff.
- (b) In case of a generating station where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.
- (c) In case of a generating station where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff:

Provided that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

(3) Renovation and Modernisation:

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Any approved capital expenditure incurred on renovation, modernisation, replacement or extension of life of existing generating assets shall be considered to be financed at a normative debt-equity ratio of 70:30. In case the amount of equity is less than 30%, the actual debt-equity ratio shall be considered.

- (4) The debt and equity amounts arrived at in accordance this regulation shall be used for calculating interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.

17. Interest and Finance Charges

- (1) Interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment in accordance with the terms and conditions of relevant agreements of loan, bond or non-convertible debentures. Exception can be made for the existing or past loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects.

- (2) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered.

- (3) The interest rate on the amount of equity in excess of 30% treated as notional loan shall be the weighted average rate of the loans of the respective years and shall be further limited to the rate of return on equity specified in these regulations:

Provided that all loans considered for this purpose shall be identified with the assets created:

Provided further that the interest and finance charges of re-negotiated loan agreements shall not be considered, if they result in higher charges:

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

Provided further that neither penal interest nor overdue interest shall be allowed for computation of tariff.

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- (4) In case any moratorium period is availed of in any loan, depreciation provided for in the tariff during the years of moratorium shall be treated, as notional repayment of loan during those years and interest on loan capital shall be calculated accordingly.
- (5) The generating station shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing shall be borne by the beneficiaries and any benefit on account of refinancing of loan and interest on loan shall be passed on to the beneficiaries. Refinancing may also include restructuring of debt.
- (6) In respect of foreign currency loans, variation in rupee liability due to foreign exchange rate variation, towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of such foreign exchange rate variation and is not attributable to the generating company or its suppliers or contractors.

18. Working Capital

The Commission shall calculate the working capital requirement for hydro electric power stations containing the following components: -

- (a) Operation & Maintenance (O&M) expenses for 1 month;
- (b) maintenance spares equivalent to 15% of O&M specified in regulations 22;
- (c) receivables equivalent to two months of fixed cost.

19. Interest on Working Capital

Rate of interest on working capital shall be on normative basis and shall be equal to the Short-Term Prime Lending Rate of the State Bank of India as on 1st April of the relevant year. The interest on working capital shall be payable on normative basis notwithstanding that the generating station has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures.

20. Depreciation

- (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
- (2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

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Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

- (3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
- (4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in the Appendix to these regulations for the assets of the generating station:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the asset.

- (5) For generating station which are in operation for less than 12 years, the difference between the cumulative depreciation recovered and the cumulative depreciation arrived at by applying the depreciation rates specified in this regulation corresponding to 12 years, shall be spread over the period up to 12 years, and the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the asset.
- (6) For the project in operation for more than 12 years, the balance depreciation to be recovered shall be spread over the remaining useful life of the asset.
- (7) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on *pro rata* basis.

21. Return on Equity

- (1) Return on equity shall be computed on the equity determined in accordance with regulation 16 and on pre-tax basis at the base rate of 15.5% to be grossed up as per sub-regulation (3) of this regulation:
- (2) The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the year 2010-11 applicable to the concerned generating company:

Provided that return on equity with respect to the actual tax rate applicable to the generating company in line with the provisions of the relevant Finance Acts of

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the respective year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

- (3) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below-
 - (a) Rate of pre-tax return on equity = Base rate / (1-t)
 - (b) Where t is the applicable tax rate in accordance with sub-regulation (2) of this regulation.

