

**HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION, SHIMLA**

**Suo-Motu Petition No.: 07/2023**

**Date of Order: 17.11.2023**

**CORAM: Sh. Devendra Kumar Sharma, Chairman  
Sh. Yashwant Singh Chogal, Member (Law)  
Sh. Shashi Kant Joshi, Member**

IN THE MATTER OF

**Determination of Generic Levellised Tariffs for Small Hydro Projects above 100 kW for 4<sup>th</sup> Control Period (i.e. 01.10.2023 to 31.03.2027) under Regulation 14 of the Himachal Pradesh Electricity Regulatory Commission (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2017.**

**ORDER**

1. The Commission has notified the Himachal Pradesh Electricity Regulatory Commission (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2017, on 23<sup>rd</sup> November, 2017 in the Rajpatra, Himachal Pradesh and carried out the 7<sup>th</sup> amendment of said Regulations on 22<sup>nd</sup> September, 2023, as notified in the Rajpatra, Himachal Pradesh on 26<sup>th</sup> September, 2023, wherein financial principles and technology specific parameters for small hydro projects for 4<sup>th</sup> control period (i.e. 01.10.2023 to 31.03.2027) have been specified (hereinafter jointly referred to as “RE Tariff Regulations, 2017”).
2. The Commission, in due discharge of the mandate under Regulation 14 RE Tariff Regulations, 2017 has issued the proposal dated 07.10.2023 for determination of Generic Levellised Tariffs, alongwith other associated terms and conditions, for small hydro projects above 100 kW under 4<sup>th</sup> control period (i.e. 01.10.2023 to 31.03.2027).
3. The Commission invited suggestions/objections from the public on its aforesaid proposal by way of insertions in the two Newspapers i.e. “The Tribune” and “Dainik Bhasker” on 10.10.2023. The text of the said proposal was also made available on the Commission’s website: [www.hperc.org](http://www.hperc.org). The last date for filing objections/suggestions was 6<sup>th</sup> November, 2023.
4. The Commission, vide letter dated 10.10.2023, also requested the major stakeholders including the State Government, Directorate of Energy, HIMURJA, HPPCL, the Discom (HPSEB Ltd.), the Consumer representative, the Small Hydro Power Producers Associations and the Industries Associations as electricity consumers to send their suggestions/objections on the aforesaid proposal.

5. The written suggestions/objections were received from the following stakeholders:-

- (i) M/s Jaya Hydro Power Pvt. Ltd., 13, Patrakar Vihar, KachiGhati, Shimla-171010 (HP).
- (ii) M/s Varun Jal Vidyut Shakti Pvt. Ltd., Skipton Villa, the Ridge, Shimla- 171001 (HP).
- (iii) Himachal Pradesh State Electricity Board Limited, Vidyut Bhawan, HPSEBL, Shimla-171004, (HP).

6. We now proceed to consider the suggestions made by the stakeholders in their written submissions on the draft proposal. The proposal dated 07.10.2023 is limited to the determination of generic levelled tariffs and associated conditions for the small hydro projects under 4<sup>th</sup> control period (i.e. 01.10.2023 to 31.03.2027) in pursuance of the provisions of the RE Tariff Regulations, 2017 vide which normative parameters of tariff determination for SHPs above 100 kW has already been specified by following the prior publication process. The written comments received on or before due date have been addressed in the following sub-paragraphs:-

#### **6.1 Control Period.-**

M/s Jaya Hydro Power Pvt. Ltd. and M/s Varun Jal Vidyut Shakti Pvt. Ltd. have submitted that the control period is of more than three years duration whereas as per the Regulations, O&M charges are being escalated every year. The O&M charges are different during 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year as per the Regulations. It is, therefore, requested that determination of levelled tariff may be notified for each year of the control period separately.

#### **Commission's View:-**

The present proposal is limited to determination of generic levelled tariff as per the normative norms. The duration of the control period has been fixed in the RE Tariff Regulations, 2017. As such, the Commission feels that the above suggestion does not merit consideration in this order.

#### **6.2 Capital Cost for SHPs of smaller capacity.-**

M/s Jaya Hydro Power Pvt. Ltd. and M/s Varun Jal Vidyut Shakti Pvt. Ltd. have submitted that the capital cost for the three categories of the project have not been specified slab wise which is creating anomaly because a small hydro power project of 4.95 MW capacity is to be considered as 5 MW project with completion cost of Rs. 5725 Lakh whereas 5.04 MW small hydro power project is also to be considered as 5

MW capacity project and with its completion cost as Rs. 5628 Lakh. There is a difference of Rs. 1 Crore in completion cost of the project. As a matter of principal and technical prudence, the small hydro power project with higher capacity shall incur more cost than similar project of lesser capacity. Thus, an anomaly appears to have arisen and needs to be corrected. It is suggested that completion cost of the 5.04 MW SHP should also be considered as Rs. 5725 Lakh.

**Commission's View:-**

The provision relating to rounding has been clearly specified in the RE Tariff Regulations, 2017 and any marginal impact on account of such rounding cannot be treated as the an anomaly. The category wise capital cost has also been specified in the RE Tariff Regulations, 2017 and the present process is limited to the determination of generic levelled tariff. Therefore, the Commission does not find any merit in the suggestion.

**6.3 Return on Equity (RoE).-**

M/s Jaya Hydro Power Pvt. Ltd. and M/s Varun Jal Vidyut Shakti Pvt. Ltd. have submitted that it is proposed in the proposal that MAT will be applicable for 20 years and Tax for 20 years. It is also submitted that as per Law, the MAT is applicable only up till the period the project does not earn profit. The moment any company earns profit, Income Tax becomes applicable. Further after 7 years of commercial operation, about half of the loan amount is paid back and company starts earning profit. The Income Tax is therefore, applicable after seven years of commercial operation. It is therefore, suggested that period of MAT should be considered as seven years only and that of Income Tax (Corporate Tax) as 33 years.

**Commission's View:-**

While amending the RE Tariff Regulations, 2017 by way of seventh amendment dated 22.09.2023, the Commission has made a provision that the MAT/Corporate Tax actually paid by the RE generator to the Income Tax Department in relation to income from RE project shall be reimbursed separately on the basis of the suggestions received from the stakeholders while finalizing the said amendment, the Commission thus has already modified the proposed provision that the normative Return on Equity shall be grossed up by latest available normative MAT rate for the first 20 years of the tariff period and by latest available notified corporate tax for remaining tariff period. Therefore, now the Commission has not see any merit in the suggestions made by the stakeholders.

