

Uttar Pradesh Electricity Regulatory Commission

NOTIFICATION No.: UPERC/Secy/Generation Regulations/4100

Lucknow : Dated, 31st March 2009

In exercise of powers conferred under Section 181 read with Section-61 of the Electricity Act, 2003, and all other powers enabling in this behalf, the Uttar Pradesh Electricity Regulatory Commission hereby makes the following regulations, namely:

CHAPTER 1

PRELIMINARY

1. Short title and commencement:

- (1) These regulations may be called the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2009.
- (2) These regulations shall come into force with effect from 01.04.09 and unless reviewed earlier or extended by the Commission, shall remain in force for 5 years, up to 31.03.14.
- (3) Words and expressions used in these regulations and not defined herein but defined in the Act shall have the meaning assigned to them under the Act.

2. Scope and extent of application:

- (1) These Regulations shall apply to cases of generation and/or supply of electricity within the State of U.P by a generating company.
- (2) The Commission shall adopt such tariff as determined through transparent process of bidding in accordance with the Guidelines issued by the Central Government.
- (3) These regulations shall be applicable in cases of generating plants where tariff is to be determined by the Commission based on capital cost except for captive power plants, co-generation and generation from renewable sources of energy projects.
However, in case of lignite and liquid fuel based generating plants commissioned on or after 01.04.09, the tariff shall be decided in accordance with CERC (Terms and Conditions of Tariff) Regulations, 2009.
- (4) The generating company may adopt Clean Development Mechanism, for generating stations approved and commissioned on or after 1.4.09, and

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 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.

- (5) These Regulations are in addition to and not in derogation to the terms and condition of determination of tariff approved by the Commission in a power purchase agreement signed between a generating company and distribution licensee(s)/beneficiary(ies). Either party to power purchase agreement may approach the Commission for specific relief, under these Regulations and amendments thereof, if such provision or remedy is not available in the power purchase agreement signed between them.
- (6) Availability Based Tariff (ABT) in the State of Uttar Pradesh Shall be implemented as per Orders passed by Uttar Pradesh Electricity Regulatory Commission read with orders of Central Electricity Regulatory Commission.
- (7) Yearly energy audits for each generating unit defined for a generating station shall be compulsory under section 61(c) of the Act read with schedule of the Energy Conservation Act 2001, clause 5.9 of the National Electricity Policy and Clause 8(b) of Power Policy 2003 of GoUP. The energy audit result shall be declared in Form-1 and in the manner provided under the Energy Conservation (the form and manner for submission of report on the status of energy consumption by the designated consumers) Rules, 2007.
- (8) The generating company shall submit performance report to the Commission under section 10(3)(a) of the Act on Appendix-III to these Regulations.
- (9) The generating plant, under section 10(3)(b), shall co-ordinate with the State Transmission Utility for transmission of electricity generated by it according to the provisions made in Uttar Pradesh Electricity Grid Code (UPEGC).
- (10) The generating company shall abide by obligations cast on it by order of the Central/State Government issued from time to time in respect to promotion of the Renewable Energy Sources.

3. Norms of operation to be ceiling norms:

The norms of operation specified under these regulations are the ceiling norms and this shall not preclude the generating company and distribution licensee or any other person, as the case may be, from agreeing to improved norms of operation. In case the improved norms are agreed to, such norms shall be applicable for determination of tariff.

4. Tariff determination:

(1) Tariff in respect of a generating station under these regulations shall be determined stage-wise, unit-wise or for the whole generating station, as the case may be.

(2) For the purpose of tariff, the capital cost of the project shall be broken up into stages and by distinct units (in case part of units are functional) forming part of the generating station. Where the stage-wise, unit-wise, break up of the capital 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 the units. In relation to multi-purpose hydroelectric generating stations, with irrigation, flood control and power components, the capital cost chargeable to the power component of the generating station shall only be considered for determination of tariff.

'Project' as said above shall include a generating station.

5. Application for determination of tariff:

(1) The generating company shall make an application for fixation of tariff in respect of the completed units of the generating station in such forms and such manners as prescribed in this Regulation and Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulation notified by the Commission from time to time.

Provided that the applications for determination of tariff shall be filed covering the period for which the terms and conditions of tariff shall remain in force.

Provided also that the application for determination of tariff shall also be filed for a period of 5 years by a generating company, covered under Clause-5 of Regulation-2, on the basis of terms and condition for determination of tariff approved by the Commission in a Power Purchase Agreement.

(2) In case of the existing generating station, the generating company shall make an application for determination of tariff as per Appendix I to these Regulations.

(3) In case of a generating station declared under commercial operation on or after the date of commencement of this Regulation, an application for fixation of tariff shall be made as per Appendix I to these Regulations, for determination of provisional tariff in advance of the anticipated date of completion of the project based on the capital expenditure actually incurred up to the date of making of the application or a date prior to making of the application, duly audited and certified by the statutory auditors, and the provisional tariff shall be charged from the date of commercial operation of the respective unit of the generating station.

A generating company shall make a fresh application as per Appendix I to these Regulations, for determination of final tariff based on actual capital expenditure incurred up to the date of commercial operation of the generating station, duly audited and certified by the statutory auditors.

Provided further that over or under recovery of charges by the generating company on account of provisional tariff shall be subject to retrospective adjustment on the basis of final tariff determined by the Commission. The generating company, on the basis of such final tariff, shall calculate the amount of under or over recovery of charges and bill such amount to be recovered or paid by it from or to the beneficiary (ies), for the period provisional tariff remained effective, within six months of determination of final tariff, along with simple interest calculated at rate equal to Short Term Prime Lending Rate of State Bank of India prevailing as on 1st April of the relevant year.

6. Core Business :

For the purpose of these regulations, core business means the regulated activities of generation of electricity and does not include any other business or activity, like consultancy, of the generating company.

7. Tax on Income:

(1) Tax on the income streams of the generating company from its core business, shall be computed as an expense and shall be permitted to be recovered from beneficiaries. 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 generating company.

Provided that the generating station-wise profit before tax of the generating company, as estimated for a year in advance, shall constitute the basis for distribution of the corporate tax liability to all the generating stations.

Provided also 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 income-tax allocated to the thermal generating station shall be recovered in the same proportion as annual fixed charges, the income-tax allocated to the hydro generating station shall be recovered in the same proportion as annual capacity charges.

(2) Notwithstanding anything contained in sub-regulation (1), total income tax payable to generating company, in any year, shall not be higher than the amount of:

- (a) Return on Equity allowed in that year X Minimum Alternative Tax (%), if company is paying such tax in any relevant year; or
- (b) Return on Equity allowed in that year X Corporate Tax (%), if company is paying such tax in any relevant year.

However any income tax incidental due to payment of income tax in any preceding year shall be paid by the beneficiaries in subsequent year in addition to income tax at (a) & (b) above.

(3) 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.

8. Tax Escrow Account:

There shall be an account, in a scheduled bank called Tax Escrow Account to be maintained by the licensee or any person, hereinafter referred to as beneficiary, who has purchased the capacity from a generating station. Such licensee shall maintain in this account a deposit equivalent to two months tax liability as informed to them by the generating company prior to commencement of the Financial Year.

The generating company shall be authorized to withdraw the amount for settling the tax liability on presentation to the Escrow holder, a certificate from companies Statutory Auditor, that such amounts are immediately due to be paid to the tax authorities. Such generating companies shall pay back any refund received from tax authority to such Tax Escrow Account.

9. Extra Rupee Liability:

Extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign debt or actual foreign debt, as the case may be, in the relevant year shall be permissible provided it directly arises out of Foreign Exchange Rate Variation and is not attributable to the generating company or its suppliers or contractors. Every generating company shall recover Foreign Exchange Rate Variation on a year to year basis as income or expense in the period in which it arises and Foreign Exchange Rate Variation shall be adjusted on a year to year basis.

10. Recovery of Income-tax and foreign exchange rate variation:

Recovery of Income-tax and Foreign Exchange Rate Variation shall be done 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 income-tax or Foreign Exchange Rate Variation, the generating company may make an appropriate application before the Commission for its decision.

11. Deviation from norms:

Tariff for sale of electricity by a generating company may also be determined in deviation of the norms specified in these regulations subject to the conditions that:

- (a) The overall per unit tariff of electricity during the tariff period, calculated on the basis of the norms in deviation does not exceed the per unit tariff calculated on the basis of the norms specified in these regulations; and
- (b) Any such deviation shall come into effect only after approval by the Commission.

12. Power to Remove Difficulties:

If any difficulty arises in giving effect to these regulations, the Commission may, of its own motion or otherwise, by an order and after giving a reasonable opportunity to those likely to be affected by such order, make such provisions, not inconsistent with these regulations, as may appear to be necessary for removing the difficulty.

13. Power to Relax:

The Commission, for reasons to be recorded in writing, may vary any of the provisions of these regulations on its own motion or on an application made before it by an interested person by an order.

CHAPTER 2

THERMAL POWER GENERATING STATIONS

14. Definitions:

Unless the context otherwise requires, for the purpose of this chapter,:-

- (i) **‘Act’** means the Electricity Act, 2003 as amended from time to time. The UP Electricity Reforms Act- 1999, so far not being inconsistent with the Act-2003, shall apply.
- (ii) **‘Additional Capitalization’** means the capital expenditure actually incurred after the date of commercial operation of the generating station and admitted by the Commission after prudence check subject to provisions of regulation 18;
- (iii) **‘Auditor’** means an auditor appointed by the generating company in accordance with the provisions of sections 224, and 619 of the Companies Act, 1956 (1 of 1956), or any other law for the time being in force;
- (iv) **‘Authority’** means Central Electricity Authority referred to in Section 70 of the Act;
- (v) **‘Auxiliary Energy Consumption’** or **‘AUX’** in relation to a period means the quantum of energy consumed by auxiliary equipments of the generating station and transformer losses within the generating station, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;
- (vi) **‘Availability’** in relation to a thermal generating station for any period means the average of the daily average declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity of the generating station minus normative auxiliary consumption in MW, and shall be computed in accordance with the following formula:

$$\text{Availability (\%)} = \frac{10000 \times \sum_{i=1}^N \text{DC}_i}{\{ N \times \text{IC} \times (100 - \text{AUX}_n) \}} \%$$

where,

IC = Installed Capacity of the generating station in MW,

DC_i = Average declared capacity for the ith day of the period in MW,

N = Number of days during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation;

(vii) **'Beneficiary'** shall mean licensee or any person who has purchased the capacity from a generating station for buying power generated at such a generating station on payment of charges as determined by the Commission;

(viii) **'Block'** in relation to a combined cycle thermal generating station includes combustion turbine – generator(s), associated waste heat recovery boiler(s), connected steam turbine – generator and auxiliaries;

(ix) **'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.