Illustration:-

- (i) In case of the generating company paying Minimum Alternate Tax (MAT) @ 19.93% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.1993) = 19.358\%$$

- (ii) In case of generating company paying normal corporate tax @ 33.22% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.3399) = 23.481\%$$

22. Operation and Maintenance (O&M) Expenses

- (1) Operation and Maintenance (O&M) expenses shall comprise of the following:-
 - (a) salaries, wages, pension contribution and other employee costs;
 - (b) administrative and general costs;
 - (c) repairs and maintenance; and
 - (d) other miscellaneous expenses including insurance costs, statutory levies and taxes (except corporate income tax).
- (2) Operation and maintenance expenses, for the existing generating stations which have been in operation for 3 years or more in the base year of 2010-11, shall be derived on the basis of actual operation and maintenance expenses for the years 2007-08 to 2009-10, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission
- (3) The normalised operation and maintenance expenses after prudence check, for the years 2007-08 to 2009-10, shall be escalated @ 8.32% to arrive at the normalized operation and maintenance expenses at the 2009-10 price level

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respectively and then averaged to arrive at normalised average operation and maintenance expenses for the 2007-08 to 2009-10 at 2009-10 price level. The average normalized operation and maintenance expenses for year 2009-10 shall be escalated by 8.32% to arrive at the normalized operation and maintenance of base year 2010-11. The normalized operation and maintenance expenses or the actual operation and maintenance expenses for the base year 2010-11, whichever is lower shall be escalated at the rate of 8.32% to arrive at the operation and maintenance expenses for year 2011-12.

- (4) The operation and maintenance expenses for the year 2011-12 shall be escalated further at the rate of 8.32% per annum to arrive at permissible operation and maintenance expenses for the subsequent years of the control period.
- (5) In case of the hydro generating stations, which have not been in commercial operation for a period of three years as on 1.4.2011, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be escalated at the rate of 8.32% per annum from the subsequent year to arrive at operation and maintenance expenses for the base year 2010-11. The base operation and maintenance expenses shall be further escalated at the rate of 8.32% per annum to arrive at permissible operation and maintenance expenses for the respective year of the tariff period.
- (6) In case of the hydro generating stations declared under commercial operation on or after 1.4.2011, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) and shall be subject to annual escalation of 8.32% per annum for the subsequent years.
- (7) Of the O&M expenses so determined based on the above regulations, at least 30% shall be spent towards repair and maintenance activities.

PART-IV

NORMS OF OPERATION

23. Operational Norms

- (1) The norms of operation for hydro generating stations shall be as under-
 - (a) **Normative Annual Plant Availability Factor (NAPAF)** for hydro generating stations shall be determined by the Commission as per the following criteria:-
 - (i) storage and pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt : 90%

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- (ii) storage and pondage type plants with head variation between FRL and MDDL of more than 8%, where plant availability is not affected by silt: Plant-specific allowance to be provided in NAPAF for reduction in MW output capability as reservoir level falls over the months. As a general guideline the allowance on this account in terms of a multiplying factor may be worked out from the projection of annual average of net head, applying the formula:

$$(\text{Average head} / \text{Rated head}) + 0.02$$

Alternatively in case of a difficulty in making such projection, the multiplying factor may be determined as:

$$(\text{Head at MDDL} / \text{Rated head}) \times 0.5 + 0.52$$

- (iii) pondage type plants where plant availability is significantly affected by silt : 85%
- (iv) run-of-river type plants: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant;

(b) Auxiliary Energy Consumption:

Surface hydro electric power generating station	With rotating exciters mounted on the generator shaft	0.7%
	With static excitation system	1%
Underground hydro electric power generating station	With rotating exciters mounted on the generator shaft	0.9%
	With static excitation system	1.2%

Provided that the Commission, may for sufficient reasons to be recorded in writing, after exercising due diligence and applying prudence check, deviate from the above ceiling norm.

- (2) A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations.
- (3) In case of a new hydro electric project the developer shall have the option of approaching the Commission in advance for fixation of NAPAF based on the principles enumerated in clause (a) of sub-regulation (1) of this regulation.
- (4) The Commission may lay down relaxed operational norms including the norms of NAPAF and auxiliary consumption contained in these regulations for a generating station, and these relaxed norms shall be applicable for determination of tariff for such generating station during the control period.

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- (5) The norms of operation under these regulations shall be ceiling norms and shall not preclude generating companies and the beneficiaries from agreeing to improve norms of the operation. If the PPA stipulates better norms of operation then such norms provided in the PPA shall be considered.
- (6) In case of renovation and modernisation, de-rating or re-rating of the generating station, norms of operation shall be reviewed and modified accordingly.

