Before the

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION

13th Floor, Centre No.1, World Trade Centre, Cuffe Parade, Mumbai- 400 005
Tel: 22163964/65/69 Fax: 22163976
E-mail: mercindia@merc.gov.in
Website: www.mercindia.org.in/www.merc.gov.in

Case No. 100 of 2014

In the matter of

Determination of Generic Tariff for Renewable Energy Sources for FY 2014-15 under Regulation 8 of the Maharashtra Electricity Regulatory Commission (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2010

Smt. Chandra Iyengar, Chairperson

Shri Vijay L. Sonavane, Member

DRAFT ORDER (SUO-MOTU)

Dated: 6th May, 2014

In exercise of the powers vested under Section 61 read with Section 181 of the Electricity Act 2003 ("EA 2003"), the Maharashtra Electricity Regulatory Commission ("MERC" or "the Commission") has notified the MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010, ("the RE Tariff Regulations") on 7 June , 2010. The RE Tariff Regulations provide for Terms and Conditions and the Procedure for determination of generic tariff on *Suo-motu* basis in respect of the following Renewable Energy (RE) generating stations:

(a) Wind Power Projects;
(b) Small Hydro Projects, Mini and Micro Hydro Projects;
(c) Biomass Power Projects;
(d) Qualifying and Non-Qualifying Non-fossil fuel-based co-generation Plants;
(e) Solar Photo Voltaic (PV) Projects,
(f) Solar Rooftop PV and other small Solar Power Projects.

2. Regulation 8.1 of the RE Tariff Regulations requires the Commission to determine the Generic Tariff for the RE technologies for which norms have been specified in the said Regulations on suo-motu basis, as reproduced below:

> *"8.1 The Commission shall notify the generic preferential tariff on suo-motu basis pursuant to issuance of revised norms by Central Electricity Regulatory Commission at the beginning of each year of the Control Period for renewable energy technologies for which norms have been specified under the Regulations.*
>
> *Provided that for the first year of Control Period, (i.e. FY 2010-11), the generic tariff on suo-motu basis may be determined within a period not exceeding three months from the date of notification of these Regulations."*

3. Accordingly, the Commission vide its Order dated 14 July, 2010, issued the Order for the 'Determination of Generic Tariff for RE Technologies for the first year of the Control Period, i.e., FY 2010-11' on suo-motu basis.

4. Further, in accordance with the above Regulations, the Commission, issued suo-motu Order dated 29 April 2011 for the second year i.e. FY 2011-12, Suo-motu Order dated 30 March 2012 for the third year i.e., FY 2012-13' and Suo-motu Order dated 22 March, 2013 for the fourth year of the control period i.e. FY 2013-14. The same is applicable for Renewable Energy Projects to be commissioned in Maharashtra during the fourth year of the control period, i.e., from 1 April, 2013 to 31 March, 2014.

5. **The Commission in due discharge of the mandate under Regulation 8.1 of MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010, proceeds to determine the Generic Tariff for RE Technologies for the Fifth Year of the Control Period, i.e., FY 2014-15 through this draft Order and invites objections and suggestions from various Stakeholders**.

1. Common Parameters applicable for determination of Generic Tariff

This Section of the Order details the applicable norms for determination of Generic Levellised Tariff, which are common to all type of renewable technologies as specified in the RE Tariff Regulations.

1.1. CONTROL PERIOD

Regulation 5.1 of the RE Tariff Regulations specifies that the Control Period for determination of tariff for RE projects shall be five years, starting from the date of notification of the RE Tariff Regulations. The first year of the Control Period was FY 2010-11, the second year of the Control Period was FY 2011-12, the third year of the Control Period was FY 2012-13, the fourth year of the Control Period was FY 2013-14 and the fifth year of the control period is FY 2014-15. The first Proviso to Regulation 5.1 of RE Tariff Regulations stipulates that the tariff determined for the RE projects commissioned during the Control Period shall continue to be applicable for the entire duration of the Tariff Period (as specified in Regulation 6 of the RE Tariff Regulations).