(x) **'Commission'** means the Uttar Pradesh Electricity Regulatory Commission referred to in Section 82 of the Act;

(xi) **'Cut off Date'** means the date of first financial year closing after one year of the date of commercial operation of the generating station;

(xii) **'Date of Commercial Operation'** or **'COD'** in relation to a unit means the date declared by the generator after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run after notice to the beneficiaries and in relation to the generating station the date of commercial operation means the date of commercial operation of the last unit or block of the generating station;

(xiii) **'Declared Capacity'** or **'DC'** means the capability of the generating station to deliver ex-bus electricity in MW declared by such generating station in relation to any period of the day or whole of the day, duly taking into account the availability of fuel;

Note

In case of a gas turbine generating station or a combined cycle generating station, the generating station shall declare the capacity for units and modules on gas fuel and liquid fuel separately, and these shall be scheduled separately. Total declared capacity and total scheduled generation for the generating station shall be the sum of the declared capacity and scheduled generation for gas fuel and liquid fuel for the purpose of computation of availability and Plant Load Factor respectively.

(xiv) **'Existing Generating Station'** means a generating station declared under commercial operation from a date prior to 1. 4.2009;

(xv) **‘Expenditure incurred’** means the fund, whether the equity or debt or both, actually deployed and paid in cash or cash equivalent, for creation or acquisition of useful asset and does not include commitments or liabilities for which no payment has been released;

(xvi) **‘Gross Calorific Value’** or **‘GCV’** in relation to a thermal power generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be;

(xvii) **‘Gross Station Heat Rate’** or **‘GHR’** means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals;

(xviii) **‘Infirm Power’** means electricity generated for injection into the grid prior to commercial operation of the unit of a generating station;

(xix) **‘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;

(xx) **‘Maximum Continuous Rating’** or **‘MCR’** in relation to a unit of the thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a unit or block of a combined cycle thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water/steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions;

(xxi) **‘Operation and Maintenance Expenses’** or **‘O&M Expenses’** means the expenditure incurred on operation and maintenance of the generating station, including part thereof, and includes the expenditure on manpower, repairs, spares, consumables, insurance and overheads;

(xxii) **‘Original Project Cost’** means the actual expenditure incurred by the generating company, as per the original scope of the project up to the first financial year closing after one year of the date of commercial operation of the last unit as admitted by the Commission for determination of tariff;

(xxiii) **‘Plant Load Factor’** or **‘PLF’** for a given period, means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$\text{PLF(\%)} = 10000 \times \frac{\sum_{i=1}^N \text{SG}_i}{\{N \times \text{IC} \times (100 - \text{AUX}_n)\}} \%$$

where,

IC = Installed Capacity of the generating station in MW,

SG_i = Scheduled Generation in MW for the ith time block of the period,

N = Number of time blocks during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation;

(xxiv) '**Project**' means a generating station;

(xxv) '**Scheduled Generation**' or '**SG**' at any time or for any period or time block means schedule of generation in MW ex-bus given by the State Load Despatch Centre;

Note

For the gas turbine generating station or a combined cycle generating station if the average frequency for any time block, is below 49.52 Hz but not below 49.02 Hz and the scheduled generation is more than 98.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 98.5% of the declared capacity, and if the average frequency for any time block is below 49.02 Hz and the scheduled generation is more than 96.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 96.5% of the declared capacity.

(xxvi) '**Small Gas Turbine Power Generating Station**' means and includes gas turbine/combined cycle generating stations with gas turbines in the capacity range of 50 MW or below;

(xxvii) '**Unit**' in relation to a thermal power generating station means steam generator, turbine-generator and auxiliaries, or in relation to a combined cycle thermal power generating station, means turbine-generator and auxiliaries;

(xxviii) '**Useful life**' in relation to a unit of a generating station from the COD shall mean the following, namely:-

(a) Coal based thermal generating station - 25 years

(b) Gas based thermal generating station - 25 years; and

(xxix) '**Year**' means a financial year starting from 1st April of a year to 31st March of the next year.

15. Components of Tariff:

(1) Tariff for sale of electricity from a thermal power generating station shall comprise of two parts, namely, the recovery of annual capacity (fixed) charges and energy (variable) charges.

- (2) The annual capacity (fixed) charges shall consist of:
- Interest on loan capital;
 - Depreciation, including Advance Against Depreciation;
 - Return on equity;
 - Operation and maintenance expenses including insurance;
 - Interest on working capital; and
 - Contribution towards R&M or any compensation allowance, whichever permitted.
- (3) The energy (variable) charges shall cover fuel cost.

16. Norms of Operation:

The norms of operation as given hereunder shall apply.

However, in case of generating stations where PPA has already been executed on or before 31.3.09, the norms of operation under the PPA shall be applicable for the purpose of this Regulation.

(i) Target Availability for recovery of full Capacity (Fixed) charges

- (a) All thermal power generating stations, except those covered under clause (b) below :
- | | | |
|--------------------------------------|---|-----|
| (i) existing on or before 31.3.09 | - | 80% |
| (ii) commissioned on or after 1.4.09 | - | 85% |

(b)

S.no	Power Station	2009-10 (%)	2010-11 (%)	2011-12 (%)	2012-13 (%)	2013-14 (%)
i)	Obra-A	60	61	63	66	70
ii)	Obra-B	70	71	73	76	80
iii)	Panki TPS	65	66	67	68	70
iv)	Harduaganj TPS	55	56	58	61	65
v)	Parichha	65	66	68	71	75

Note -1

Recovery of capacity (fixed) charges below the level of target availability shall be on *pro rata* basis. At zero availability, no capacity charges shall be payable.

Note-2

In case of non-availability of unit (s) due to Renovation and Modernization or deletion of capacity or deration of capacity, the effective capacity left after discounting capacity of such unit(s), shall be considered for the purpose of calculation of plant availability. The depreciation and interest on working capital in the annual capacity (fixed) charges shall only be prorated to such effective capacity. The return on equity shall be utilized for payment of loan. The above provision shall apply in case of generating station covered under sub clauses (a) and (b) above.

(ii) Target Plant Load Factor for Incentive

- (a) All thermal power generating stations, except those covered under clause (b) below :

(i) existing on or before 31.3.09	-	80%
(ii) commissioned on or after 1.4.09	-	85%

- (b)

S.no	Power Station	2009-10 (%)	2010-11 (%)	2011-12 (%)	2012-13 (%)	2013-14 (%)
i)	Obra-A	55	56	58	61	65
ii)	Obra-B	65	66	68	71	75
iii)	Panki TPS	60	61	62	63	65
iv)	Harduaganj TPS	50	51	53	56	60
v)	Parichha	60	61	63	66	70

Note-1

In case of non availability of unit(s) due to Renovation and Modernization or deletion of capacity or deration of capacity, the effective capacity left after discounting of such unit(s), shall be considered for the purpose of calculation of plant load factor in case of generating stations covered under sub clauses (a) and (b) above.

(iii) Gross Station Heat Rate

- (a) Coal-based thermal power generating stations, other than those covered under clauses (b) below:

200/210/250/300 MW set 500 MW and above sets

During stabilization period	2600 KCal/kWh	2550 KCal/kWh
Subsequent period	2500 KCal/kWh	2450 KCal/kWh

Note 1

In respect of 500 MW and above units where the boiler feed pumps are electrically operated, the gross station heat rate shall be 40 kCal/kWh lower than the station heat rate indicated above.

- (b)

(Figures in Kcal/Kwh)

S.No.	Power Station	Design	2009-10	2010-11	2011-12	2012-13	2013-14
i)	Obra-A	2824	3000	2990	2980	2970	2960
ii)	Obra-B	2636	2900	2890	2880	2870	2860
iii)	Panki TPS	2678	3100	3070	3040	3010	2980
iv)	Harduaganj TPS	2726	3350	3300	3250	3200	3150
v)	Parichha	2657	3100	3070	3040	3010	2980

- (c) Gas Turbine/Combined Cycle generating stations declared under commercial operation on or after the date of commencement of this regulation:

	<u>Advanced Class Machines</u>	<u>E/EA/EC/E2 Class Machines</u>
Open cycle -	2685 kCal/kWh	2830 kCal/kWh
Combined cycle -	1850 kCal/kWh	1950 kCal/kWh

(d) Small Gas Turbine Power Generating Stations:

	<u>With Natural Gas</u>	<u>With Liquid Fuel</u>
Open Cycle	3125 kCal/kWh	1.02 x 3125 kCal/kWh
Combined Cycle	2030 kCal/kWh	1.02 x 2030 kCal/kWh

Note- 1

After Renovation and Modernization of generating unit(s) in a generating station, the gross station heat rate shall be higher by 50 Kcal/Kwh due to each of such unit for initial 120 days after its re-commissioning, in case of generating stations covered under sub clauses (a) and (b) above.

(iv) **Secondary fuel oil consumption**

Coal-based generating stations:

- (a) All coal-based thermal power generating stations except those covered under sub-clauses below

<u>During Stabilization period</u>	<u>Subsequent period</u>
---	---------------------------------

- | | |
|--------------------------------------|------------|
| (i) existing on or before 31.3.09 | |
| 4.5 ml/kWh | 2.0 ml/kWh |
| (ii) commissioned on or after 1.4.09 | |
| 2.5 ml/kWh | 1.0 ml/kWh |

(b)

(Figures in ml/kwh)

S.No.	Power Station	2009-10	2010-11	2011-12	2012-13	2013-14
i)	Obra-A	4.0	3.8	3.6	3.4	3.2
ii)	Obra-B	2.5	2.4	2.3	2.2	2.1
iii)	Panki TPS	2.5	2.4	2.3	2.2	2.1
iv)	Harduaganj TPS	4.5	4.3	4.1	3.9	3.7
v)	Parichha	3.0	2.9	2.8	2.7	2.6

Note- 1

After Renovation and Modernization of generating unit(s) in a generating station, secondary fuel oil consumption shall be higher by 0.2 ml/Kwh due to each of such unit for initial 120 days after its re-commissioning, in case of generating stations covered under sub clauses (i) and (ii) above.