24. Computation of Tariff

The tariff for supply of electricity from a hydro generating station shall comprise capacity charge and energy charge to be derived in the manner specified in regulation 26, for recovery of annual fixed cost (consisting of the components referred to in regulation 25) through the two charges.

25. Annual Fixed Cost

The annual fixed cost (AFC) of a generating station shall consist of the following components:-

- (a) Return on equity;
- (b) Interest on loan capital;
- (c) Depreciation;
- (d) Interest on working capital;
- (e) Operation and maintenance expenses.

26. Computation of Capacity Charge and Energy Charge

- (1) The fixed cost of a hydro generating station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis under capacity charge (inclusive of incentive) and energy charge, which shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the State:

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge and energy charge payment during such period.

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- (2) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be -

$$AFC \times 0.5 \times NDM / NDY \times (PAFM / NAPAF) \text{ (in Rupees)}$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees.

NAPAF = Normative plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percentage

- (3) The PAFM shall be computed in accordance with the following formula:-

$$PAFM = 10000 \times \sum_{i=1}^N DC_i / f \{N \times IC \times (100 - AUX)\} \%$$

Where,

AUX = Normative auxiliary energy consumption in percentage

DC_i = Declared capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least three (3) hours, as certified by the State Load Dispatch Centre after the day is over.

IC = Installed capacity (in MW) of the complete generating station

N = Number of days in the month.

- (4) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month, on ex power plant basis, at the computed energy charge rate. Total Energy charge payable to the generating company for a month shall be -

$$(\text{Energy charge rate in Rs. /kWh}) \times \{\text{Scheduled energy (ex-bus) for the month in kWh}\} \times (100 - FEHS) / 100.$$

- (5) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three decimal places based on the following formula, subject to the provisions of sub-regulation (7):-

$$ECR = AFC \times 0.5 \times 10 / \{DE \times (100 - AUX) \times (100 - FEHS)\}$$

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Where,

DE = Annual design energy specified for the hydro generating station, in MWh, subject to the provisions of sub- regulations (6)

FEHS = Free energy for State, in per cent, as defined in regulation 28.

- (6) In case actual total energy generated by a hydro generating station during a year is less than the design energy for reasons beyond the control of the generating company, the following treatment shall be applied, on a rolling basis, :-
- (a) in case the energy shortfall occurs within ten years from the date of commercial operation of a generating station, the ECR for the year following the year of energy shortfall shall be computed based on the formula specified in sub-regulation (5) of this regulation with the modification that the DE for the year shall be considered as equal to the actual energy generated during the year of the shortfall, till the energy charge shortfall of the previous year has been made up, after which normal ECR shall be applicable;
- (b) in case the energy shortfall occurs after ten years from the date of commercial operation of a generating station, the following shall apply:-
- (i) Suppose the specified annual design energy for the station is DE MWh, and the actual energy generated during the concerned (first) and the following (second) financial years is A1 and A2 MWh respectively, A1 being less than DE. Then, the design energy to be considered in the formula in sub-regulation (5) of this regulation for calculating the ECR for the third financial year shall be moderated as $(A1 + A2 - DE)$ MWh, subject to a maximum of DE MWh and a minimum of A1 MWh;
- (ii) Actual energy generated (e.g. A1, A2) shall be arrived at by multiplying the net metered energy sent out from the station by $100 / (100 - AUX)$.
- (7) In case the energy charge rate (ECR) for a hydro generating station, as computed in sub-regulation (5) of this regulation, exceeds eighty paise per kWh, and the actual saleable energy in a year exceeds $\{DE \times (100 - AUX) \times (100 - FEHS) / 10000\}$ MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only:

Provided that in a year following a year in which total energy generated was less than the design energy for reasons beyond the control of the generating company, the energy charge rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous year has been made up.

- (8) The State Load Despatch Centre shall finalise the schedules for the hydro generating stations, in consultation with the beneficiaries, for optimal utilization

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of all the energy declared to be available, which shall be scheduled for all beneficiaries in proportion to their respective allocations in the generating station.