Further, in accordance with Regulation 5.2 of the RE Tariff Regulations, the generic tariff determined for Solar PV projects and Rooftop Solar PV and other small solar projects based on the Capital Cost and other norms applicable for FY 2013-14 vide Commission's Order (Case No. 6 of 2013) dated 22 March, 2013 shall also apply for such projects during FY 2014-15, provided that (i) the Power Purchase Agreements (PPA) in respect of the Solar PV projects as mentioned in this Paragraph are signed on or before 31 March, 2014; and (ii) the entire capacity covered by the Power Purchase Agreements is commissioned on or before 31 March, 2015 in respect of Solar PV projects.

Further, for those Solar photovoltaic power projects and Rooftop Solar PV and other small solar projects whose PPAs are signed after 31 March, 2014, the tariff for such projects for their commissioning during FY 2014-15 would be based on the benchmark capital cost norm for Solar PV power projects for FY 2014-15 as specified under Paragraph 6.4 of this Order.

1.2. TARIFF STRUCTURE

Regulation 9.1 of the RE Tariff Regulations specifies that the tariff for RE projects shall be a single-part tariff consisting of the following fixed cost components:

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

For RE technologies having fuel cost component, like biomass power projects and non-fossil fuel based cogeneration projects, single-part tariff with two components, i.e., fixed cost component and fuel cost component, has been determined under this Order.

The relevant cost components and basis for determination of Generic Tariff in respect of each RE technology have been elaborated under technology specific Sections in detail.

1.3. TARIFF DESIGN

In accordance with Regulation 10 of the RE Tariff Regulations, the Tariff Design for RE generating stations is as under**:**

> *"10.1 The generic tariff shall be determined on levellised basis for the Tariff Period.*
>
> *...*
>
> *10.2 For the purpose of levellised tariff computation, the discount factor equivalent to normative weighted average cost of capital shall be considered.*
>
> *10.3 Levellisation shall be carried out for the 'useful life' of the Renewable Energy project while tariff shall be specified for the period equivalent to 'Tariff Period'."*

1.4. INTEREST ON LOAN

Regulation 14.1 of the RE Tariff Regulations specifies that the loan tenure of 10 years is to be considered for the purpose of determination of generic tariff for RE projects. Regulation 14.2 provides for consideration of the rate of interest on loan as under:

> "*The loans arrived at in the manner indicated above shall be considered as gross normative loan for calculation for interest on loan. The normative loan outstanding as on April 1st of every year shall be worked out by deducting the cumulative repayment up to March 31st of previous year from the gross normative loan.*
>
> *For the purpose of computation of tariff, the normative interest rate shall be considered as average of State Bank Advance Rate (SBAR) prevalent during the previous year plus 150 basis points.*

Notwithstanding any moratorium period availed by the generating company, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed."

However, it may be noted that as per the guidelines issued by the Reserve Bank of India (RBI) dated July 01, 2010 related to interest rates on loan advances, all banks have been directed to switch over to the system of Base Rate with effect from July 01, 2010 by replacing the existing Benchmarking Prime Lending Rate (BPLR) [also known as Advance Rate, which is referred to in the RE Tariff Regulations] (Ref. Master Circular by RBI, http://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=5816#a9). This policy shift is a result of the recommendation made by the Working Group on Benchmark Prime Lending Rate constituted by RBI in its Report submitted in October 2009. As per the Report, BPLR system is incompatible with the market situation and has fallen short of expectation to enhance transparency in lending rate due to which BPLR system needs to be replaced with Base Rate system.

As per this new guideline, all categories of loans have to be priced only with reference to the Base Rate with effect from 1 July, 2010. The Base Rate is the minimum rate for all loans below which, banks are not permitted to lend any funds. All banks have been directed to determine their actual lending rates on loans and advances with reference to the Base Rate plus borrower-specific charges, which will include product-specific operating costs, credit risk premium and tenor premium. Accordingly, all banks in India including the State Bank of India (SBI), have replaced Benchmark Prime Lending Rate with the new regime of Base Rate with effect from 1 July, 2010. Further, in order to give banks some time to stabilize the system of Base Rate calculation, banks were permitted to change the benchmark and methodology any time during the initial six month period, i.e., latest by end-December 2010. Accordingly, the system of Base Rate based lending has been under operation for almost three years. The Base Rate as notified by State Bank of India for the period 1 April-2013 to 31 December 2013 is summarised below:

Period	Base Rate (%)	Period (no of days)
1 April-2013 to 18 September-2013	9.70%	171
19 September-2013 to 6 November-2013	9.80%	49

Period	Base Rate (%)	Period (no of days)
7 November-2013 to 31 December -2013	10.00%	55
Weighted Average Base Rate for FY 2014 – 15	**9.78%**	**275**

Furthermore, the RE Tariff Regulations, 2012 published by CERC for the second Control Period, has also linked the normative interest rate with Base Rate of State Bank of India. The CERC RE Regulations, 2012 specified normative interest rate equal to three hundred (300) basis points above the State Bank of India Base Rate prevalent during the first six months of the previous year.