(v) **Auxiliary Energy Consumption**

- (a) Coal-based generating stations except for those specified at (iii) below:

	With cooling tower	Without cooling tower
(i) 200/300 MW series	9.0%	8.5%
(ii) 500 MW series		
Steam driven boiler feed pumps: existing on or before 31.3.09; commissioned on or after 1.4.09;	7.5% 6.0%	7.0% 5.5%
Electrically driven boiler feed Pumps: existing on or before 31.3.09; commissioned on or after 1.4.09;	9.0% 8.5%	8.5% 8.0%
(iii)		

(Figures in %)

S.No.	Power Station	2009-10	2010-11	2011-12	2012-13	2013-14
i)	Obra-A	11.0	10.8	10.6	10.2	10.0
ii)	Obra-B	10.5	10.3	10.1	9.9	9.7
iii)	Panki TPS	11.0	10.8	10.6	10.2	9.8
iv)	Harduaganj TPS	11.5	11.3	11.1	10.9	10.5
v)	Parichha	11.5	11.3	11.1	10.9	10.7

- (b) Gas Turbine/Combined Cycle generating stations:
- (i) Combined cycle 3.0%
- (ii) Open cycle 1.0%

Note -1

During stabilization period, normative auxiliary consumption shall be reckoned at 0.5 percentage point more than the norms indicated at (a), (b).

Note -2

After Renovation and Modernization of generating unit(s) in a generating station, auxiliary energy consumption shall be higher by 0.5% due to each of such unit for initial 120 days after its re-commissioning, in case of generating stations covered under sub clauses (i) (ii) and (iii) above.

Explanation

Provisions at 16-(iii) Note-1, 16-(iv) Note-1 and 16-(v) Note-2 shall be applicable provided generation from such re-commissioned unit (s) can be verified separately or else it will be prorated in the number of unit(s) in the generating station.

(vi) Stabilization period

In relation to a unit, stabilization period shall be reckoned commencing from the date of commercial operation of that unit as follows, namely:

- | | |
|--|------------|
| (a) Coal-based generating stations | - 180 days |
| (b) Gas turbine/combined cycle generating stations | - 90 days |

17. Capital Cost:

Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include capitalised initial spares subject to following ceiling norms as a percentage of the original project cost as on the cut off date:

- | | |
|---|--------|
| (i) Coal-based generating stations | - 2.5% |
| (ii) Gas Turbine/Combined Cycle generating stations | - 4.0% |

Provided that where the Power Purchase Agreement entered into between the generating company and the beneficiaries provides a ceiling on capital expenditure and the actual capital expenditure exceeds such ceiling, such increase/escalations shall be decided by the Commission on case to case basis on an application filed by the generating company.

Provided further that in case of the existing generating stations, the capital cost admitted by the Commission prior to the date of commencement of this regulation shall form the basis for determination of tariff.

Note

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

18. Additional capitalisation:

(1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:

- (i) Deferred liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares in the original scope of work, subject to ceiling specified in regulation 17;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) On account of change in law.

Provided that original scope of work 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 the generating station.

(2) Subject to the provisions of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the cut off date may be admitted by the Commission, subject to prudence check:

- (i) Deferred liabilities relating to works/services within the original scope of work;
- (ii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (iii) On account of change in law;
- (iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost; and
- (v) Deferred works relating to ash pond or ash handling system in the original scope of work.

(3) Any expenditure on minor items/assets like normal tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machines, heat-convectors, carpets, mattresses etc. brought after the cut off date shall not be considered for additional capitalisation for determination of tariff. The said items are illustrated and may include any other similar items.

(4) **Renovation and Modernization (R&M) –**

(i) (a) The generating company, for meeting the expenditure on renovation and modernization(R&M) 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.

Provided that in case of coal-based thermal generating station, the generating company, may, in its discretion, avail of a 'special allowance' in accordance with the norms specified in clause (d), as compensation for meeting the requirement of expenses including renovation and modernization beyond the useful life of the generating station or a unit thereof, and in such an event revision of the capital cost shall not be considered and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost.

Provided also that such option shall not be available for a generating station or unit for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these regulations, or for a generating station or unit which is in a depleted condition and operating under relaxed operational and performance norms.

(b) Where the generating company makes an application for approval of its proposal for renovation and modernization, 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.

(c) Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization 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.

(d) A generating company, on opting for the alternative in the first proviso to clause (a) of this regulation, for a coal-based thermal generating station, shall be allowed special allowance @ Rs. 5 lakh/MW/year in 2009-10 and thereafter escalated @ 5.72% every year during the tariff period 2009-14, unit-wise from the next financial year from the respective date of the completion of useful life with reference to the date of commercial operation of the respective unit of generating station:

Provided that in respect of a unit in commercial operation for more than 25 years as on 1.4.2009, this allowance shall also be admissible from the year 2009-10.

(ii) The provisions of sub regulation (i) shall apply provided the generating company shall ensure to plan R&M of atleast one unit of each generating station every year for life extension and improvement in performance, wherever due, after due techno economic studies and approval from the Commission to facilitate R&M or phase out.

(iii) Any expenditure admitted by the Commission for determination of tariff on R&M and life extension shall be serviced on normative debt-equity ratio specified in regulation 20 after writing off the original amount of the replaced assets from the original project cost. The generating company, for the purpose of R&M and life extension of the plant, shall be guided by the guide lines issued by the Commission from time to time.

(5) Impact of additional capitalisation in tariff revision may be considered by the Commission each year in a tariff period, including revision of tariff after the cut off date.

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 specified in regulation 20.

Note 2

Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original project cost, except such items as are listed in clause (3) of this regulation.

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 specified in regulation 20.

(6) Cost on implementation of ABT shall be allowed as additional capital expenditure in tariff.

19. Sale of Infirm Power:

The cost of infirm power shall be the energy charge calculated on the basis of cost of fuel and the norms of Gross Station Heat Rate, secondary fuel oil consumption and auxiliary energy consumption specified for calculation of variable charge during stabilization period.

Provided that the generating company shall inform to the State Load Despatch Centre about its schedule for supply of such power two hrs ahead (as a special case) to testing of the generating station.

Provided also that the start up power drawn by the generating station from the grid shall be adjusted with ex-bus energy and such energy shall be billed to its beneficiaries in the proportion of contracted capacities.

20. Debt-Equity Ratio:

(1) In case of all generating stations, 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 determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

Provided that 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.

(2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and Foreign Exchange Rate Variation.

21. Computation of Capacity (Fixed) Charge:

(1) The capacity charges shall be computed on the following basis and their recovery shall be related to target availability in case of all existing as well as new generating stations.

(i) Interest on loan capital

- (a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 20.
- (b) The loan outstanding as on 1st April shall be worked out as the gross loan as per regulation 20 minus cumulative repayment as admitted by the Commission up to 31st March. The repayment shall be worked out on a normative basis.
- (c) The rate of the interest shall be the weighted average rate of interest calculated on the basis of actual loans at the beginning of each year and shall be adjusted based on actual loan each year accordingly.
- (d) If there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average of interest shall be considered.

- (e) The generating company shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company in the ratio of 2:1.
- (f) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries.
- (g) In case of any dispute, 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 generating company during pendency of any dispute relating to swapping of loan.
- (h) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- (i) The generating company shall not make any profit on account of swapping of loan and interest on loan.
- (j) In case, the generating company has contracted floating/variable rate of interest on loan resetting at certain interval of time the impact of change in rate of interest shall be assessed by the generating company on account of such resetting duly certified by statutory auditor and the capacity charge of the relevant year shall be adjusted for such impact and billed accordingly to beneficiary without approaching the Commission for change in tariff on this account.

Provided that the generating company shall make every effort to refinance/swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing/swapping shall be borne by the beneficiaries. Both the above facts shall be certified by statutory auditor.

Provided if the generating company does not have actual loan or have swapped/refinanced the loan resulting in no specific loan attributable to the generating station then the weighted average rate of interest of the generating company as a whole shall be considered.

Provided also in case of dispute, any party to such dispute may approach the Commission with proper application and it shall be ensured that the payment to the generating company is not withheld during pendency of the dispute.

(ii) **Depreciation, including Advance Against Depreciation**

(a) **Depreciation**

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

(I) The value base for the purpose of depreciation shall be the historical cost of the asset.

(II) Depreciation shall be calculated annually, based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations.

The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land other than the land held under lease shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2009 already allowed by the Government /Commission.

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

(IV) 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.

(b) **Advance Against Depreciation**

In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 21 (i)
 subject to a ceiling of 1/10th of loan amount as
 per regulation 20 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.

(iii) **Return on Equity:**

Return on equity shall be computed on the equity base determined in accordance with regulation 20 @ 15.5% per annum;

Provided that in case of projects commissioned on or after 1st April, 2009, if such projects are completed within the timeline specified in Appendix-IV, or for projects approved by the Commission before 1st April, 2009 in absence of any provision made in PPA, an additional return of 0.5%, shall be allowed;

Provided further that additional return shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever;

Provided that 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 exchange rate prevailing on the due date of billing.

Explanation

The premium raised by the generating company while issuing share capital and investment of internal resources created out of free reserve of the generating company, 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 premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station and forms part of the approved financial package.

(iv) Operation and Maintenance expenses

- (a) Coal-based generating stations except for those at (b) below:
(Rs. in lakh/MW)

Year	200/210/250 MW sets	300/330/350 MW sets	500 MW sets	600 MW & above sets
2009-10	18.20	16.00	13.00	11.70
2010-11	19.24	16.92	13.74	12.37
2011-12	20.34	17.88	14.53	13.08
2012-13	21.51	18.91	15.36	13.82
2013-14	22.74	19.99	16.24	14.62

- (b) Obra A, Obra B, Panki, Parichha and Harduaganj Power Stations:

Year	Obra-A	Obra-B	Panki	Harduaganj	Parichha
2009-10	18.20	18.20	31.83	23.60	26.55
2010-11	19.24	19.24	33.65	24.94	28.06
2011-12	20.34	20.34	35.57	26.37	29.67
2012-13	21.51	21.51	37.61	27.88	31.37
2013-14	22.74	22.74	39.76	29.48	33.16

Provided that Obra A, Obra B, Panki, Parichha and Harduaganj may approach the Commission for adjustment in O&M expenses only on account of establishment expenses, insurance charges and repair and maintenance based on annual audited financial statements and prudence check.