#### **6.4 Interest on Loan.-**

M/s Jaya Hydro Power Pvt. Ltd. and M/s Varun Jal Vidyut Shakti Pvt. Ltd have submitted that for the interest on loan the tenure has been considered as 15 years after commercial operation, but the banks generally include the period of construction and moratorium period in this tenure of 15 years. It is, therefore, suggested that tenure of loan after commercial operation of the project may not be considered more than 12 years.

#### **Commission's View:-**

The RE Tariff Regulations, 2017 for the 4<sup>th</sup> control period provide that loan tenure of 15 years shall be considered for the purpose of determination of tariff of RE projects including SHPs. This principle is also applicable to the RE technologies where useful life of the project is 25 years. The moratorium period has also not been provided in the 3<sup>rd</sup> control period of RE Tariff Regulations, 2017. As such, the suggestions made by the stakeholder in this regard do not merit consideration as the present regulatory process is limited to determination of generic levelled tariff.

#### **6.5 Operation & Maintenance (O&M) Expenses for SHPs of smaller capacity.-**

- (i) M/s Jaya Hydro Power Pvt. Ltd. and M/s Varun Jal Vidyut Shakti Pvt. Ltd have submitted that the additional tariff of 26.1 paise has been provided for 5.00 MW project but the calculations for the same has not been provided. Therefore, it cannot be ascertained whether, this increase is according to the Regulations or as not, in the calculations sheet, the difference in tariff because of O&M charges is Rs. 1.661-Rs.1.291 =Rs.0.370 against which only 26.1 paise has been provided. It is therefore, suggested that calculations for such project may be done on specific project basis.
- (ii) The HPSEBL has submitted that the additional tariff of SHP having capacity of 5 MW and above, but not exceeding 6.5 MW seems to be at higher side and it is suggested that a suitable provision may be incorporated in the tariff order considering above.

#### **Commission's View:-**

The RE Tariff Regulations, 2017 provide that in case of SHPs having capacity of 5 MW and above, but not exceeding 6.5 MW, the aggregate annual O&M charges of not less than Rs. 229.222 Lacs shall be provided and for the purpose, the Commission shall, while determining the generic levelled tariff, evolve suitable mechanism.

The Commission feels that there can be different methodologies for facilitating the minimum annual O&M charges. As brought out in the draft order itself, there can be different methodologies for working out the additional tariff. In fact, the additional tariff of about 8 paise per unit may also be able to meet the minimum requirement of Rs. 229.222 Lacs as specified in the Regulations. However, this may involve offsetting the escalation amount available to the developers under this category as per the normal base case. Significantly on one hand, the developers have suggested for the additional tariff of about 0.37 paise per unit whereas on the other hand, the Distribution Licensee is of the view that the proposed additional tariff is on the higher side.

The Commission has worked out the additional tariff by considering the requirement of the additional O&M charges for the 1<sup>st</sup> year and the annual net normative saleable energy. As mentioned in the draft order, the additional tariff has been proposed by taking a balanced view. Therefore the suggestions do not merit consideration and the Commission decides to retain the additional tariff as proposed in the draft proposal.

#### **6.6 Incentive and/or subsidy and/or grant/budgetary support by the Central/ State Government.-**

The HPSEBL has submitted that the said provision is ambiguous and does not clarify the appropriate stage when the subsidy(ies)/ grant(s)/Incentive(s) shall require to be adjusted in context of the given generic levelled tariff. It would be more appropriate to adjust the subsidy(ies)/grants(s)/incentive(s) available to the project only after the same is received by the project developer. It is suggested that suitable provisions may be incorporated in the draft tariff order considering above which will ensure that the subsidy serves its intended purpose of benefiting Consumers while holding project developers accountable for fulfilling the conditions necessary to access these subsidies.

#### **Commission's View:-**

The adjustment of subsidy(ies)/ grant(s)/Incentive(s) etc. as per the RE Tariff Regulations, 2017 is not linked to the actual receipt of such subsidy etc. by the developers, but is linked to the availability of the same under the relevant Government scheme(s). The Distribution Licensee has, in order to safeguard its own interest, has to take timely action at appropriate stages by considering the scope of various such scheme(s) enforced from time to time.

The Commission has already made adequate provisions relating to adjustment of subsidy(ies)/ grant(s)/Incentive(s) for the 4<sup>th</sup> control

period in RE Tariff Regulations, 2017. Moreover, the computation to adjust the subsidy component in the tariff is already provided in the tariff calculation sheets. As such, the suggestions made by the stakeholder are not relevant in the present regulatory process.

## **7. Generic Levellised Tariffs for Small Hydro Projects (SHPs) exceeding 100 kW.-**

The Generic Levellised Tariffs and associated terms and conditions for various categories of Small Hydro Projects in respect of 4<sup>th</sup> control period are determined in accordance with the RE Tariff Regulations, 2017, as amended till date, as discussed in the following paragraphs:-

### **7.1 Useful Life.-**

Clause (ac) of sub-regulation (1) of Regulation 2 of the RE Tariff Regulations, 2017 specifies that the 'useful life' in relation to SHP shall mean a duration of 40 years from the date of commencement of operation of the project.

### **7.2 Control Period or Review Period.-**

3<sup>rd</sup> proviso of Sub-regulation (1) of Regulation 9 of the RE Tariff Regulations, 2017 provides that the 4<sup>th</sup> control period for determination of tariff for SHPs shall start from 1<sup>st</sup> October, 2023 and shall end on the 31<sup>st</sup> March, 2027. In accordance with Sub-regulation (2) of Regulation 9 thereof, the tariff(s) determined under these Regulations for the renewable energy generation project(s) or for a category thereof, to which these Regulations are applicable, shall, unless amended or revised under Regulation 20, continue to be applicable till the expiry of the tariff period as specified in Regulation 10.

### **7.3 Tariff Period.-**

In terms of Regulation 10 of the RE Tariff Regulations, 2017, the tariff period of 40 years has been considered for working out the generic levellised tariffs for various categories of SHPs.

### **7.4 Tariff Structure.-**

Regulation 12 of the RE Tariff Regulation, 2017 stipulates that the single part levellised tariff structure comprising of the following fixed cost components shall be followed in case of SHPs:

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

### 7.5 **Levelling Tariff.-**

The generic tariff shall be determined on levellised basis for the tariff period as per Sub-regulation (3) of the Regulation 12 of the RE Tariff Regulations, 2017.

### 7.6 **Debt Equity Ratio.-**

The normative debt equity ratio has been considered as 70:30 in accordance with Regulation 23-C of the RE Tariff Regulations, 2017.