Hence, in view of the significant policy shift of BPLR to Base Rate for Banks as per RBI Guidelines and in order to remove the difficulty in implementing Regulation 14.2 of the RE Tariff Regulations, the Commission has decided to revise the computation of normative interest rate from Prime Lending Rate (Advance Rate) to Base Rate in pursuance of the powers of the Commission under "Removal of Difficulty" as specified in Regulation 77.1 of the RE Tariff Regulations.

Further, in order to factor in the concerns for lending to RE projects, the Commission has decided to consider a spread of 300 basis points above the average Base Rate of State Bank of India to arrive at normative interest rate for loan financing of the RE projects.

Thus, Interest on normative long-term loan shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 300 basis points.

Accordingly, the weighted average of State Bank of India Base Rate for 1 April, 2013 to 31 December 2013 as shown in the above table, plus 300 basis points, works out to an interest rate of 12.78% p.a. (9.78% + 300 basis points), which has been considered as the normative interest rate on long-term loans for computation of levellised tariff for RE technologies in this Order.

1.5. INTEREST ON WORKING CAPITAL

Regulation 17.3 of the RE Tariff Regulations provides for computation of the rate of interest on working capital as under:

"Interest on Working Capital shall be at interest rate equivalent to average State Bank Advance Rate (SBAR) during the previous year plus 100 basis points."

In view of the rationale elaborated in Paragraph 1.4 above, the Commission has decided to revise the computation of normative interest rate on working capital also, by moving from Prime Lending Rate system to Base Rate system in pursuance of the powers of the Commission under "Removal of Difficulty" as specified in Regulation 77.1 of the RE Tariff Regulations. Further, in order to factor in the concerns for lending for RE projects, the Commission has decided to consider a spread of 350 basis points above the average Base Rate of State Bank of India to arrive at the normative interest rate on working capital. Thus, Interest on Working Capital loan shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 350 basis points.

Accordingly, the weighted average State Bank of India Base Rate for FY 2013-14 as available from 1 April, 2013 to 31 December 2013 as shown in the above table, plus 350 basis points, works out to an interest rate of 13.28 % (9.78% + 350 basis points), which has been considered as normative interest rate on Working Capital for computation of levelised tariff for RE technologies in this Order.

1.6. LEVELISED TARIFF

Levellised Tariff is calculated by carrying out levelisation over useful life of each technology considering the discount factor equivalent to weighted average cost of capital, to represent the time value of money.

Discount Factor

The discount factor considered for this purpose is equal to the weighted average cost of capital on the basis of normative debt: equity ratio (70:30) specified in the Regulations, and weighted average rates for debt and equity component.

Interest Rate considered for the loan component (i.e., 70%) of Capital Cost is 12.78% (as explained in Paragraph 1.4 above). For the equity component (i.e., 30%), rate of Return on Equity (ROE) for the first ten (10) years is 19%, and for the 11th year onwards till useful life of the RE project, the rate is 24%. Based on these rates, the weighted average ROE has been calculated, which is around 22.3% (ranging from 22% to 22.57% depending on the useful life of RE technologies). The discount factor for each technology derived by this method is detailed in the respective technology specific Sections of this Order.