(c) Note

(I) For the generating stations having combination of 200/210/250/300/330//500/600/660 MW and above sets, the weighted average value for operation and maintenance expenses shall be adopted.

(II) Operation & Maintenance expenses, specified at (b) above or the actual expenditure, whichever less, shall be allowed in a

particular year. Provided further that in case of partial utilisation of expenditure specified at (b), unutilised amount may be allowed to meet the increased requirement of Operation & Maintenance expenditure in subsequent years.

(d) The expenses on regulatory fee, payment to pollution control board, fringe benefit tax, impact of pay revision, cost of water and water cess shall be paid additionally at actuals.

(e) In case of coal-based thermal generating station a separate compensation allowance unit-wise may be permitted to meet expenses in nature of capital expenditure on replacement of minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:

Years of operation	Compensation Allowance (Rs lakh/ MW / year)
0-10	Nil
11-15	0.15
16-20	0.35
21-25	0.65

(f) Gas Turbine/Combined Cycle generating stations

(Rs. in lakh/MW)

Year	Gas Turbine/Combined Cycle generating stations other than small gas turbine power generating stations	Small gas turbine power generating stations
2009-10	14.80	22.90
2010-11	15.65	24.21
2011-12	16.54	25.59
2012-13	17.49	27.06
2013-14	18.49	28.61

(v) **Interest on Working Capital**

(a) Working capital shall cover:

Coal based / fired generating stations

- (i) Cost of coal for 1½ months for pit-head generating stations and 2 months for non-pit-head generating stations, corresponding to the target availability;
- (ii) Cost of secondary fuel oil for two months corresponding to the target availability;
- (iii) Operation and Maintenance expenses for one month;

- (iv) From 2009-2010, Maintenance spares @ 20% of operation and maintenance expenses; and
- (v) Receivables equivalent to two months or actual, whichever is lower, comprising of fixed and variable charges for sale of electricity calculated on the target availability.

Gas Turbine/Combined Cycle generating stations

- (i) Fuel cost for one month corresponding to the target availability duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;
- (ii) Liquid fuel stock for ½ month;
- (iii) Operation and maintenance expenses for one month;
- (iv) From 2009-2010, Maintenance spares @ 30% of operation and maintenance expenses ; and
- (v) Receivables equivalent to two months or actual, whichever is lower, comprising of fixed and variable charges for sale of electricity calculated on the target availability.

(b) Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

(2) Full capacity charges shall be recoverable at target availability specified in regulation 16. Recovery of capacity (fixed) charges below the level of target availability shall be on *pro rata* basis. At zero availability, no capacity charges shall be payable.

(3) The payment of capacity charges shall be on monthly basis in proportion to the allocated capacity.

22. Energy Charges:

(i) Generating stations covered under ABT

Energy (variable) Charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy scheduled to be sent out from the generating station as per the following formula:

Energy Charges (Rs) = Rate of Energy Charges in Rs/kWh X Scheduled Energy (ex-bus) for the month in kWh corresponding to scheduled generation.

This provision shall be applicable from the date specified by the Commission for implementation of ABT in the State.

Where,

Rate of Energy Charges (REC) shall be the sum of the cost of normative quantities of primary and secondary fuel for delivering ex-bus one kWh of electricity in Rs/kWh and shall be computed as under:

$$REC = \frac{100\{P_p \times (Q_p)_n + P_s \times (Q_s)_n\}}{(100-(AUX)_n)} \quad (Rs/kWh)$$

Where,

P_p = Price of primary fuel namely coal or gas or liquid fuel in Rs/Kg or Rs/cum or Rs./litre, as the case may be.

$(Q_p)_n$ = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in Kg or litre or cum, as the case may be, and shall be computed on the basis of normative Gross Station Heat Rate (less heat contributed by secondary fuel oil for coal/lignite based generating stations) and gross calorific value of coal or gas or liquid fuel as fired.

P_s = Price of Secondary fuel oil in Rs./ml,

$(Q_s)_n$ = Normative Quantity of Secondary fuel oil in ml/kWh as per clause 16 (iv), as the case may be, and

AUX_n = Normative Auxiliary Energy Consumption as % of gross generation as per clause 16 (v), as the case may be.

(ii) **Adjustment of rate of energy charge (REC) on account of variation in price or heat value of fuels**

Initially, Gross Calorific Value of coal or gas or liquid fuel shall be taken as per actual of the preceding three months. Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and burnt and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition need to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

(iii) **Landed Cost of Coal**

The landed cost of coal shall include price of coal corresponding to the grade/quality of coal inclusive of royalty, taxes and duties as applicable and transportation cost (by rail/road or any other means) only. And for the purpose of computation of energy charges, quantity of coal shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal dispatched by the coal supply company during the month as given below:

Pit head generating stations	:	0.2%
Non-Pit head generating stations	:	0.8%

Any other charges incurred by the generating company in handling of coal at generating station shall be deemed to have been included in O&M expenses.

23. Incentive:

(1) Incentive to all power stations, except those specified at (2) below, shall be payable at a flat rate of 25 paise per KWH for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target plant load factor.

(2) Incentive to Obra-A, Obra-B, Panki, Harduaganj and Parichha Thermal Power Stations shall be payable at a rate of 15 paise/kWh for energy generated above the target plant load factor and up to the plant load factor equal to the target availability specified for each of these power stations. In case achieved plant load factor exceeds the target availability, specified for each of these power stations, incentive shall be payable at the rate specified in regulation 23(1).

(3) In case of commissioning of a thermal power station or part there of ahead of schedule, as setout in the approval of Commission, the generating stations shall be eligible for incentive of an amount equivalent to reduction of interest during construction. However actual interest during construction shall be considered for calculation of final and completed project cost for tariff determination. The incentive shall be recovered through tariff in twelve equal monthly installments during first year of operation of generating station. In case of delay in commissioning, as setout by the Commission, interest during construction for the period of delay shall not be allowed to be capitalized for determination of tariff, unless it is shown that the delay is on account of force majeure conditions.

24. Unscheduled Interchange(UI) Charges:

(1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through Unscheduled Interchange (UI) Charges. UI for a generating station shall be equal to its actual

generation minus its scheduled generation. UI for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. UI shall be worked out for each 15 minute time block.

Charges for all UI transactions shall be based on average frequency of the time block as notified by CERC from time to time.

Note

The average frequency range and UI rates shall be subject to change as notified by the Central Electricity Regulatory Commission from time to time.

- (2) (i) Any generation up to 105% of the declared capacity in any time block of 15 minutes and averaging up to 101% of the average declared capacity over a day shall not be construed as gaming, and the generator shall be entitled to UI charges for such excess generation above the scheduled generation (SG).
- (ii) For any generation beyond the prescribed limits, the State Load Despatch Centre shall investigate so as to ensure that there is no gaming, and if gaming is found by the State Load Despatch Centre, the corresponding UI charges due to the generating station on account of such extra generation shall be reduced to zero and the amount shall be adjusted in UI account of beneficiaries in the ratio of their capacity share in the generating station.
- (iii) This provision shall be applicable with effect from the date specified by the Commission for implementation of ABT in the State.

25. Rebate:

For payment of bills of capacity charges and energy charges through a letter of credit on presentation, a rebate of 2% shall be allowed. If the payments are made by a mode other than through a letter of credit but within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed.

26. Late Payment & Default in Payment:

- (a) In case the payment of bills of capacity charges and energy charges by the beneficiary (ies) is delayed beyond a period of 2 months from the date of billing, a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.
- (b) The generating company may approach the Commission, for default in payments for necessary relief including proposal for regulation of supply to the concerned beneficiary, associated with alternative sale potential of such regulated power.

27. Scheduling:

Read with the provisions of the Indian Electricity Grid Code/U.P. Electricity Grid Code, the methodology of scheduling and calculating availability shall be as under:

(i) The generator shall make an advance declaration of capability of its generating station. The declaration shall be for that capability which can be actually made available.

The declaration shall be for the capability of the generating station to deliver ex-bus MW for the next day either as one figure for the whole day or as different figures for different periods of the day. The capability as declared by the generator, also referred to as the declared capacity, shall form the basis of generation scheduling.

(ii) While making or revising its declaration of capability, the generator shall ensure that the declared capability during peak hours is not less than that during other hours. However, exception to this rule shall be allowed in case of tripping/re-synchronization of units as a result of forced outage of units.

(iii) Generation scheduling shall be done in accordance with the operating procedure stipulated in the Indian Electricity Grid Code/U.P. Electricity Grid Code.

(iv) Based on the declaration of the State generator, the State Load Despatch Centre shall communicate their shares to the beneficiaries out of which they shall give their requisitions.

The beneficiaries, while making requisition, shall also keep in its consideration the availability from Central Sector Generating Stations already communicated to it by Regional Load Despatch Centre through State Load Despatch Centre, Co-generators, Mini/Micro Hydels and other sources etc.

(v) Based on the requisitions given by the beneficiaries and taking into account technical limitations on varying the generation, availability from Central Sector Generating Stations as finalized by Regional Load Despatch Centre and also taking into account transmission system constraints, if any, the State Load Despatch Centre shall prepare the economically optimal generation schedules and draws schedules and communicate the same to the generator and the beneficiaries.

The State Load Despatch Centre shall also formulate the procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).

(vi) The scheduled generation and actual generation shall be ex-bus at the generating station. For beneficiaries, the scheduled and actual net draws shall be at their respective receiving points.

(vii) For calculating the net drawal schedules of beneficiaries, the transmission losses shall be apportioned to their drawal schedules for the time being.

Provided that a refinement may be specified by the Commission in future depending on the preparedness of the respective State Load Despatch Centre.

(viii) In case of forced outage of a unit, the State Load Despatch Centre shall revise the schedules on the basis of revised declared capability. The revised declared capability and the revised schedules shall become effective from the 4th time block, counting the time block in which the revision is advised by the generator to be the first one.