### 7.7 **Capital Cost.-**

The per MW capital costs for various categories of SHPs exceeding 100 kW have been considered in accordance with Regulation 34-C of the RE Tariff Regulations, 2017 which stipulates that, in case of SHPs, the normative capital cost inclusive of all its components as specified in Regulation 21-C of the RE Tariff Regulations, 2017, for the control period shall be as under:-

<b>Sr. No.</b>	<b>Category of small hydro project</b>	<b>Rupees in Lac per MW</b>
(i)	Above 100 kW to 2 MW capacity	<b>1160</b>
(ii)	Above 2 MW but below 5 MW capacity	<b>1145</b>
(iii)	5 MW to 25 MW capacity	<b>1125</b>

### 7.8 **Return on Equity.-**

Regulation 26-C of the RE Tariff Regulations, 2017 provides that the value base for the equity (on which return on equity shall be calculated) shall be equal to the equity component computed in accordance with the provisions of Regulation 23-C.

The normative Return on Equity shall be 14%. The normative Return on Equity shall be grossed up by the latest available notified Minimum Alternate Tax (MAT) rate for the first 20 years of the Tariff Period and by the latest available notified Corporate Tax rate for the remaining Tariff Period.

Accordingly, the normative return on equity is taken as 14% in accordance with the provisions of RE Tariff Regulations, 2017 and grossed-up by considering surcharge @7% on normative basis on MAT and Corporate Tax. The grossed-up RoE for the first 20 years of the useful life of the project works out as 16.80% by considering MAT @ 16.70% (15% MAT rate+7% Surcharge+4% Health and Education cess) and for the remaining 20 years to 19.39% by considering corporate tax @ 27.82% (25% tax rate+7% Surcharge+ 4% Health and Education cess).

### 7.9 **Interest on Loan.-**

- (i) The Sub-regulation (1) of Regulation 24-C of the RE Tariff Regulation, 2017 provides that the loan tenure of 15 years shall be considered for the

purpose of determination of tariff for RE projects. Sub-regulation (2) of the said Regulation provides for computation of rate of interest of loan as under:-

**“(2) Interest Rate.-**

(a) *The loan amount (i.e. the debt component) arrived at in the manner indicated in the Regulation 23-C shall be considered as gross normative loan for calculation of interest on loan. The normative loan outstanding as on 1st April of every year shall be worked out by deducting the cumulative repayment up to 31<sup>st</sup> March of previous year from the gross normative loan.*

(b) *For the purpose of computation of tariff(s) under these Regulations, normative interest rate of two hundred (200) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one year tenor) prevalent during the last available six months, prior to the respective date(s) from which such tariff(s) the respective generic levellised tariffs are to be made applicable, shall be considered:*

*Provided that in case where the project specific tariff*

.....

(c) *Notwithstanding any moratorium period availed by the renewable energy generator, the repayment of loan shall be considered from the first year of the tariff period and shall be equal to the annual depreciation allowed.*

(d) *The loan repayment for a financial year or the relevant part period thereof shall be considered to have been done in the middle of that financial year or the relevant part period thereof, as the case may be.*

(ii) In view of above, the interest rate has been worked out as 10.52% per annum by adding 200 basis points above the average of Marginal Cost of Funds based Lending Rate (MCLR) (one year tenor) of State Bank of India (SBI) prevailing during the last available six months as shown in the table below:-

<b>Month</b>	<b>Tenor-wise MCLR of SBI</b>
April, 2023	8.50
May, 2023	8.50
June, 2023	8.50
July, 2023	8.55
August, 2023	8.55
September, 2023	8.55
<b>Avg. for last available 6 months.</b>	<b>8.52</b>

**7.10 Depreciation.-**

(i) Regulation 25-C of the RE Tariff Regulations, 2017 provides as under:

*“For the purpose of tariff determination, depreciation shall be computed in the following manner, namely:-*

(a) *the value base for the purpose of depreciation shall be equal to sum total of the debt and equity components as per the provisions of regulation 23-C;*

(b) *the salvage value shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the value base as per clause (a) of this regulation:*

*Provided that no depreciation shall be allowed to the extent of incentive, grant and capital subsidy available for the project.*



(c) depreciation per annum shall be based on 'Differential Depreciation Approach'. For tariff purposes, the depreciation shall be allowed @ 4.67% per annum of the value base as per clause (a) of this regulation till such time the requirement for repayment of loan component of the capital cost as per regulations 21-C, 23-C and 24-C is fully provided and the remaining depreciation shall be spread over the residual useful life of the project on straight line method;

(d) depreciation shall be chargeable from the first year of commencement of operation of the project:

*Provided that ..... purposes of project specific determination of tariff."*

(ii) In accordance with the above, the rate of deprecation has been considered as 4.67 % per annum for meeting the requirements of loan repayment and balance amount of depreciation has been equally spread over the remaining tariff period. For the year in which the loan gets totally repaid, the depreciation has been provided to the extent of the actual requirement for loan repayment or the average value of balance period whichever is higher.

#### 7.11 Interest on working capital.-

(i) In accordance with the Regulation 27-C of the RE Tariff Regulations, 2017, the working capital requirement of the Solar PV project has been considered by including the following:-

*"(a) operation and maintenance expenses for one month;*

*(b) receivables equivalent to 45 days of energy charges for sale of electricity calculated on the net saleable energy corresponding to the CUF considered for tariff determination on normative basis;*

*(c) maintenance spare @ 15% of operation and maintenance expenses."*

(ii) Interest rate on working capital has been worked out as 12.02% per annum by the adding 350 basis points above the average of Marginal Cost of Funds based Lending Rate (MCLR) (one year tenure) of State Bank of India (SBI) prevalent during the last available six months prior to the respective date(s) from which the generic tariff(s) are to be made applicable.

#### 7.12 Operation and Maintenance Expenses.-

A. The normative annual O&M expenses for the 4<sup>th</sup> control period have been specified in the RE Tariff Regulations as follows:-

No.	Installed capacity of SHP	Annual O&M expenses in Rupees (in Lac) per MW of installed capacity
(i)	Above 100 kW to 2 MW capacity	46.78
(ii)	Above 2 MW but below 5 MW capacity	46.78
(iii)	5 MW to 25 MW capacity	35.09

The above normative charges have been considered while determining the generic levelled tariff as per this order. Moreover, the annual escalation @ 3.84% has also been considered over the tariff period.