27. Unscheduled Interchange (UI) Charges

The generating station may be entitled to receive or shall be required to bear, as the case may be, the charges for deviations between energy sent-out corresponding to scheduled generation and actual energy sent-out shall be accounted for through Unscheduled Interchange (UI) charges, as per the rate approved by the Appropriate Commission.

28. Billing and payment of charges

Bills shall be raised for capacity charge and energy charge on monthly basis by the generating company in accordance with these regulations, and payments shall be made by the beneficiaries directly to the generating company.

Note.-

FEHS = Free energy for State, in percent and shall be taken at actual subject to maximum of 13% in accordance with the National Hydro Policy

29. Late Payment Surcharge

In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary beyond a period of 60 days from the date of billing a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.

30. Rebate

For payment of bills of the generating company through a letter of credit on presentation, a rebate of 2% shall be allowed. If the payment is made by any other mode but within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed.

31. Scheduling

The methodology for scheduling and dispatch for the generating station shall be as specified in the Himachal Pradesh Electricity Grid Code as amended from time to time.

32. Demonstration of Declared Capacity:

- (1) The generating company may be required to demonstrate the declared capacity of its generating station as and when asked by the State Load Despatch Centre (SLDC). In the event of the generating company failing to demonstrate the declared capacity, the capacity charges due to the generating company shall be

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reduced as a measure of penalty, the quantum of which shall be determined by the Commission.

- (2) The quantum of penalty for the first mis-declaration for any duration or block in a day shall be the charges corresponding to two days fixed charges. For the second mis-declaration the penalty shall be equivalent to fixed charges for four days and for subsequent mis-declarations, the penalty shall be multiplied in the geometrical progression.
- (3) The operating log books of the generating station shall be available for review by the State Load Despatch Centre (SLDC). These books shall keep record of machine operation and maintenance, reservoir level and spillway gate operation.

33. Metering and Accounting:

For metering and accounting, the provisions of the Himachal Pradesh Electricity Grid Code, as amended from time to time, shall be applicable.

34. Safety Standards

The generating company shall develop a safety manual and follow procedures to maintain minimum safety standards during construction, operation, etc. in line with the provisions of section 53 of the Act.

PART-V

MULTI YEAR TARIFF FILING PROCEDURE

35. Multi-Year Filings for the control period

- (1) The multi year tariff filing shall be in such form and in such manner as may be laid down by the Commission by an order and also as per the provisions of the Conduct of Business Regulations.
- (2) The applicant shall also submit the multi year tariff filing in electronic format to the Commission.

36. Beginning of the control period - business plan filings

- (1) The generating company shall file for the Commission's approval, on 1st April of the year preceding the first year of the control period or any other date, as may be directed by the Commission, a business plan approved by its board of directors. The business plan shall be for the entire control period and shall, interalia, contain -
 - (a) **Capital Investment Plan:** This shall include details of the investments planned by the generating company, alongwith the corresponding

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capitalisation schedule and financing plan. This plan shall be commensurate with capacity enhancement and proposed efficiency improvements for various plants of the company;

- (b) **Capital Structure:** The generating company shall submit plant-wise details of the capital structure and cost of financing (interest on debt and return on equity), after considering the existing market conditions, terms of the existing loan agreements, risks associated in generation business and creditworthiness;
- (c) **Operation and Maintenance (O&M) expenses:** This shall include the costs estimated for the base year, the actual expenses incurred in the previous five years and the projected values for each year of the control period based on the proposed norms for O&M cost;
- (d) **Depreciation:** This shall include details of depreciation based on the useful life of the asset and capitalisation schedules for each year of the control period;
- (e) **Performance Targets:** A set of targets proposed for other controllable items such as auxiliary consumption, NAPAF. The targets shall be consistent with the capital investment plan proposed by the generating company;
- (f) **Other Information:** This shall include any other details considered appropriate by the generating company for consideration during determination of tariff.

37. Tariff Filing

The applicant shall file the application for approval of generation tariff for each year of the control period consistent with the business plan, not less than 120 days before the commencement of the first year of the control period or such other date as may be directed by the Commission.