1.7. SUBSIDY OR INCENTIVE PROVIDED BY THE CENTRAL/STATE GOVERNMENT

Regulation 22 of the RE Tariff Regulations specifies:

> *"The Commission shall take into consideration any incentive or subsidy offered by the Central or State Government, including accelerated depreciation benefit if availed by the generating company, for the renewable energy power plants while determining the tariff under these Regulations.*
>
> *Provided that the following principles shall be considered for ascertaining income tax benefit on account of accelerated depreciation, if availed, for the purpose of tariff determination:*
>
> *a) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate as per relevant provisions under Income Tax Act and corporate income tax rate.*
> *b) Capitalisation of RE projects during second half of the fiscal year.*
> *c) Per unit benefit shall be derived on levellised basis at discount factor equivalent to weighted average cost of capital."*

Accordingly, for the projects availing the benefit of accelerated depreciation as per applicable Income Tax rate of 33.99% (30% IT rate + 10% surcharge + 3% Education cess) has been considered. For the purpose of determining the net depreciation benefits, depreciation @ 5.28% as per Straight Line Method (Book depreciation as per Companies Act, 1956) has been compared with depreciation as per Income Tax Act, i.e., 80% under Written Down Value method except in case of wind power projects, wherein, as per Income Tax (Fourth Amendment Rules), 2012, depreciation is now restricted to 15% for wind mills installed after 31 March, 2012 vide Notification No. 15/2012 [F.No.149/21/2010-SO(TPL)] S.O.694(E), dated 30 March, 2012. Moreover, additional 20% depreciation in the initial year is proposed to be extended to new assets acquired by Power Generation Companies vide amendment in Section 32, sub-section (1) clause (ii a) of the Income Tax Act.

Depreciation for the first year has been calculated at the rate of 50% of 80% or 15% as the case may be, and 50% of the additional depreciation of 20%, assuming the project to be capitalized during the second half of the financial year as per second proviso of

Regulation 22.1. The tax benefit has been worked out as per normal tax rate on the net depreciation benefit. The 'per unit levellised accelerated depreciation benefit' has been computed considering the weighted average cost of capital as discounting factor. The detailed computation of benefit of accelerated depreciation in respect of each RE technology has been covered under the technology specific Sections.

Further, as per the second proviso under Regulation 22.1 of the RE Tariff Regulations, in case any Central Government or State Government notification specifically provides for any Generation Based Incentive (GBI) over and above tariff, the same shall not be factored in while determining tariff. Thus, while determining the tariffs for RE projects in this Order, no such incentives have been considered.

1.8. SHARING OF CDM BENFITS

As per Regulation 21.1 of the RE Tariff Regulations, all risks, costs and efforts associated with the availing of carbon credits shall be borne by the Generating Company. Further, the entire proceeds of carbon credit from approved CDM project, if any, shall be retained by the Generating Company.

1.9. APPLICABILITY OF TARIFF ORDER

This Tariff Order shall be applicable for New RE Projects to be commissioned during FY 2014-15 (i.e. from 1 April, 2014 to 31 March, 2015).

In case of Biomass power projects and Non fossil fuel based power projects commissioned on or prior to 31 March, 2014, the variable charge component of the tariff for FY 2014-15 shall be determined as outlined under the relevant provisions of this Order, whereas, fixed charge component of the tariff of such projects shall continue to be governed by the relevant Orders issued by the Commission.
The applicable Tariff Rate, Tariff Structure and other terms and conditions for RE Projects commissioned on or before 31 March, 2014 will be in accordance with the relevant provisions outlined under the Generic RE Tariff Order for FY 2013-14 (Case No. 6 of 2013 dated 22 March , 2013) issued by the Commission.

The following Sections of the Order outline the technology-wise norms and corresponding Generic Tariff for New RE Projects to be commissioned during FY 2014-15 based on various renewable energy technologies.

2. WIND ENERGY PROJECTS

2.1. USEFUL LIFE

Regulation 2.1 (ff) of the RE Tariff Regulations defines 'useful life' in relation to a Unit of a generating station (including evacuation system) to mean the duration from the date of commercial operation (COD) till such time as specified under the RE Tariff Regulations, for such generation facility. Accordingly, the useful life for wind energy projects as specified under Regulation 2.1 (ff) is 25 years from COD.

2.2. TARIFF PERIOD

Regulation 6 of the RE Tariff Regulations specifies the Tariff Period for various RE projects. Accordingly the Tariff Period for wind energy projects is 13 years, considered from the date of commercial operation of the RE project, and the tariff determined under the Regulations shall be applicable only for the duration of the Tariff Period.