(ix) In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and sub-stations owned by the State Transmission Utility or any other transmission licensee involved in inter-state transmission (as certified by the State Load Despatch Centre) necessitating reduction in generation, the State Load Despatch Centre shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second and third time blocks of such an event, the scheduled generation of the generating station shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised to be equal to their actual drawals.

(x) In case of any grid disturbance, scheduled generation of all the generating stations and scheduled drawal of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation/drawal for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the State Load Despatch Centre.

(xi) Revision of declared capability by the generator(s) and requisition by beneficiary(ies) for the remaining period of the day shall also be permitted with advance notice. Revised schedules/declared capability in such cases shall become effective from the 6th time block, counting the time block in which the request for revision has been received in the State Load Despatch Centre to be the first one.

(xii) If, at any point of time, the State Load Despatch Centre observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own, and in such cases, the revised schedules shall become effective from the 4th time block, counting the time block in which the revised schedule is issued by the State Load Despatch Centre to be the first one.

(xiii) Generation schedules and drawal schedules issued/revised by the State Load Despatch Centre shall become effective from designated time block irrespective of communication success.

(xiv) For any revision of scheduled generation, including post facto deemed revision, there shall be a corresponding revision of scheduled drawals of the beneficiaries.

(xv) A procedure for recording the communication regarding changes to schedules duly taking into account the time factor shall be evolved by the State Transmission Utility.

28. Demonstration of Declared Capability:

The generating company may be required to demonstrate the declared capability of its generating station as and when asked by the State Load Despatch Centre. In the event of the generating company failing to demonstrate the declared capability, the capacity charges due to the generator shall be reduced as a measure of penalty.

The quantum of penalty for the first mis-declaration for any duration/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.

The operating log books of the generating station shall be available for review by the State Load Despatch Centre. These books shall keep record of machine operation and maintenance.

29. Metering and Accounting:

Metering arrangements, including installation, testing and operation and maintenance of meters and collection, transportation and processing of data required for accounting of energy exchanges and average frequency on 15 minute time block basis shall be organized by the State Transmission Utility in consultation with State Load Despatch Centre. All concerned entities (in whose premises the special energy meters are installed), shall fully cooperate with the State Transmission Utility/State Load Despatch Centre and extend the necessary assistance by taking weekly meter readings and transmitting them to the State Load Despatch Centre. The State Load Despatch Centre, on the basis of processed data of meters along with data relating to declared capability and schedules etc., shall issue the State Accounts for energy on monthly basis as well as UI charges on weekly basis. UI accounting procedures shall be governed by the orders of the Central Commission.

30. Billing and Payment of Capacity Charges and submission of data:

Billing and payment of capacity charges shall be done on a monthly basis in the following manner:

- (i) Each beneficiary shall pay the capacity charges in proportion to its percentage share in Installed Capacity of the generating station.

Note-1

Allocation of total capacity of State sector generating stations is made by State Government from time to time.

Note-2

The beneficiaries may propose surrendering part of their allocated share. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the generating company with other States within/outside the state for such transfers, the shares of the beneficiaries may be re-allocated by the State Government for a specific period. When such re-allocations are made, the beneficiaries who surrender the share shall not be liable to pay capacity charges for the surrendered share. The capacity charges for the capacity surrendered and reallocated as above shall be paid by that beneficiary to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the beneficiaries of the generating station shall continue to pay the full fixed charges as per allocated capacity shares.

- (ii) The beneficiaries shall have full freedom for negotiating any transaction for utilisation of their capacity shares. In such cases, the beneficiary having allocation in the capacity of the generating station shall be liable for full payment of capacity charges and energy charges (including that for sale of power under the transaction negotiated by him) corresponding to his total allocation and schedule respectively.

- (iii) If any capacity remains un-requisitioned during day-to-day operation, the State Load Despatch Centre shall advise all beneficiaries in the state and the other States/Regional Load Despatch Centres so that such capacity may be requisitioned through bilateral arrangements either with the concerned generating company or with the concerned beneficiary(ies) under intimation to the State Load Despatch Centre.

The information regarding un-requisitioned capacity shall also be made available by the other State Load Despatch Centre through their respective websites.

- (iv) The capacity charges shall be paid by the beneficiary(ies) including those outside the state/region to the generating company every month in accordance with the following formulas:

- (a) Total Capacity charges payable to the thermal power generating company for the:

$$1^{\text{st}} \text{ month} = (1 \times \text{ACC1}) / 12$$

$$\begin{aligned}
 2^{\text{nd}} \text{ month} &= (2XACC2 - 1XACC1)/12 \\
 3^{\text{rd}} \text{ month} &= (3xACC3 - 2XACC2)/12 \\
 4^{\text{th}} \text{ month} &= (4xACC4 - 3xACC3)/12 \\
 5^{\text{th}} \text{ month} &= (5XACC5 - 4xACC4)/12 \\
 6^{\text{th}} \text{ month} &= (6XACC5 - 5xACC5)/12 \\
 7^{\text{th}} \text{ month} &= (7XACC7 - 6xACC6)/12 \\
 8^{\text{th}} \text{ month} &= (8xACC8 - 7xACC7)/12 \\
 9^{\text{th}} \text{ month} &= (9xACC9 - 8xACC8)/12 \\
 10^{\text{th}} \text{ month} &= (10xACC10 - 9xACC9)/12 \\
 11^{\text{th}} \text{ month} &= (11xACC11 - 10xACC10)/12 \\
 12^{\text{th}} \text{ month} &= (12xACC12 - 11xACC11)/12
 \end{aligned}$$

(b) Each beneficiary having firm allocation in capacity of the generating station shall pay for the :

$$\begin{aligned}
 1^{\text{st}} \text{ month} &= [ACC1 \times WB1]/1200 \\
 2^{\text{nd}} \text{ month} &= [2XACC2 \times WB2 - 1XACC1 \times WB1]/1200 \\
 3^{\text{rd}} \text{ month} &= [3xACC3 \times WB3 - 2XACC2 \times WB2]/1200 \\
 4^{\text{th}} \text{ month} &= [4xACC4 \times WB4 - 3xACC3 \times WB3]/1200 \\
 5^{\text{th}} \text{ month} &= [5XACC5 \times WB5 - 4xACC4 \times WB4]/1200 \\
 6^{\text{th}} \text{ month} &= [6XACC5 \times WB6 - 5xACC5 \times WB5]/1200 \\
 7^{\text{th}} \text{ month} &= [7XACC7 \times WB7 - 6xACC6 \times WB6]/1200 \\
 8^{\text{th}} \text{ month} &= [8xACC8 \times WB8 - 7xACC7 \times WB7]/1200 \\
 9^{\text{th}} \text{ month} &= [9xACC9 \times WB9 - 8xACC8 \times WB8]/1200 \\
 10^{\text{th}} \text{ month} &= [10xACC10 \times WB10 - 9xACC9 \times WB9]/1200 \\
 11^{\text{th}} \text{ month} &= [11xACC11 \times WB11 - 10xACC10 \times WB10]/1200 \\
 12^{\text{th}} \text{ month} &= [12xACC12 \times WB12 - 11xACC11 \times WB11]/1200
 \end{aligned}$$

Where,

ACC1, ACC2, ACC3, ACC4, ACC5, ACC6, ACC7, ACC8, ACC9, ACC10, ACC11 and ACC12 are the amount of Annual Capacity Charge corresponding to 'Availability' for the cumulative period up to the end of 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th months respectively.

And, WB1, WB2, WB3, WB4, WB5, WB6, WB7, WB8, WB9, WB10, WB11 and WB12 are the weighted average of percentage allocated capacity share of the beneficiary during the cumulative period up to 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th month respectively.

(v) The Generating Company shall submit data of cost, expenditure and operation as specified in Appendix-III to this Regulation in the month of September & March of the each year.

CHAPTER 3

HYDRO POWER GENERATING STATIONS

31. Definitions:

Unless the context otherwise requires for the purpose of this chapter :-

- (i) **'Act'** means the Electricity Act, 2003;
- (ii) **'Additional Capitalisation'** means the capital expenditure actually incurred after the date of commercial operation of the station and admitted by the Commission after prudence check subject to provisions of regulation 34;
- (iii) **'Auditor'** means an auditor appointed by the generating company in accordance with the provisions of sections 224, and 619 of the Companies Act, 1956 (1 of 1956), or any other law for the time being in force;
- (iv) **'Authority'** means Central Electricity Authority referred to in Section 70 of the Act;
- (v) **'Auxiliary Energy Consumption'** in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station, and shall be expressed as a percentage of the sum of gross energy generated at generator terminals of all the units of the generating station;
- (vi) **'Beneficiary'** in relation to a generating station means the person buying power generated at such a generating station on payment of annual capacity charges;
- (vii) **'Capacity Index'** means the average of the daily capacity indices over one year;
- (viii) **'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.

- (ix) **'Commission'** means the Uttar Pradesh Electricity Regulatory Commission referred to in Section 82 of the Act;
- (x) **'Cut off Date'** means the date of first financial year closing after one year of the date of commercial operation of the generating station;
- (xi) **'Date of Commercial Operation'** or **'COD'** in relation to a unit means the date declared by the generator after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run, after notice to the beneficiaries, and in relation to the generating station the date of commercial operation means the date of commercial operation of the last unit of the generating station;
- (xii) **'Daily Capacity Index'** means the declared capacity expressed as a percentage of the maximum available capacity for the day and shall be mathematically expressed as hereunder:

$$\text{Daily Capacity Index} = \frac{\text{Declared Capacity (MW)}}{\text{Maximum Available Capacity (MW)}} \times 100$$

Daily capacity index shall be limited to 100%.