B. The Regulation 39-C of the RE Tariff Regulations, 2017 provides that in case of SHPs having capacity of 5 MW and above, but not exceeding 6.5 MW, the aggregate annual O&M charges of not less than Rs. 229.222 Lacs shall be provided and for the purpose, the Commission shall, while determining the generic levelled tariff, evolve suitable mechanism. The Commission feels that there can be different methodologies for facilitating the said minimum annual O&M charges. Thus, Commission, after taking a balanced view, in the matter, proposes to allow additional tariff as follows:-

- (i) The additional tariff of 26.1 paise per kWh shall be applicable for the SHPs having capacity of 5 MW which shall, for the SHPs above 5 MW capacities but not exceeding 6.5 MW, be tapered down. The proposed rates of additional generic levelled tariff for various installed capacities has been given in the following table:-

<b>Installed Capacity in MW</b>	<b>Additional generic levelled tariff in paise per kWh</b>	<b>Installed Capacity in MW</b>	<b>Additional generic levelled tariff in paise per kWh</b>
5.0	26.1	5.8	11
5.1	24	5.9	9.5
5.2	22	6.0	8
5.3	20	6.1	6.5
5.4	18	6.2	5
5.5	16	6.3	3.5
5.6	14.5	6.4	2
5.7	12.5	6.5	0.5

- (ii) The MW capacity shall be considered after rounding the same to nearest 0.1 MW as per Regulation 39-CC of the RE Regulations, 2017.
- (iii) The adjustment as per above mechanism shall be carried out before making adjustment on account of variation in free power structure as per para 7.15 of this order.
- (iv) The rate given in the table under item (i) shall be applicable only for SHPs having capacity of more than 5 MW but not exceeding 6.5 MW and the same shall not apply to any other capacity.

The Commission observes that with these additional rates aggregate annual normative O&M charges to any SHP falling in the 3<sup>rd</sup> category (5 MW to 25MW) shall not be less than the specified value of Rs. 229.222 Lacs at any stage during the tariff period. Moreover, the annual O&M charges shall also not, at any stage, be less than those worked out as per sub-para-A of this paragraph. The Commission is aware that depending upon the royalty

structure actually applicable in each case, particularly in case of SHPs having installed capacity of 5 MW, the impact of additional tariff on the actual applicable tariff may effectively be different, in view of adjustment as per item(iii) above.

#### **7.13 Incentive and/or subsidy and/or grant/budgetary support by the Central/ State Government.-**

(i) The Regulation 22-C of the RE Tariff Regulations, 2017 provides as under:-

*“(1) While determining the generic levellised or project specific levellised tariff, as the case may be, for the renewable energy project(s) under these Regulations, the Commission shall take into consideration any incentive and/or subsidy and/or grant and/or budgetary support available, irrespective of whether the same is actually availed or not, under the schemes of the Central or State Government or their agencies, but excluding accelerated depreciation benefit under the Income Tax Act:*

*Provided that the capital subsidy under the schemes of the Central or State Government or their agencies shall be adjusted in the normative capital cost and the cost so arrived, after such adjustment, shall be considered for computing Debt-Equity Components for the purposes of determination of generic levellised tariffs:*

*Provided further that where the Central Government or the State Government notifies, or has notified, any generation based incentive (GBI) scheme for a particular kind of renewable technology, such technology based generating station shall be assumed to have availed the benefit of such a scheme and their tariffs shall be reduced by the amount of generation based incentive (GBI) per unit for the period during which such incentive remains applicable.*

*(2) Where any additional project specific grant or budgetary support is available to any project, apart from the incentive and/or subsidy and/or grant available under Sub-regulation (1) of this regulation, the Commission shall account for such budgetary support also, while determining project specific levellised tariff.*

*(3) The amount of subsidy shall be considered for each renewable source as per the applicable policy of the MNRE/State Government/Central Government and if the amount and/or mechanism of subsidy is changed by the MNRE/State Government/Central Government, consequent corrections in tariffs may be carried out by the Commission in accordance with Regulation 20.”*

(ii) No adjustment of incentive and/or subsidy and/or grant is being made in the tariff calculations being carried out in this order. However, adjustment to be made in the rate on per Crore of subsidy for each MW capacity have been worked out and mentioned in the attached calculation sheets for each category of the project and adjustment, if any, on account of the same shall be made at appropriate stage while applying the tariff after taking into account the eligibility conditions in each case. Similarly, adjustment on account of subsidy available under the Ministry of Commerce & Industry, Government of India and/or any other subsidy scheme(s) of Government

(Central/State) shall also be made at appropriate stage(s) after taking into account the extent of subsidy(ies) available under such scheme(s). The adjustments on account of subsidies, where available, are to be made at the rates indicated in the calculation sheets on normative basis by considering the provisions of regulations 20-C, 23-C, 24-C, 25-C and 26-C.

**7.14 Normative Net Saleable Energy.-**

The annual normative net saleable energy at the interconnection point has been computed in line with the provisions of Regulation 35-C of the RE Tariff Regulations, 2017 which specifies that the normative annual Capacity Utilisation Factor (CUF), net of 13% free power [including 1% contribution towards Local Area Development Fund], shall be 47.85% and also stipulates the procedure for computing the normative year wise net saleable energy. The normative auxiliary consumption and transformation losses has been taken @1% of the gross generation as per Regulation 37-C and the energy losses in the project line have been taken as 0.7% of the gross generation as per regulation 38-C. The free power structures as discussed in para-7.15(iii) of the order have been taken into account. In order to take into account the effect of leap year, the number of hours in a year has been taken as 8766.

**7.15 Free power (Energy) structure and adjustment in tariff for variations.-**

- (i) The Sub-regulation (1) of Regulation 36-C of the RE Tariff Regulations, 2017 stipulates that the Commission shall consider appropriate structure(s) of free power for determination of generic levelled tariffs for various categories of SHPs, duly keeping in view the provisions of the State Hydro Policy for allotment of sites for SHPs, National Hydro Policy, Tariff Policy and the limits specified under Sub-regulation (3).
- (ii) In accordance with clause (iii) of sub-regulation (1) of regulation 35-C and Sub-regulation (3) of regulation 36-C of the RE Tariff Regulations, 2017, the free energy to be taken into account for any part of the tariff period shall not exceed 13.00% (free energy), which includes 12.00% free power to the Home State and 1.00% additional free power for local area development fund as stipulated in National Hydro Policy/ Tariff Policy.
- (iii) Based on above and the free power structure presently being followed by the State Government, the generic levelled tariffs for various categories of SHPs have been determined by accounting for free energy, as per following structure:-