2.3. CAPACITY UTILISATION FACTOR

Wind energy projects located at the wind sites having minimum annual Wind Power Density (WPD) of 200 Watt/m^2 measured at hub height of 50 metres and using new wind turbine generators are eligible for the preferential tariff as determined under the RE Tariff Regulations. However, the Commission, in its Order dated 11 January, 2012 (Case No. 153 of 2011) in the matter of Petition filed by M/s Gamesa, has considered the submissions made by MNRE that the provision for consideration of WPD of 200 W/m^2 at 50 m hub height does not hold relevance any longer. With change in wind turbine technology and better efficiency, even the lower wind regimes have become exploitable. Considering the same, the MNRE, vide its Circular dated 1 August 2011, issued a new guideline wherein it has been decided that hereafter, no restriction will exist for Wind Power Density criteria as far the development of wind power project is concerned. Subsequently, CERC in RE Regulations, 2012 specified the revised eligibility criteria for the wind energy projects in line with the latest guidelines issued by MNRE.

In accordance with Regulation 26 of the MERC RE Tariff Regulations, the norms for Capacity Utilization Factor (CUF) specified for wind energy projects are as under:

Wind Energy Projects	CUF
Annual Mean Wind Power Density (W/m^2)	
Wind zone-1 (200-250)	20%
Wind zone-2 (250-300)	23%
Wind zone-3 (300-400)	27%
Wind zone-4 (above 400)	30%

In accordance with Regulation 26.2 of the RE Tariff Regulations, the annual mean wind power density is to be measured at 50 metre hub-height and as per Regulation 26.3, for the purpose of classification of wind energy project into particular wind zone class, the State-wise wind power density map prepared by Centre for Wind Energy Technology (C-WET) annexed as schedule to the RE Tariff Regulations, is to be considered, provided that the said Schedule may be amended based on inputs provided by C-WET/MNRE.

Further, as directed by the Commission in its generic RE Tariff Order for FY 2010-11 (Case No. 20 of 2010 dated 14 July, 2010), the State Nodal Agency, MEDA has provided the pprocedure for classification of wind power projects into wind zone class vide its letter ref: MEDA Letter no. IDD 2011/CR-28/WRA-028/2011-12/2897 dated 16 July, 2011 and published it on its website. The same has been approved by the Commission vide its letter no. MERC/MEDA-COR/2011-12/01571 dated 12 September, 2011.

Subsequently, considering the MNRE circular dated 8 August, 2011, which suggests that there should not be any restriction for minimum WPD of 200 W/m2 for development of wind power projects and in pursuance of the powers of the Commission under "Removal of Difficulty" as specified in Regulation 77.1 of RE Tariff Regulations, 2010, the Commission modified the wind zone-1as "<=250 W/m^2" vide its generic RE tariff Order issued for FY 2013-14 in Case No. 6 of 2013.

However, the Commission now observes that the general market trend is towards steadily growing hub heights, with most major wind turbine manufacturers now routinely offering turbines with hub heights around 80 meters. Greater hub height of wind turbines allows greater utilisation of wind energy due to the greater wind potential available at higher heights and a larger rotor diameter. CERC in its RE Tariff Regulations, 2012 stipulated the capital cost and CUF corresponding to 80m hub height. Considering the above and the MNRE, Circular dated 1August, 2011, which suggests that there should not be restriction for minimum WPD of 200 W/m^2 for development of wind power projects and in

pursuance of the powers of the Commission under "Removal of Difficulty" as specified in Regulation 77.1 of RE Tariff Regulations, 2010, Commission vide this Order proposes to revise the zone-wise classification and CUF for wind energy projects as given below:

Wind Zone	Annual Mean Wind Power Density (W/m^2) as per MERC RE Tariff Regulations, 2010	Annual Mean Wind Power Density (W/m^2) as per MERC Order Dated 22.03.2013 (Case No. 6 of 2013)	Existing CUF	Proposed Revised CUF
Zone 1	200-250	<=250	20%	**22%**
Zone 2	250-300	>250 - <=300	23%	**25%**
Zone 3	300-400	>300 - <=400	27%	**30%**
Zone 4	>400	>400	30%	**32%**

2.4. CAPITAL COST

In order to determine the yearly normative Capital Cost for such eligible Wind Energy Projects over the Control Period, the RE Tariff Regulations specify an indexed capital cost to be notified on a yearly basis pursuant to issuance of such indexed Capital Cost by Central Electricity Regulatory Commission (CERC) for wind energy projects in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations. It is to be noted that the capital cost norms specified in the RE Tariff Regulations correspond to wind energy generators with a hub height of 50m. With an increased hub height of 80m, the capital cost of wind energy projects is expected to increase. A comparative study of capital cost approved for wind energy generators across other state electricity regulatory commissions is shown below:

Sr. No.	State	Order	Capital Cost
1.	Gujarat	Order No 2 of 2012 dated 8 August, 2012	606 Lakh/MW
2.	Karnataka	OP No 19/2012 dated 10 October, 2013	560 Lakh/MW
3.	Tamil Nadu	Order No 6 of 2012 dated 31 July, 2012	575 Lakh/MW
4.	Andhra Pradesh	O P No 13 of 2012 dated 15 November, 2012	575 Lakh/MW
5.	Rajasthan	Suo-Motu Order Dated 17 May, 2013	551 Lakh/MW
6.	Rajasthan	Draft Regulations	565 Lakh/MW

Accordingly, in pursuance of the powers of the Commission under "Deviation from Norms" as specified in Regulation 74.1 of RE Tariff Regulations, 2010, Commission vide this Order proposes to specify the capital cost applicable for wind energy projects as Rs 575 Lakh/MW.

2.5. DEBT-EQUITY RATIO

Regulation 13.1 of the RE Tariff Regulations provides that the debt-equity ratio of 70:30 is to be considered for determination of generic tariff. In accordance with the normative debt equity ratio and the above stipulated Capital Cost, the debt and equity component for wind energy projects works out to Rs. 402.50 Lakh per MW and Rs. 172.50 Lakh per MW, respectively, for FY 2014-15.

2.6. RETURN ON EQUITY

Regulation 16.2 stipulates the normative Return on Equity (RoE) as under:

(a) Pre-tax 19% per annum for the first 10 years, and

(b) Pre-tax 24% per annum from the 11th year onwards.

Accordingly, Return on Equity for FY 2014-15 works out as under:

Opening Equity (Rs lakh / MW)	172.50
Return on Equity for the first 10 years @19% (Rs lakh per MW)	32.78
Return on Equity after first 10 years @24% (Rs lakh per MW)	41.40

2.7. INTEREST ON LOAN

As explained above in Paragraph 1.4 of this Order, the interest rate of 12.78% (9.78% SBI Base Rate + 300 basis points) has been considered for Wind Energy Projects for loan amount of Rs. 402.50 Lakh per MW in FY 2014-15.

2.8. DEPRECIATION

Regulation 15 of the RE Tariff Regulations specifies that depreciation is to be allowed up to a maximum of 90% of the Capital Cost of the asset and the depreciation rate for the first 10 years of the Tariff Period shall be 7% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 11th year onwards.

Accordingly, for Wind Energy Projects, depreciation rate is 7% for the first 10 years, and works out to 1.33% thereafter, for the remaining useful period of 15 years.

2.9. INTEREST ON WORKING CAPITAL

Regulation 17.1 of the RE Tariff Regulations provides for computation of the working capital requirements of the wind projects as under:

"(a) Operation & Maintenance expenses for one month;
(b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;
(c) Maintenance Spares @ 15% of operation and maintenance expenses."

Further, as explained above in Paragraph 1.5 of this Order, Interest on Working Capital shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 350 basis points. Paragraph 1.4 of this Order shows that average Base Rate of State Bank of India for FY 2013-14 is 9.78%. Accordingly, the rate of Interest on Working Capital for wind energy projects in FY 2014-15 works out to 13.28% (9.78% + 350 basis points).

2.10. OPERATION AND MAINTENANCE (O&M) EXPENSES

Regulation 27 of the RE Tariff Regulations specifies the normative O&M expenses for wind energy projects for FY 2010-11 as Rs 6.87 Lakh per MW, which is to be escalated at the rate of 5.72% per annum over the Tariff Period for determination of the levelised tariff. Accordingly, the Commission has considered O&M expense norm for wind energy projects as Rs 8.58 Lakh per MW for FY 2014-15.

2.11. LEVELLISED TARIFF FOR NEW WIND ENERGY PROJECTS IN FY 2014-15

Accordingly, the generic tariffs for Wind Energy Projects for FY 2014-15 have been determined as under. The discount factor for carrying out levelisation of Tariff for wind energy projects works out to 15.54%.