38. Review at the end of the control period

Towards the end of the control period, the Commission shall review if the implementation of the principles laid down in these regulations has achieved their intended objectives. While doing this, the Commission shall take into account, among other things, the industry structure, sector requirements, consumer and other stakeholder expectations and the applicant's requirements at that point in time. Depending on the requirements of the sector to meet the objects of the Act, the Commission may revise the principles for the next control period.

39. Disposal of Application

- (1) The Commission shall process the filings made by the generating company in accordance with these regulations and the Conduct of Business Regulations.

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- (2) Based on the generating company's filings, objections/ suggestions from public and other stakeholders, the Commission may, within 120 days of the receipt of the application, complete in all respects, and after considering all suggestions and objections from public and other stakeholders,-
 - (a) issue a tariff order with such modifications and/or such conditions, as may be deemed just and appropriate containing, inter alia targets for controllable items and the generation tariffs for each year of the control period; or
 - (b) reject the application for reasons to be recorded in writing if such application is not in accordance with the provisions of the Act and the rules and regulations made thereunder or the provisions of any other law for the time being in force.

40. Periodic Reviews

- (1) To ensure smooth implementation of the multi year tariff (MYT) framework, the Commission may undertake periodic reviews of generating company's performance during the control period, to address any practical issues, concerns or unexpected outcomes that may arise.
- (2) The Commission may also direct any modifications to the forecast of the generating company for the remainder of the control period, with detailed reasons for the same.

41. Publication

The generating company shall publish the tariff approved by the Commission in the newspapers, having circulation in the area of supply, as the Commission may direct. The publication shall, besides such other things as the Commission may require, include a general description of the tariff changes.

PART-VI

MISCELLANEOUS

42. Sharing of Clean Development Mechanism (CDM) Benefits.

- (1) The proceeds of carbon credit from approved CDM project shall be shared in the following manner, namely-
 - (a) 100% of the gross proceeds on account of CDM to be retained by the project developer in the first year (12 months) after the date of commercial operation of the generating station;
 - (b) in the second year, the share of the beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, whereafter the

proceeds shall be shared in equal proportion, by the generating company and the beneficiaries.

43. Tax on Income

In view of pre tax return on equity, tax on the income streams of the generating company shall not be recovered from the beneficiaries:

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2011 whenever it materialises, shall be recoverable directly from the beneficiaries and the long-term customers.

44. Foreign Exchange Rate Variation

- (1) The generating company may hedge foreign exchange exposure in respect of the interest on foreign currency loan and repayment of foreign loan acquired for the generating station in part or full in the discretion of the generating company.
- (2) Every generating company shall recover the cost of hedging of foreign exchange rate variation corresponding to the normative foreign debt, in the relevant year on year-to-year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against the hedged foreign debt.
- (3) To the extent the generating company is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant year shall be permissible provided it is not attributable to the generating company or its suppliers or contractors.
- (4) Every generating company shall recover the cost of hedging and foreign exchange rate variation on year-to-year basis as income or expense in the period in which it arises.

45. Recovery of cost of hedging Foreign Exchange Rate Variation

Recovery of cost of hedging and foreign exchange rate variation shall be made directly by the generating company from the beneficiaries without making any application before the Commission:

Provided that in case of any objections by the beneficiaries to the amounts claimed on account of cost of hedging or foreign exchange rate variation, the generating company makes an appropriate application before the Commission for its decision.

46. Transitory provisions: Notwithstanding anything to the contrary contained in these regulations –

- (a) the tariff order issued by the Commission for the control period ending on the 31st March, 2011 and shall continue to operate; and
- (b) the proceedings (including review petition) for amendments, revocation, variation or alteration of the said tariff order; shall continue to be filed and dealt with as if the repealed regulations in respect of the said tariff determination continue to be in-force, and the provisions of these regulations shall not apply.