<b>Sr. No.</b>	<b>Category of small hydro project</b>	<b>Free power structure</b>
(i)	Above 100 kW to 2 MW capacity	3% for first 12 years and 13% for the remaining 28 years.
(ii)	Above 2 MW but below 5 MW capacity	7% for first 12 years and 13% for the remaining 28 years.
(iii)	5 MW to 25 MW capacity	13% for the entire tariff period of 40 years

(iv) In case where the free power structure applicable for a SHP for which Power Purchase Agreement (PPA) is to be approved by the Commission is different from that considered in the tariff, the generic levelled tariff for such a project shall be computed by adjusting the generic levelled tariff determined by the Commission in inverse proportion to be levelled values of net saleable energy under two structures i.e. by multiplying the generic levelled tariff of that category by the corresponding levelled net saleable energy (per annum per MW) as per the Sheet-II of the tariff calculations of respective categories and dividing the same with the levelled net saleable energy (per annum per MW) worked out at discount rate of 9.52 per annum, corresponding to the permissible free power structure for which the levelled tariff is to be computed for inclusion in the PPA to be approved by the Commission. It shall be ensured that the free power (energy) to be accounted for in the tariff does not exceed the permissible limits, as specified in the RE Tariff Regulations, 2017 during any part of the tariff period. However, for any variations in the structure of free energy after execution of PPA, the adjustment shall be computed in accordance with other relevant provision of the RE Tariff Regulations, 2017.

#### **7.16 Reimbursement of water cess.-**

The provision of reimbursement of water cess under 4<sup>th</sup> control period as per the Regulation 29-CC provides as under:-

*“The amount, if any, paid to the State Government by a SHP generator on account of water cess shall be reimbursed by the Distribution Licensee on monthly basis on production of the receipt in support of such payment:*

*Provided that such reimbursement shall be limited to the water cess actually paid on such quantum of water usage as is required by the SHP developer for generating the saleable energy for sale to the Distribution Licensee at generic levelled tariff determined under these Regulations and also for providing free power, associated with such sale, to the State Government, limited to the extent of 13% (12%+1% LADF) of the actual generation, or the quantum of free power actually provided whichever is lower, read with Regulation 36-C of these Regulations:*

*Provided further that the interest and/or penalty, if any, paid the SHP generator on account of delay in payments by it to the State Government shall not be reimbursed:*

*Provided further that the bill for reimbursement of the amount actually paid, till the date of presentation of the monthly energy bill, on this account by a SHP generator to the State Government shall be raised, supported by a receipt as a proof of such payment, alongwith the monthly bill for that month and the same shall, unless rejected by the Distribution Licensee due to some reasons, be reimbursed within the timelines applicable for the energy charges and as per the provisions of Regulation 30-C, Regulation 31-C and Regulation 31-CC.”*

The small hydro project(s) falling in the ambit of 4<sup>th</sup> control period shall get reimbursement of water cess as per the provisions elaborated above.

### 7.17 Discount Factor.-

In accordance with Sub-regulation (4) of Regulation 12 of the RE Tariff Regulations, 2017, the discount factor equivalent to the post tax weighted average cost of capital has been considered for the purpose of levelled tariff computation. The discount factor has been calculated on this basis of the normative debt equity ratio (70:30) and weighed average of the post tax rates for debt and equity component. For this purpose, the interest rate on the loan component (i.e. 70%) of capital cost is 10.52%. For equity component (i.e. 30%), rate of Return of Equity (RoE) is considered as post tax rate of 14%. The Corporate tax has been considered, on normative basis, as 27.82% (25% tax rate+7% Surcharge+ 4% Health and Education cess). On this basis, the discount factor has been considered as 9.52.

### 7.18 Rounding.-

- (i) The tariffs worked out for various categories of SHPs are proposed to be rounded to nearest paise/kWh. The fraction of 0.5 paise/kWh or above has been rounded to next higher and fraction of less than 0.5 has been ignored.
- (ii) Adjustment for fraction of a MW of the installed capacity:- The installed capacity shall be rounded to one decimal place by ignoring the fraction of less than 0.05 MW and by considering the fraction of 0.05 MW and above as 0.1 MW.

### 7.19 Generic Levelled Tariff and Associated Terms and Conditions for 4<sup>th</sup> control period (i.e. 01.10.2023 to 31.03.2027).-

In light of the discussion made in the preceding paragraphs, the Generic Levelled Tariffs and the associated terms and conditions for various categories of SHPs above 100 kW are determined as under:-

A. The Generic Levelled Tariffs for various categories of SHPs shall be as under:-

Category	Capacity	Generic Levelled Tariff in Rs./kWh of net saleable energy without considering subsidy.
Col. 1	Col. 2	Col.3
(i)	Above 100 kW to 2 MW capacity	4.93
(ii)	Above 2 MW but below 5 MW capacity	5.03
(iii)	5 MW to 25 MW capacity	4.78*

\* Additional tariff to the maximum extent of 26.1 paise per kWh shall also be applicable for the SHPs having installed capacity of 5 MW and above, but not exceeding 6.5 MW as per para 7.12-B and sub-para B(b) of this paragraph.

B. The tariff applicable as per item A above shall be subject to adjustment as applicable for relevant category of SHPs in accordance with the following sub-paragraph (a) to (d):-

**(a) Adjustment(s) on account of incentive and/or subsidy and/or grant available:**

These tariffs do not take into account any adjustment(s) on account of incentive and/or subsidy and/or grant available. The adjustment(s) on account of subsidy(ies) available, or as may become available, under various applicable scheme(s) of Government (Central/State) shall be carried out at appropriate stage(s) in accordance with para 7.13(ii) of this order and provisions of applicable regulations.

**(b) Additional Tariff:**

The additional tariff as per para 7.12-B of this order shall be applicable as follows:-

- (i) The additional tariff of 26.1 paise per kWh shall be applicable for the SHPs having capacity of 5 MW which shall, for the SHPs above 5 MW capacities but not exceeding 6.5 MW, be tapered down. The proposed rates of additional generic levelled tariff for various installed capacities has been given in the following table:-

Installed Capacity in MW	Additional generic levelled tariff in paise per kWh	Installed Capacity in MW	Additional generic levelled tariff in paise per kWh
5.0	26.1	5.8	11
5.1	24	5.9	9.5
5.2	22	6.0	8
5.3	20	6.1	6.5
5.4	18	6.2	5
5.5	16	6.3	3.5
5.6	14.5	6.4	2
5.7	12.5	6.5	0.5

- (ii) The MW capacity shall be considered after rounding the same to nearest 0.1 MW as per Regulation 39-CC of the RE Regulations, 2017.
- (iii) The adjustment as per above mechanism shall be carried out before making adjustment on account of variation in free power structure as per para-7.15 of this order.
- (iv) The rate given in the table under item (i) shall be applicable only for SHPs having capacity of more than 5 MW but not exceeding 6.5 MW and the same shall not apply to any other capacity.