- (xiii) **'Declared Capacity'** or **'DC'**
 - (a) For run-of-river power station with pondage and storage-type power stations, declared capacity means the ex-bus capacity in MW expected to be available from the generating station over the peaking hours of next day, as declared by the generator, taking into account the availability of water, optimum use of water and availability of machines and for this purpose, the peaking hours shall not be less than 3 hours within 24 hour period, and
 - (b) In case of purely run-of-river power stations, declared capacity means the ex-bus capacity in MW expected to be available from the generating station during the next day, as declared by the generating station, taking into account the availability of water, optimum use of water and availability of machines;
- (xiv) **'Deemed Generation'** means the energy which a generating station was capable of generating but could not generate due to the conditions of grid or power system, beyond the control of generating station resulting in spillage of water;
- (xv) **'Design Energy'** means the quantum of energy which could be generated in a 90% dependable year with 95% installed capacity of the generating station;

- (xvi) **'Existing Generating Station'** means a generating station declared under commercial operation from a date prior to 1.4.2009;
- (xvii) **'Infirm Power'** means electricity generated for injection into the grid prior to commercial operation of the unit of a generating station;
- (xviii) **'Installed Capacity'** or **'IC'** means the summation of the name plate capacities of the units in the generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the Commission from time to time;
- (xix) **'Maximum Available Capacity'** means the following:
 - (a) Run-of-river power station with pondage and storage type power stations :-

The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows, over the peaking hours of next day,

Explanation

The peaking hours for this purpose shall not be less than 3 hours within a 24 hours period.
 - (b) Purely run-of-river power stations :-

The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows over the next day.
- (xx) **'Operation and Maintenance Expenses'** or **'O&M Expenses'** means the expenditure incurred in operation and maintenance of the generating station, including part thereof, including the expenditure on manpower, repairs, spares, consumables, insurance and overheads;
- (xxi) **'Original Project Cost'** means the actual expenditure incurred by the generating company, 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 unit as admitted by the Commission for determination of tariff;
- (xxii) **'Primary Energy '** means the quantum of energy generated up to the design energy on per year basis at the generating station;
- (xxiii) **'Project '** means a 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;

- (xxiv) **'Run-of-river power station'** means a hydro electric power generating station which has no upstream pondage;
- (xxv) **'Run-of-river power station with pondage'** means a hydro electric power generating station with sufficient pondage for meeting the diurnal variation of power demand;
- (xxvi) **'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;
- (xxvii) **'Saleable Primary Energy'** means the quantum of primary energy available for sale (ex-bus);
- (xxviii) **'Secondary Energy'** means the quantum of energy generated in excess of the design energy on per year basis at the generating station;
- (xxix) **'Saleable Secondary Energy'** means the quantum of secondary energy available for sale (ex-bus);
- (xxx) **'Scheduled Energy'** means the quantum of energy to be generated at the generating station over the 24-hour period, as scheduled by the State Load Despatch Centre;
- (xxxi) **'Useful life'** in relation to a unit of a Hydro generating station shall mean 35 years from the COD; and
- (xxxii) **'Year'** means a financial year.

32. Norms of Operation:

The norms of operation shall be as under, namely:

(i) Normative capacity index for recovery of full capacity charges

(a) During first year of commercial operation of the generating station

- (i) Purely Run-of-river power stations - 85%
- (ii) Storage type and Run-of-river power stations with pondage - 80%

(b) After first year of commercial operation of the generating station

- (i) Purely Run-of –river power stations - 90%

- (ii) Storage type and Run-of-river power stations with pondage - 85%

Note-1

There shall be *pro rata* recovery of capacity charges in case the generating station achieves capacity index below the prescribed normative levels. At Zero capacity index, no capacity charges shall be payable to the generating station.

Note-2

In case of non-availability of unit (s) due to Renovation and Modernization, the effective capacity left after discounting such capacity, shall be considered for the purpose of calculation of capacity index. The depreciation and interest on working capital in the annual fixed charge shall only be prorated to such effective capacity. The return on equity shall be utilized for repayment of loan.

(ii) **Auxiliary Energy Consumption :**

- (a) Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft
 - 0.7% of energy generated
- (b) Surface hydro electric power generating stations with static excitation system
 - 1.0% of energy generated
- (c) Underground hydro electric power generating stations with rotating exciters mounted on the generator shaft
 - 0.9% of energy generated
- (d) Underground hydro electric power generating stations with static excitation system
 - 1.2% of energy generated

(iii) **Transformation losses**

From generation voltage to transmission voltage - 0.5% of energy generated.

33. Capital Cost:

Subject to concurrence of the Authority or prudence check by the Commission, as the case may be, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include initial capital spares subject to a ceiling norm of 1.5% of the original project cost as on the cut off date.

Provided that where the Power Purchase Agreement entered into between the generating company and the beneficiaries provides a ceiling on capital expenditure and the actual capital expenditure exceeds such ceiling, such

increase/escalations shall be decided by the Commission on case to case basis on an application filed by the generating company.

Provided that the requirement of higher initial spares due to reasons specific to a generating station shall be decided by the Commission on case to case basis on an application filed by the generating company.

In case of existing generating stations, the project cost admitted by the Commission prior to commencement of this regulation shall form the basis for determination of tariff.

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.

34. Additional capitalisation:

(1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission subject to prudence check.

- (i) Deferred liabilities,
- (ii) Works deferred for execution,
- (iii) Procurement of initial capital spares in the original scope of works subject to ceiling specified in regulation 33,
- (iv) Liabilities to meet award of arbitration or in compliance of the order or decree of a court, and
- (v) On account of change in law.

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 generating station.

(2) Subject to the provision of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the cut off date may be admitted by the Commission subject to prudence check:

- (i) Deferred liabilities relating to works/services within the original scope of work;
- (ii) Liabilities to meet award of arbitration or in compliance of the order or decree of a court;
- (iii) On account of change in law; and
- (iv) Any additional works/service which has become necessary for efficient and successful operation of plant but not included in the original capital cost.

(3) Any expenditure incurred on acquiring minor items/assets like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, T.V, washing machine, heat-convectors, mattresses, carpets, etc brought after the cut off date shall not be considered for additional

capitalization for determination of tariff. The said items are illustrated and may include any other similar item.

(4) Renovation and Modernization (R&M) –

(i) (a) The hydro generating company, for meeting the expenditure on renovation and modernization(R&M) 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.

(b) Where the hydro generating company makes an application for approval of its proposal for renovation and modernization, 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.

(c) Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization 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.

(ii) The provisions of sub regulation (i) shall apply provided the generating company shall ensure to plan R&M of atleast one unit of each generating station every year for life extension and improvement in performance, wherever due, after due techno economic studies and approval from the Commission to facilitate R&M or phase out.

(iii) Any expenditure admitted by the Commission for determination of tariff on R&M and life extension shall be serviced on normative debt-equity ratio specified in regulation 36 after writing off the original amount of the replaced assets from the original project cost. The generating company, for the purpose of R&M and life extension of the plant, shall be guided by the guide lines issued by the Commission from time to time.

(5) Impact of additional capitalisation in tariff revision may be considered by the Commission each year in a tariff period, including revision of tariff after the cut off date.

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 specified in regulation 36.

Note 2

Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original capital cost, except such items as are listed in Clause (3) of this regulation.

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 specified in regulation 36.

(6) Cost on implementation of ABT shall be allowed as additional capital expenditure in tariff.

35. Sale of Infirm Power:

The cost of infirm power shall be equal to the average of the lowest variable charges of central sector thermal power generating station of the Northern Region for all months of the previous year as determined by the Central Commission and half of it shall be treated as an advance made by the beneficiaries to the generating company towards meeting the expenses on the Income Tax in subsequent year(s) and the remaining shall be retained by the generator.

Provided that the generating company shall inform to the State Load Despatch Centre about its schedule to supply such power two hrs ahead (as a special case) to testing of the generating station.

Provided also that the startup power drawn by the generating station from the grid shall be adjusted with ex-bus energy and such remaining energy shall be scheduled to its beneficiaries in the proportion of contracted capacities.

36. Debt-Equity Ratio:

(1) In case of all generating stations, 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 determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

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

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

37. Computation of Annual Charges:

The two-part tariff for sale of electricity from a hydro power generating station shall comprise of recovery of annual capacity charge and primary energy charges:

- (i) **Capacity Charge:** The capacity charge shall be computed in accordance with the following formula:

Capacity Charge = (Annual Fixed Charge- Primary Energy Charge)

Note

Recovery through Primary energy charge shall not be more than Annual Fixed Charge.

- (ii) **Annual Fixed Charge:** Annual Fixed Charge shall consist of:

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

38. Computation of Annual Fixed Charge:

The annual fixed charges shall be computed, in case of all existing as well as new generating stations, on the following basis:

- (i) **Interest on loan capital**

- (a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 36.
- (b) The loan outstanding as on 1st April shall be worked out as the gross loan as per regulation 36 minus cumulative repayment as admitted by the Commission up to 31st March. The repayment shall be worked out on a normative basis.
- (c) The rate of the interest shall be the weighted average rate of interest calculated on the bases of actual loan portfolio at the beginning of each year applicable to the project and shall be adjusted based on actual loan portfolio during each year applicable to the project.
- (d) If there is no actual loan for a particular year but normative loan is still outstanding the last available weighted average of interest shall be considered.
- (e) The generating company shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company in the ratio of 2:1.
- (f) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries.
- (g) In case of any dispute, 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 generating company during pendency of any dispute relating to swapping of loan.
- (h) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
 - (i) The generating company shall not make any profit on account of swapping of loan and interest on loan.
 - (j) In case, the generating company has contracted floating/variable rate of interest on loan resetting at certain interval of time the impact of change in rate of interest shall be assessed by the generating company on account of such resetting duly certified by statutory auditor and the capacity charge of the relevant year shall be adjusted for such impact and billed accordingly to beneficiary without approaching the Commission for change in tariff on this account.

Provided that the generating company shall make every effort to refinance/swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing/swapping shall be borne by the beneficiaries. Both the above facts shall be certified by statutory auditor.

Provided if the generating company does not have actual loan or have swapped/refinanced the loan resulting in no specific loan attributable to the generating station then the weighted average rate of interest of the generating company as a whole shall be considered.

Provide also in case of dispute, any party to such dispute may approach the Commission with proper application and it shall be ensured that the payment to the generating company is not withheld during pendency of the dispute.

(ii) **Depreciation, including Advance Against Depreciation**

(a) **Depreciation**

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

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations.

The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the

historical capital cost of the asset. Land other than the land held under lease and the land for reservoir shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2009 already allowed by the Government /Commission.

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

(iv) 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.

(b) Advance Against Depreciation

In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 38 (i) subject to a ceiling of $1/10^{\text{th}}$ of loan amount as per regulation 36 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.

(iii) Return on Equity

Return on equity shall be computed on the equity base determined in accordance with regulation 36 @ 15.5% per annum.