47. Issue of Orders and Practice Directions

- (1) Subject to the provision of the Act and these regulations, the Commission may, from time to time, issue orders and practice directions, prescribe formats in regard to the implementation of these regulations and procedure to be followed on various matters, which the Commission has been empowered by these regulations to direct, and matters incidental or ancillary thereto.
- (2) Notwithstanding anything contained in these regulations, the Commission shall have the authority, either suo motu or on a petition filed by any interested or affected person, to determine the tariff of any applicant.

48. Power to remove difficulties

If any difficulty arises in giving effect to any of the provisions of these regulations, the Commission may, by a general or special order, not being inconsistent with the provisions of these regulations or the Act, do or undertake to do things or direct the generating company to do or undertake such things which appear to be necessary or expedient for the purpose of removing the difficulties.

49. Power of relaxation

The Commission may, in public interest and for reasons to be recorded in writing, relax any of the provisions of these regulations.

50. Interpretation

All issues arising in relation to the interpretation of these regulations shall be determined by the Commission and the decision of the Commission on such issues shall be final.

51. Saving of Inherent Powers of the Commission

Nothing contained in these regulations shall limit or otherwise affect the inherent powers of the Commission from adopting a procedure, which is at variance with any of the provisions of these regulations, if the Commission, in view of the special circumstances of the matter or class of matters and for reasons to be recorded in

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writing, deems it necessary or expedient to depart from the procedure specified in these regulations.

52. Enquiry and Investigation

All enquiries, investigations and adjudications under these regulations shall be done by the Commission in accordance with the provisions of the Conduct of Business Regulations.

53. Repeal and Savings

- (1) The Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2007 are hereby repealed.
- (2) Notwithstanding such repeal-
 - (a) anything done or any action taken or purported to have been done or taken under the repealed regulations shall, in so far as it is not inconsistent with the provisions of these regulations, be deemed to have been done or taken under the corresponding provisions of these regulations;
 - (b) the provisions concerning the tariff order made for the control period ending on the 31st March, 2011 and the provisions for conduct of the proceedings (including review petitions) for its revocations, variation or alternation as, stood before such repeal, shall continue to be in-force.

By Order of the Commission,

Sd/-
Secretary

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Appendix : Depreciation Schedule (see regulation 20)

No	Asset Particulars	Depreciation Rate (Salvage Value=10%)
A	Land under full ownership	0.00%
B	Land under lease	
(a)	For investment in land	3.34%
(b)	For cost of clearing the site	3.34%
(c)	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
(a)	Plant and Machinery in generating stations	
(i)	Hydro-electric	5.28%
(b)	Hydraulic works forming part of hydro-electric system including:	
(i)	Dams, spillways weirs, canals, reinforced concrete flumes & siphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge (tanks) hydraulic control valves and other hydraulic works	5.28%
D	Buildings and civil engineering works of a permanent character, not mentioned above:	
(i)	Offices & showrooms	3.34%
(ii)	Containing hydro-electric generating plant	3.34%
(iii)	Temporary erection such as wooden structures	100.00%
(iv)	Roads other than kutchha roads	3.34%
(v)	Others	3.34%
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	5.28%
(ii)	Others	5.28%
F	Switchgear, including cable connections	5.28%
G	Lightning arrestors:	5.28%
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
H	Batteries	5.28%

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No	Asset Particulars	Depreciation Rate (Salvage Value=10%)
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
I	Overhead lines including supports:	
(i)	Lines on fabricated steel operating at nominal voltages higher than 66 kV	5.28%
(ii)	Lines on steel supports operating at nominal voltages higher than 13.2 kV but not exceeding 66 kV	5.28%
(iii)	Lines on steel or reinforced concrete supports	5.28%
(iv)	Lines on treated wood supports	5.28%
J	Meters	5.28%
K	Self propelled vehicles	9.50%
L	Air conditioning plants:	
(i)	Static	5.28%
(ii)	Portable	9.50%
M(i)	Office furniture and fittings	6.33%
(ii)	Office equipments	6.33%
(iii)	Internal wirings including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
N	Apparatus let on hire:	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
O	Communication equipment	
(i)	Radio and higher frequency carrier systems	6.33%
(ii)	Telephone lines and telephones	6.33%
P	I.T Equipment	15.00%
Q	Any other assets not covered above	5.28%