**(c) Variation in free power structure:**

The above tariffs account for free energy at the following rates.

Sr. No.	Category of small hydro project	Free power structure
(i)	Above 100 kW to 2 MW capacity	3% for first 12 years and 13% for the remaining 28 years.
(ii)	Above 2 MW but below 5 MW capacity	7% for first 12 years and 13% for the remaining 28 years .
(iii)	5 MW to 25 MW capacity	13% for the entire tariff period of 40 years

In case the structure of free power applicable for a SHP for which the PPA is to be approved by the Commission is different from that considered in the tariff for that category of SHPs, the adjustment shall be carried out in accordance with the para 7.15(iv) of this order. However, it shall be ensured that free power (energy) to be accounted for in the tariff does not exceed the permissible limits, as specified in RE Tariff Regulations, 2017 during any part of the tariff period. The adjustment, if any, on account of royalty structure shall be computed on the rate arrived at after carrying out the adjustment(s) as per the Sub-paragraph(a) above. This means that the adjustment of royalty structure as per this Sub-paragraph shall have to be computed again if the adjustment as per Sub-paragraph(a) is done at a subsequent stage i.e. after approval of the PPA.

- (d) **Rounding:** (i) The tariffs worked out for various categories of SHPs are proposed to be rounded to nearest paise/kWh. The fraction of 0.5 paise/kWh or above has been rounded to next higher and fraction of less than 0.5 has been ignored.
- (ii) Adjustment for fraction of a MW of the installed capacity:- The installed capacity shall be rounded to one decimal place by ignoring the fraction of less than 0.05 MW and by considering the fraction of 0.05 MW and above as 0.1 MW.
- (iii) Rounding on the similar lines shall be carried out in the final rate arrived at in each case after carrying out the adjustments as per Sub-paragraphs (a), (b) & (c) above.

C. These tariffs shall be subject to the RE Tariff Regulations, 2017 and the orders as may be issued by the Commission thereunder.

The detailed computations for generic levelled tariff without considering subsidy(ies) for the SHPs for 4<sup>th</sup> control period under the three categories i.e. Above 100 kW to 2 MW capacity, Above 2 MW but below 5 MW capacity and 5 MW to 25 MW capacity are as per Appendices A, B and C respectively.

Sd/-  
(Shashi Kant Joshi)  
**Member**

Sd/-  
(Yashwant Singh Chogal)  
**Member (Law)**

Sd/-  
(Devendra Kumar Sharma)  
**Chairman**



Assumptions for Small Hydro Power		
<b>Generating Capacity (MW)</b>	<b>MW</b>	<b>1</b>
<b>Project Cost</b>		
Cost/MW	Rs Lacs/MW	1160.00
Project Cost	Rs Lacs	1160.00
MNES Subsidy	Rs Lacs (at 1MW Capacity)	0
Term	Years	40
<b>Project Financing</b>		
Project Debt	% of project cost	70%
Project Debt	Rs Lacs	812.00
Equity	Rs Lacs	348.00
Term of Debt	Years	15
Moratorium	Years	0
Interest Rate	%	10.52%
<b>Depreciation</b>		
Recovery of Depreciation	%	90%
Rate of Depreciation (First 15 Years)	%	4.67%
Rate of Depreciation (Last 25years)	%	0.80%
<b>Operating Norms</b>		
CUF	%	47.85%
Availability	%	100%
Auxiliary Consumption	%	0.50%
Transformation Losses	%	0.50%
Transmission losses	%	0.70%
<b>O&amp;M Expenses</b>	Rs. In Lacs/ MW	46.78
<b>O&amp;M Expenses w.r.t Capital Cost</b>	%	
Annual Escalation Factor	%	3.84%
<b>Tax</b>		
Tax Rate	%	27.82%
MAT Rate	%	16.70%
Surcharge		7.00%
Cess Rate		4.00%
Effective ROE		16.80%
Effective ROE		19.39%
<b>Working Capital Norms</b>		
Recievables	Months	1.5
Spares	% of O&M Cost	15%
O&M Expenses	Months	1
Interest on Working Capital	%	12.02%
<b>Discount Factor</b>	%	9.52%
<b>Depreciation amount</b>		90.00%
<b>Income Tax (MAT)</b>		16.70%
<b>Income Tax (Normal Rates)</b>		27.82%

**GENERIC LEVELLISED TARIFF OF CATEGORY -I ( Above 100 KW to 2 MW ) without subsidy**

DETERMINATION OF TARIFF COMPONENT	UNIT	YEAR→	Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18
Net Saleable Energy at the Interconnection point after the adjustment of Free Power, Project Line Losses and Auxiliary Consumption (Levelling/ Annual)	(MU)	4.447	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.12	4.12	4.12	4.12	4.12	4.12
<b>Fixed Cost</b>																				
RoE	Rs Lacs.		58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46	58.46
Depreciation	Rs Lacs.		54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	54.17	9.26	9.26	9.26
O&M	Rs Lacs.		46.78	48.58	50.44	52.38	54.39	56.48	58.65	60.90	63.24	65.67	68.19	70.81	73.53	76.35	79.28	82.32	85.49	88.77
WC Interest	Rs Lacs.		4.97	4.96	4.96	4.95	4.96	4.96	4.97	4.98	5.00	5.02	5.04	5.07	5.10	5.14	5.18	4.60	4.74	4.88
Interest on long Term loans	Rs Lacs.		82.57	76.88	71.19	65.49	59.80	54.10	48.41	42.71	37.02	31.32	25.63	19.93	14.24	8.54	2.85	0.00	0.00	0.00
Advance Against Dep.	Rs Lacs.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	Rs Lacs.		246.96	243.05	239.22	235.46	231.78	228.18	224.66	221.23	217.89	214.64	211.49	208.45	205.50	202.67	199.95	154.64	157.94	161.37
<b>Fixed Cost Rs Crores)</b>																				
RoE	Rs./ kWh	<b>1.349</b>	1.27	1.16	1.06	0.97	0.88	0.81	0.74	0.67	0.61	0.56	0.51	0.47	0.48	0.43	0.40	0.36	0.33	0.30
Depreciation	Rs./ kWh	<b>0.965</b>	1.18	1.08	0.98	0.90	0.82	0.75	0.68	0.62	0.57	0.52	0.47	0.43	0.44	0.40	0.37	0.06	0.05	0.05
O&M	Rs./ kWh	<b>1.626</b>	1.02	0.96	0.91	0.87	0.82	0.78	0.74	0.70	0.66	0.63	0.60	0.57	0.60	0.57	0.54	0.51	0.48	0.46
WC Interest	Rs./ kWh	<b>0.119</b>	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
Interest on long Term loans	Rs./ kWh	<b>0.868</b>	1.80	1.53	1.29	1.08	0.90	0.75	0.61	0.49	0.39	0.30	0.22	0.16	0.12	0.06	0.02	0.00	0.00	0.00
<b>Total Cost of Generation</b>	Rs./ kWh	<b>4.926</b>	5.37	4.83	4.34	3.90	3.50	3.15	2.83	2.55	2.29	2.06	1.85	1.67	1.67	1.51	1.36	0.96	0.89	0.83
Disc factor		<b>9.52%</b>	1.00	0.91	0.83	0.76	0.70	0.63	0.58	0.53	0.48	0.44	0.40	0.37	0.34	0.31	0.28	0.26	0.23	0.21
Discounted Rate	Rs./ kWh		5.37	4.83	4.34	3.90	3.50	3.15	2.83	2.55	2.29	2.06	1.85	1.67	1.67	1.51	1.36	0.96	0.89	0.83
<b>Generic Levellised Tariff Without Subsidy</b>	Rs./ kWh	<b>4.926</b>																		

**Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 1100 Lac/MW = Rs. 4.93 /kWh**

**Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant etc of Rs 100 Lac/MW = Rs. 4.65/kWh**

**Reduction in rate for one Crore rupees of Subsidy/Incentive/Grant etc per MW of capacity= Rs. 0.28/kWh [Please refer para 7.13 (ii) of the Order]**



Tariff for SHPs 2MW and below 5MW capacity (Without subsidy)		Appendix-B Sheet-I
<b>Assumptions for Small Hydro Power</b>		
<b>Generating Capacity (MW)</b>	<b>MW</b>	<b>1</b>
<b>Project Cost</b>		
Cost/MW	Rs Lacs/MW	1145.00
Project Cost	Rs Lacs	1145.00
MNES Subsidy	Rs Lacs/MW	0
Term	Years	40
<b>Project Financing</b>		
Project Debt	% of project cost	70%
Project Debt	Rs Lacs	801.50
Equity	Rs Lacs	343.50
Term of Debt	Years	15
Moratorium	Years	0
Interest Rate	%	10.52%
<b>Depreciation</b>		
Recovery of Depreciation	%	90%
Rate of Depreciation (First 15 Years)	%	4.67%
Rate of Depreciation (Last 25 years)	%	0.80%
<b>Operating Norms</b>		
CUF	%	47.85%
Availability	%	100%
Auxiliary Consumption	%	0.50%
Transformation Losses	%	0.50%
Transmission losses		0.70%
<b>O&amp;M Expenses</b>	Rs. In Lacs./ MW	<b>46.78</b>
<b>O&amp;M Expenses w.r.t Capital Cost</b>	%	
Annual Escalation Factor	%	3.84%
<b>Tax</b>		
Tax Rate	%	27.82%
MAT Rate	%	16.70%
Surcharge		7.00%
Cess Rate		4.00%
Effective ROE		16.80%
Effective ROE		19.39%
80IA Exemption	Years	0
<b>Working Capital Norms</b>		
Receivables	Months	1.5
Spares	% of O&M Cost	15%
O&M Expenses	Months	1
Interest on Working Capital	%	12.02%
<b>Discount Factor</b>	%	<b>9.52%</b>
<b>Depreciation amount</b>		<b>90.00%</b>
<b>Income Tax (MAT)</b>		<b>16.70%</b>
<b>Income Tax (Normal Rates)</b>		<b>27.82%</b>

**GENERIC LEVELLISED TARIFF OF CATEGORY -II ( Above 2MW and below 5 MW) without subsidy**

DETERMINATION OF TARIFF COMPONENT	UNIT	YEAR→	Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18
Net Saleable Energy at the Interconnection point after the adjustment of Free Power, Project Line Losses and Auxiliary Consumption (Levelling/ Annual)	(MU)		4.318	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.12	4.12	4.12	4.12	4.12	4.12
<b>Fixed Cost</b>																				
RoE	Rs Lacs.		57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71	57.71
Depreciation	Rs Lacs.		53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.47	53.43	9.14	9.14	9.14
O&M	Rs Lacs.		46.78	48.58	50.44	52.38	54.39	56.48	58.65	60.90	63.24	65.67	68.19	70.81	73.53	76.35	79.28	82.32	85.49	88.77
WC Interest	Rs Lacs.		4.93	4.92	4.92	4.92	4.92	4.93	4.94	4.95	4.97	4.99	5.02	5.05	5.08	5.12	5.16	4.58	4.72	4.87
Interest on long Term loans	Rs Lacs.		81.51	75.89	70.26	64.64	59.02	53.40	47.78	42.16	36.54	30.92	25.30	19.67	14.05	8.43	2.81	0.00	0.00	0.00
Advance Against Dep.	Rs Lacs.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	Rs Lacs.		244.40	240.57	236.81	233.12	229.51	225.99	222.55	219.19	215.93	212.75	209.68	206.71	203.84	201.08	198.39	153.76	157.06	160.48
<b>Fixed Cost Rs Crores)</b>																				
RoE	Rs./ kWh		1.368	1.31	1.20	1.09	1.00	0.91	0.83	0.76	0.69	0.63	0.58	0.53	0.48	0.47	0.43	0.39	0.36	0.33
Depreciation	Rs./ kWh		0.986	1.21	1.11	1.01	0.92	0.84	0.77	0.70	0.64	0.59	0.54	0.49	0.45	0.44	0.40	0.36	0.06	0.05
O&M	Rs./ kWh		1.661	1.06	1.01	0.95	0.90	0.86	0.81	0.77	0.73	0.69	0.66	0.62	0.59	0.60	0.57	0.54	0.51	0.48
WC Interest	Rs./ kWh		0.121	0.11	0.10	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03
Interest on long Term loans	Rs./ kWh		0.893	1.85	1.57	1.33	1.12	0.93	0.77	0.63	0.51	0.40	0.31	0.23	0.16	0.11	0.06	0.02	0.00	0.00
<b>Total Cost of Generation</b>	Rs./ kWh		5.030	5.54	4.98	4.48	4.03	3.62	3.25	2.93	2.63	2.37	2.13	1.92	1.72	1.66	1.50	1.35	0.95	0.89
Disc factor		9.52%		1.00	0.91	0.83	0.76	0.70	0.63	0.58	0.53	0.48	0.44	0.40	0.37	0.34	0.31	0.28	0.26	0.23
Discounted Rate	Rs./ kWh		5.030	5.54	4.98	4.48	4.03	3.62	3.25	2.93	2.63	2.37	2.13	1.92	1.72	1.66	1.50	1.35	0.95	0.89
<b>Generic Levellised Tariff without Subsidy</b>	Rs./ kWh	5.03																		

**Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 1100 Lac/MW = Rs. 5.03 /kWh**

**Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant etc of Rs 100 Lac/MW = Rs. 4.74/kWh**

**Reduction in rate for one Crore rupees of Subsidy/Incentive/Grant etc per MW of capacity= Rs. 0.29/kWh [Please refer para 7.13 (ii) of the Order]**



Tariff for SHPs 5MW to 25MW (Without subsidy)		Appendix-C Sheet-I
<b>Assumptions for Small Hydro Power</b>		
<b>Generating Capacity (MW)</b>	<b>MW</b>	<b>1</b>
<b>Project Cost</b>		
Cost/MW	Rs Lacs/MW	1125.00
Project Cost	Rs Lacs/MW	1125.00
MNES Subsidy (For 5MW)	Rs Lacs/MW	0
Term	Years	40
<b>Project Financing</b>		
Project Debt	% of project cost	70%
Project Debt	Rs Lacs	787.50
Equity	Rs Lacs	337.50
Term of Debt	Years	15
Interest Rate	%	10.52%
<b>Depreciation</b>		
Recovery of Depreciation	%	90%
Rate of Depreciation (First 15 Years)	%	4.67%
Rate of Depreciation (Lats 25years)	%	0.80%
<b>Operating Norms</b>		
CUF	%	47.85%
Availability	%	100%
Auxiliary Consumption	%	0.50%
Transformation Losses	%	0.50%
Transmission losses	%	0.70%
<b>O&amp;M Expenses</b>	Rs. Lacs/ MW	35.09
<b>O&amp;M Expenses w.r.t Capital Cost</b>	%	
Annual Escalation Factor	%	3.84%
<b>Tax</b>		
Tax Rate	%	19.39%
MAT Rate	%	16.80%
Surcharge		7.00%
Cess Rate		4.00%
Effective ROE		16.96%
Effective ROE		19.75%
80IA Exemption	Years	0
<b>Working Capital Norms</b>		
Recievables	Months	1.5
Spares	% of O&M Cost	15%
O&M Expenses	Months	1
Interest on Working Capital	%	12.02%
<b>Discount Factor</b>	%	9.52%
<b>Depreciation amount</b>		90.00%
<b>Income Tax (MAT)</b>		16.80%
<b>Income Tax (Normal Rates)</b>		19.39%

**GENERIC LEVELLISED TARIFF OF CATEGORY -III ( 5 MW to 25 MW) without subsidy**

DETERMINATION OF TARIFF COMPONENT	UNIT	YEAR→	Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18	
Net Saleable Energy at the Interconnection point after the adjustment of Free Power, Project Line Losses and Auxiliary Consumption (Levellised/ Annual)	(MU)		4.124	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	
<b>Fixed Cost</b>																					
RoE	Rs Lacs.		57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	57.24	
Depreciation	Rs Lacs.		52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	52.54	
O&M	Rs Lacs.		35.09	36.44	37.84	39.29	40.80	42.36	43.99	45.68	47.44	49.26	51.15	53.11	55.15	57.27	59.47	61.75	64.12	66.59	
WC Interest	Rs Lacs.		4.38	4.35	4.33	4.31	4.30	4.28	4.27	4.26	4.25	4.25	4.25	4.25	4.26	4.26	4.28	3.68	3.78	3.89	
Interest on long Term loans	Rs Lacs.		80.08	74.56	69.04	63.51	57.99	52.47	46.95	41.42	35.90	30.38	24.85	19.33	13.81	8.28	2.76	0.00	0.00	0.00	
Advance Against Dep.	Rs Lacs.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	Rs Lacs.		229.33	225.13	220.98	216.89	212.86	208.89	204.98	201.14	197.36	193.66	190.03	186.47	182.99	179.60	176.29	131.65	134.13	136.69	
<b>Fixed Cost Rs Crores)</b>																					
RoE	Rs./ kWh		<b>1.420</b>	1.39	1.27	1.16	1.06	0.96	0.88	0.80	0.73	0.67	0.61	0.56	0.51	0.47	0.43	0.39	0.35	0.32	0.30
Depreciation	Rs./ kWh		<b>1.025</b>	1.27	1.16	1.06	0.97	0.89	0.81	0.74	0.67	0.62	0.56	0.51	0.47	0.43	0.39	0.36	0.06	0.05	0.05
O&M	Rs./ kWh		<b>1.291</b>	0.85	0.81	0.76	0.73	0.69	0.65	0.62	0.59	0.56	0.53	0.50	0.47	0.45	0.43	0.40	0.38	0.36	0.34
WC Interest	Rs./ kWh		<b>0.107</b>	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02
Interest on long Term loans	Rs./ kWh		<b>0.937</b>	1.94	1.65	1.40	1.17	0.98	0.81	0.66	0.53	0.42	0.32	0.24	0.17	0.11	0.06	0.02	0.00	0.00	0.00
<b>Total Cost of Generation</b>	Rs./ kWh		<b>4.780</b>	5.56	4.99	4.47	4.00	3.59	3.22	2.88	2.58	2.31	2.07	1.86	1.66	1.49	1.34	1.20	0.82	0.76	0.71
Disc factor		9.52%		1.00	0.91	0.83	0.76	0.70	0.63	0.58	0.53	0.48	0.44	0.40	0.37	0.34	0.31	0.28	0.26	0.23	0.21
Discounted Rate	Rs./ kWh			5.56	4.99	4.47	4.00	3.59	3.22	2.88	2.58	2.31	2.07	1.86	1.66	1.49	1.34	1.20	0.82	0.76	0.71
<b>Generic Levellised Tariff without Subsidy</b>	Rs./ kWh			<b>4.780</b>																	

**Generic Levellised Tariff (without Subsidy) at Capital Cost of Rs 1100 Lac/MW = Rs. 4.78 /kWh**

**Indicative Generic Levellised Tariff by considering Subsidy/Incentive/Grant etc of Rs 100 Lac/MW = Rs. 4.47/kWh**

**Reduction in rate for one Crore rupees of Subsidy/Incentive/Grant etc per MW of capacity= Rs. 0.31/kWh [Please refer para 7.13 (ii) of the Order]**