Provided that in case of projects commissioned on or after 1st April, 2009, if such projects are completed within the timeline specified in Appendix-IV, or for projects approved by the Commission before 1st April, 2009 in absence of any provision made in PPA, an additional return of 0.5%, shall be allowed;

Provided further that additional return shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever;

Provided that 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 exchange rate prevailing on the due date of billing.

Explanation

The premium raised by the generating company while issuing share capital and investment of internal resources created out of free reserve of the generating company, 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 premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station and forms part of the approved financial package.

(iv) **Operation and Maintenance expenses**

(a) The normative values of operation and maintenance expenses including insurance, for the existing generating stations for the base year 2009-10, shall be derived from values approved by the Commission for FY 08-09, under tariff orders, escalated by 10%.

(b) The rate of escalation of operation & maintenance expenses from year 2009-10 onwards shall be 5.72% p.a., excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission.

Provided further that generating company may approach the Commission for adjustment in O&M expenses only on account of establishment expenses, insurance charges and repair and maintenance based on annual audited financial statements and prudence check.

(c) In case of the hydro electric generating stations declared under commercial operation on or after the date of commencement of this regulation, the base operation and maintenance expenses shall be fixed at 2.0% of the actual capital cost as admitted by the Commission, after prudence check by the Commission, in the year of commissioning and shall be escalated @ 5.72% per annum for the subsequent years excluding abnormal operation and maintenance expenses, if any.

Provided also that the Commission may consider revising the percentage, subject to ceiling of 2.5% of capital cost, for tracing the O & M expense from the capital cost of the project on case to case basis.

(d) The expenses on regulatory fee, payment to pollution control board, fringe benefit tax, impact of pay revision, cost of water and water cess shall be paid additionally at actuals.

(v) **Interest on Working Capital**

(a) Working Capital shall cover:

(i) Operation and Maintenance expenses for one month;

(ii) From 2009-2010, Maintenance spares @ 15% of operation and maintenance expenses ; and

(iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

(b) Rate of interest on working capital shall be the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later. The interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

39. Primary and Secondary Energy Charges:

(1) Primary energy charge shall be worked out on the basis of paise per kWh rate on ex-bus energy scheduled to be sent out from the hydro electric power generating station.

(2) Rate of primary energy for all hydroelectric power generating stations, except for pumped storage generating stations, shall be equal to average of the lowest variable charges of central sector thermal power generating station of the northern region for all months of the previous year as determined by the Central Commission. The primary energy charge shall be computed based on the primary energy rate and saleable scheduled primary energy of the station.

Provided that in case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual Fixed Charge of a generating station, the primary energy rate for such generating station shall be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charge}}{\text{Saleable Primary Energy}}$$

(3)

Primary Energy Charge = Saleable Primary Energy x Primary Energy Rate

Secondary Energy Rate shall be equal to Primary Energy Rate.

Secondary Energy Charge = Saleable Secondary Energy x Secondary Energy Rate

Explanation-

In case of generating stations where annual fixed charge is less than the primary energy charges obtained by multiplying average lowest variable charge of the thermal power generating station of the Region and saleable primary energy of the station, in such cases the rate of primary energy shall be calculated, under the proviso to clause (2) of the Regulation 39, by dividing annual fixed charge by saleable primary energy. However, capacity charges shall be recovered as per the provisions of Regulation 48.

40. Incentive:

(1) Incentive shall be payable in case of all the generating stations, including in case of new generating stations in the first year of operation, when the capacity index (CI) exceeds 90% for purely run-of-river power generating stations and 85% for run-of-river power station with pondage or storage type power generating stations and incentive shall accrue up to a maximum capacity index of 100%.

(2) Annual incentive shall be payable to the generating company in accordance with the following formula:

$$\text{Incentive} = 0.65 \times \text{Annual Fixed Charge} \times (CI_A - CI_N)/100$$

(If incentive is negative, it shall be set to zero.)

Where, CI_A is the Capacity Index achieved and CI_N is the normative capacity index whose values are 90% for purely run of the river hydro stations and 85% for pondage/storage type hydro generating stations.

(3) The incentives on account of capacity index and payment for secondary energy shall be payable on monthly basis, subject to cumulative adjustment in each month of the financial year, separately in respect of each item, and final adjustment shall be made at the end of the financial year.

(4) The total incentive payment calculated on annual basis shall be shared by the beneficiaries based on the allocated capacity.

(5) In case of commissioning of a hydro power station or part there of ahead of schedule, as setout in the approval of Commission, the generating stations shall be eligible for incentive of an amount equivalent to reduction of interest during construction. However actual interest during construction shall be considered for calculation of final and completed project cost for tariff determination. The incentive shall be recovered through tariff in twelve equal monthly instalments during first year of operation of generating station. In case of delay in commissioning, as setout by the Commission, interest during construction for the period of delay shall not be allowed to be capitalized for determination of tariff, unless it is shown that the delay is on account of force majeure conditions.

41. Deemed Generation:

(1) In case of reduced generation due to the reasons beyond the control of generating company or on account of non-availability of transmission licensee's transmission lines or on receipt of backing down instructions from the state Load Despatch Centre resulting in spillage of water, the energy charges on account of such spillage shall be payable to the generating company. Apportionment of energy charges for such spillage among the beneficiaries shall be in proportion of their shares in saleable capacity of the generating station.

(2) Energy charges on the above account shall not be admissible if the energy generated during the year is equal to or more than the design energy.

42. Unscheduled Interchange (UI):

(1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through Unscheduled Interchange (UI) charges. UI for a generating station shall be equal to its actual generation minus its scheduled generation. UI for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. UI shall be worked out for each 15 minute time block.

Charges for all UI transactions shall be based on average frequency of the time block as notified by CERC from time to time.

(2) (i) The hydro-electric generating stations are expected to respond to grid frequency changes and inflow fluctuations. They would, therefore, be free to deviate from the given schedule, as long as they do not indulge in gaming, and do not cause a grid constraint. As a result, the actual net energy supplied by a hydro-electric generating station over a day may differ from the Scheduled Energy (ex-bus) for that day. A compensation shall then be made by the concerned Load Despatch Centre in the schedule for the (Day + 3), as described in clause (xix) of Regulation 45.

(ii) The concerned Load Despatch Centre shall periodically check that the generating station is declaring the capacity and energy sincerely, and is not manipulating the declaration with the intent of making undue money through UI.

(iii) This provision shall be applicable with effect from the date specified by the Commission for implementation of ABT in the State.”

43. Rebate:

For payment of bills of capacity charge and energy charge through the letter of credit on presentation, a rebate of 2% shall be allowed. If the payments are made by a mode other than through the letter of credit but within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed.

44. Late Payment & Default in Payment:

(a) In case the payment of bills of capacity charges and energy charges by the beneficiary (ies) is delayed beyond a period of 2 months from the date of billing, a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.

(b) The generating company may approach the Commission, for default in payments for necessary relief including proposal for regulation of supply to the concerned beneficiary, associated with alternative sale potential of such regulated power.

45. Scheduling:

Read with the provisions of the Indian Electricity Grid Code/State Electricity Grid Code, the methodology of scheduling and calculating capacity index shall be as under:

(i) The generator shall make an advance declaration of capacity of its generating station. The declaration shall be for that capacity which can be actually made available for a period of time not less than 3 hours within a 24 hours period for pondage and storage type of stations and for the entire day for purely run-of-river type stations.

(ii) The generator shall intimate the declared capacity (MW), for the next day, either as one figure for the whole day or different figures for different periods of the day along with maximum available capacity (MW) and total energy (MWh) ex-bus to the State Load Despatch Centre.

The declaration should also include limitation on generation during specific time periods, if any, on account of restriction(s) on water use due to irrigation, drinking water, industrial, environmental considerations etc.

(iii) While making or revising his declaration of capability, the generator shall ensure that the declared capacity during peak hours is not less than that during other hours. However, exception to this rule shall be allowed in case of tripping/re-synchronization of units as a result of forced outage of units.

(iv) Generation scheduling shall be done in accordance with the operating procedure, as stipulated in the Indian Electricity Grid Code/State Electricity Grid Code.

(v) Based on the declaration of the State generator, the State Load Despatch Centre shall communicate their shares to the beneficiaries out of which they shall give their requisitions.

The beneficiaries, while making requisition, shall also keep in their consideration the availability from Central Sector Generating Stations already communicated to them by Regional Load Despatch Centre through State Load Despatch Centre, Co-generators, Mini/Micro Hydels and other sources etc.

(vi) Based on the requisitions given by the beneficiaries and taking into account technical limitations on varying the generation, availability from Central Sector Generating Stations as finalized by Regional Load Despatch Centre and also taking into account transmission system constraints, if any, the State Load Despatch Centre shall prepare the economically optimal generation schedules and drawal schedules and communicate the same to the generator and the beneficiaries.

The State Load Despatch Centre shall also formulate the procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).

(vii) The scheduled generation and actual generation shall be ex-bus at the generating station. For beneficiaries, the scheduled and actual net drawals shall be at their respective receiving points.

(viii) For calculating the net drawal schedules of beneficiaries, the transmission losses shall be apportioned to their drawal schedule for the time being. However, a refinement may be specified by the Commission in future, depending upon the preparedness of the State Load Despatch Centre.

(ix) In case of forced outage of a unit, the State Load Despatch Centre shall revise the schedules on the basis of revised declared capability. The revised declared capability and the revised schedules shall become effective from the 4th time block, counting the time block in which the revision is advised by the generator to be the first one.

(x) In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and sub-stations owned by the State Transmission Utility or any other transmission licensee involved in intra-state transmission (as certified by the State Load Despatch Centre) necessitating reduction in generation, the State Load Despatch Centre shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second and third time blocks of such an event, the scheduled generation of the generating station shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised to be equal to their actual drawals.

(xi) In case of any grid disturbance, scheduled generation of all the generating stations and scheduled drawal of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation/drawal for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the State Load Despatch Centre.

(xii) Revision of declared capability and energy by the generator(s) and requisition by beneficiary (ies) for the remaining part of the day shall be permitted, but only in case of a contingency. Revised schedules/declared capability in such cases shall become effective from the 6th time-block, counting the time-block in which the request for revision has been received in the Load Despatch Centre to be the first one.

(xiii) If, at any point of time, the State Load Despatch Centre observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own and in such cases, the revised schedules shall become effective from the 4th time block, counting the time block in which the revised schedule is issued by the State Load Despatch Centre to be the first one.

(xiv) Generation schedules and drawal schedules issued/revised by the State Load Despatch Centre shall become effective from designated time block irrespective of communication success.

(xv) For any revision of scheduled generation, including post facto deemed revision, there shall be a corresponding revision of scheduled drawals of the beneficiaries.

(xvi) A procedure for recording the communication regarding changes to schedules duly taking into account the time factor shall be evolved by the State Transmission Utility.

(xvii) Purely run-of-river power stations

Since variation of generation in such stations may lead to spillage, these shall be treated as must run stations. The maximum available capacity, duly taking into account the over load capability, must be equal to or greater than that required to make full use of the available water.

(xviii) Run-of-river power station with pondage and storage type power stations

These hydro stations are designed to operate during peak hours to meet system peak demand. Maximum available capacity of the station declared for the day shall be equal to the installed capacity including overload capability, minus auxiliary consumption and transformation losses, corrected for the reservoir level. The State Load Despatch Centres shall ensure that generation schedules of such type of stations are prepared and the stations dispatched for optimum utilization of available hydro energy except in the event of specific system requirements/constraints.

(xix) The schedule finalized by the concerned Load Despatch Centre for a hydroelectric generating station shall normally be such that the scheduled energy for a day equals the total energy (ex-bus) expected to be available on that day, as declared by the generating station, based on foreseen / planned water availability / release. It is also expected that the total net energy actually supplied by the generating station on that day would equal the declared total energy, in order that the water release requirement is met. While the 15-minute wise deviations from schedule would be accounted for as Unscheduled Interchange (UI), the net energy deviation for the whole day, if any, shall be additionally accounted for as shown in the illustration.

Illustration

Suppose the foreseen/expected total energy (ex-bus) for Day 1 is E1, the scheduled energy is S1, and actual net energy (metered) is A1, all in ex-bus MWh. Suppose the expected energy availability for Day 4, as declared by the generator, is E4. Then, the schedule for Day 4 shall be drawn up such that the scheduled energy for Day 4, shall be

$$S4 = E4 + (A1 - E1).$$

$$\text{Similarly, } S5 = E5 + (A2 - E2),$$

$$S6 = E6 + (A3 - E3),$$

$$S7 = E7 + (A4 - E4), \text{ and so on.}$$

46. Demonstration of Declared Capability:

(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. In the event of the generating company failing to demonstrate the declared capacity, within the tolerance as specified by the State Load Despatch Center, the capacity charges due to the generating station shall be reduced as a measure of penalty.

(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 Center. These books shall keep record of machine operation and maintenance, reservoir level and spillway gate operation.

47. Metering and Accounting:

Metering arrangements, including installation, testing and operation and maintenance of meters and collection, transportation and processing of data required for accounting of energy exchanges and average frequency on 15 minute time block basis shall be organised by the State Transmission Utility in consultation with State Load Despatch Centre. All concerned entities (in whose premises the special energy meters are installed), shall fully cooperate with the State Transmission Utility/State Load Despatch Centre and extend the necessary assistance by taking weekly meter readings and transmitting them to the State Load Despatch Centre. The State Load Dispatch Centre, on the basis of

processed data of meters along with data relating to declared capability and schedules etc., shall issue the State Accounts for energy on monthly basis as well as UI charges on weekly basis. UI accounting procedures shall be governed by the orders of the Central Commission.

Note

This provision shall be applicable with effect from the date these Regulations come into force except for UI that shall come into force from such date specified by the Commission for implementation of ABT in the State.

48. Billing and Payment of Capacity Charges:

Billing and payment of capacity charges shall be done on a monthly basis in the following manner:

- (i) Each beneficiary shall pay the capacity charges in proportion to its percentage share in total saleable capacity of the generating station. Saleable capacity shall mean total capacity minus free capacity to home state(s) in case of IPP, if any.

Note 1

Allocation of total capacity of State sector generating stations is made by State Government from time to time.

Note 2

The beneficiaries may propose surrendering part of their allocated capacity. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the generating company with other States within/outside the region for such transfers, the shares of the beneficiaries may be re-allocated by the State Government for a specific period. When such re-allocations are made, the beneficiaries who surrender the share shall not be liable to pay capacity charges for the surrendered share. The capacity charges for the capacity surrendered and reallocated as above shall be paid by the State(s) to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the beneficiaries of the generating station shall continue to pay the full fixed charges as per allocated capacity shares.

- (ii) The beneficiaries shall have full freedom for negotiating any transaction for utilisation of their capacity shares. In such cases, the beneficiary having allocation in the capacity of the generating station shall be liable for full payment of capacity charges and energy charges (including that for sale of power under the transaction negotiated by him) corresponding to his total allocation and schedule respectively.

- (iii) If any capacity remains un-requisitioned during day-to-day operation, the State Load Despatch Centre shall advise all beneficiaries in the State and the other States/Regional Load Despatch Centres so that such capacity

may be requisitioned through bilateral arrangements either with the concerned generating company or the concerned beneficiary(ies) under intimation to the State Load Despatch Centre.

The information regarding un-requisitioned capacity shall also be made available by the State Load Despatch Centres through their respective websites.

(iv) The capacity charges shall be paid by the beneficiary(ies) including those outside the state/region to the generating company every month in accordance with the following formulae and in proportion to their respective shares in the concerned generating station:

$$\begin{aligned}
 ACC_1 &= AFC - (SPE_1 + DE_{2nd \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_2 &= AFC - (SPE_2 + DE_{3rd \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_3 &= AFC - (SPE_3 + DE_{4th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_4 &= AFC - (SPE_4 + DE_{5th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_5 &= AFC - (SPE_5 + DE_{6th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_6 &= AFC - (SPE_6 + DE_{7th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_7 &= AFC - (SPE_7 + DE_{8th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_8 &= AFC - (SPE_8 + DE_{9th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_9 &= AFC - (SPE_9 + DE_{10th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_{10} &= AFC - (SPE_{10} + DE_{11th \text{ to } 12th \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_{11} &= AFC - (SPE_{11} + DE_{12th \text{ month}}) * \text{Primary Energy Rate} \\
 ACC_{12} &= (AFC - SPE_{12}) * \text{Primary Energy Rate}
 \end{aligned}$$

Where,

AFC = Annual Fixed Charges

$ACC_1, ACC_2, ACC_3, ACC_4, ACC_5, ACC_6, ACC_7, ACC_8, ACC_9, ACC_{10}, ACC_{11}$ and ACC_{12} are the amount of Annual Capacity Charge for the cumulative period up to the end of 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th months respectively.

$SPE_1, SPE_2, SPE_3, \dots, SPE_{12}$ are the ex-bus scheduled primary energy values up to 1st, 2nd, 3rd,12th months of the year respectively.

$$CC1 = ACC_1 \times \frac{DE1}{DE}$$

$$CC2 = ACC_2 \times \frac{DE2}{DE}$$

$$CC3 = ACC_3 \times \frac{DE3}{DE}$$

$$CC4 = ACC_4 \times \frac{DE4}{DE}$$

$$CC5 = ACC_5 \times \frac{DE5}{DE}$$

$$CC6 = ACC_6 \times \frac{DE6}{DE}$$

$$CC7 = ACC_7 \times \frac{DE7}{DE}$$

$$CC8 = ACC_8 \times \frac{DE8}{DE}$$

$$CC9 = ACC_9 \times \frac{DE9}{DE}$$

$$CC10 = ACC_{10} \times \frac{DE10}{DE}$$

$$CC11 = ACC_{11} \times \frac{DE11}{DE}$$

$$CC12 = ACC_{12} \times \frac{DE12}{DE}$$

Where,

CC1, CC2, CC3,.....CC12 is the monthly capacity charge up to 1st, 2nd, 3rd12th months of the year respectively.

DE = Annual Design Energy

DE1, DE2, DE3,DE12 are the ex-bus design energy values up to 1st, 2nd, 3rd12th months of the year respectively.

Total capacity charges payable to the generator for the:

1st month = (CC1)

2nd month = (CC2 -CC1)

3rd month = (CC3 - CC2)

4th month = (CC4 -CC3)

5th month = (CC5 - CC4)

6th month = (CC6 -CC5)

7th month = (CC7 -CC6)

8th month = (CC8 -CC7)

9th month = (CC9 -CC8)

10th month =(CC10 – CC9)

11th month =(CC11 -CC10)

12th month =(CC12 -CC11)

and, each beneficiary having firm allocation in capacity of the generating station shall pay for the :

1st month = [CC1 x WB1]/100

2nd month = [CC2 x WB2 -CC1x WB1]/100

3rd month = (CC3 x WB3 - CC2 x WB2]/100

4th month = (CC4 x WB4 - CC3 x WB3]/100

5th month = (CC5 x WB5 - CC4 x WB4]/100

6th month = (CC6 x WB6 - CC5 x WB5]/100

$$\begin{aligned}7^{\text{th}} \text{ month} &= (\text{CC7} \times \text{WB7} - \text{CC6} \times \text{WB6})/100 \\8^{\text{th}} \text{ month} &= (\text{CC8} \times \text{WB8} - \text{CC7} \times \text{WB7})/100 \\9^{\text{th}} \text{ month} &= (\text{CC9} \times \text{WB9} - \text{CC8} \times \text{WB8})/100 \\10^{\text{th}} \text{ month} &= (\text{CC10} \times \text{WB10} - \text{CC9} \times \text{WB9})/100 \\11^{\text{th}} \text{ month} &= (\text{CC11} \times \text{WB11} - \text{CC10} \times \text{WB10})/100 \\12^{\text{th}} \text{ month} &= (\text{CC12} \times \text{WB12} - \text{CC11} \times \text{WB11})/100\end{aligned}$$

Where,

And, WB1, WB2, WB3, WB4, WB5, WB6, WB7, WB8, WB9, WB10, WB11 and WB12 are the weighted average of percentage allocated capacity share of the beneficiary during the cumulative period up to 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th month respectively.

(v) The Generating Company shall submit data of cost, expenditure and operation as specified in Appendix-III to this Regulation in the month of September & March of the each year.

49. These Regulations are made in English & translated into Hindi. In case of dispute, English version shall prevail.

By Order of the Commission

Secretary