Tariff for New RE Projects for FY 2014-15 Wind

Wind Energy	Tariff Period	Levellised Tariff for FY 2014-15	Benefits of Tax and Additional Depreciation (if availed)	Net Levellised Tariff upon adjusting for Tax and Additional Depreciation Benefit) (if availed)
		Rs/kWh	Rs/kWh	Rs/kWh
Wind Zone-1	13	5.60	0.36	5.25
Wind Zone-2	13	4.93	0.31	4.62
Wind Zone-3	13	4.11	0.26	3.85
Wind Zone-4	13	3.85	0.24	3.61

Notes:

- The above Tariff shall be valid for Projects Commissioned in FY 2014-15.
- The above Tariff shall be valid for a Tariff Period of 13 years from the Commercial Operation Date (COD).

3. SMALL HYDRO POWER PROJECTS AND MINI/MICRO HYDRO PROJECTS

3.1. USEFUL LIFE

The useful life specified for Small Hydro Projects (SHPs) and Mini/Micro Projects under Regulation 2.1 (ff) of the RE Tariff Regulations is 35 years from COD.

3.2. TARIFF PERIOD

Regulation 6.1 of the RE Tariff Regulations specifies a Tariff Period of 13 years for Small Hydro Projects of capacities above 5 MW and lower than or equal to 25 MW.

Regulation 6.2 of the RE Tariff Regulations specifies a Tariff Period of 35 years for Mini/Micro Hydro projects and Small hydro projects up to and including 5 MW. The Tariff Period matches the useful life in case of these Projects, reflecting a longer preferential treatment for such Projects.

3.3. CAPITAL COST OF SMALL HYDRO PROJECTS

SHPs, for the purpose of the RE Tariff Regulations cover those projects, which are located at the sites approved by the State Nodal Agency/State Government using new plant and machinery and with installed power plant capacity lower than or equal to 25 MW. Further, for the purpose of specifying allowable Capital Cost, SHPs have been classified into two categories based on their installed capacities, viz., a) Small Hydro Projects above 1 MW and up to and including 5 MW, and b) Small Hydro Projects of capacities above 5 MW and lower than or equal to 25 MW.

The RE Tariff Regulations provide for indexed capital cost to be notified on a yearly basis pursuant to issuance of such indexed Capital Cost by CERC for small hydro projects in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations.

While arriving at the index for capital cost norm for FY 2014-15 for the SHP projects in Maharashtra, the Commission has considered the indices related information for the period of 11 months during calendar year 2013 starting from January 2013 to November 2013. Besides, in accordance with the RE Tariff Regulations, the calendar year 2013 has been considered as the base year. Accordingly, the indexed capital cost for small hydro power projects to be commissioned during FY 2014-15 works out to Rs 589.35 Lakh/MW for small hydro projects with installed capacity (> 1 MW and up to and including 5 MW) and Rs 536.20 Lakh/MW for small hydro projects with installed capacity (> 5 MW to 25 MW) as summarised under the following table:

Capital Cost Indexation for Small Hydro Power Projects (FY2014-15)

Indexation Formulation
CC(n)=P&M(n)*[1+F1+F2+F3]
dn = (a*(SIn-1/SI0)-1)+b*(EIn-1/EI0)-1))/(a+b)
P&M(n)=P&M(0)*(1+dn)

Variable	Description	Value
a	Weightage for Steel Index	0.6
b	Weightage for Electrical Machinery Index	0.4
F_1	Factor for Land and Civil Work	0.16
F_2	Factor for Erection and Commissioning	0.10
F_3	Factor for IDC and Financing	0.14

Month/Year	Electrical & Machinery		Iron & Steel	
	2013	2009	2013	2009
January	133.90	124.60	152.40	118.00
February	133.80	124.50	153.70	118.00
March	134.10	123.90	153.80	117.20
April	134.50	123.60	155.10	124.00
May	135.50	123.80	154.50	124.30
June	135.60	123.70	153.30	122.20
July	135.60	123.70	153.40	123.10
August	135.70	123.70	154.00	125.30
September	136.30	120.30	154.30	131.40
October	136.70	120.70	155.20	130.80
November	137.00	120.50	153.80	131.70
December		120.40		131.60
Average	**135.34**	**122.78**	**153.95**	**124.80**

Parameter	Description	<5 MW	5-25 MW
$CC_{(0)}$(RsL/MW)	Capital Cost for the Base Year	499.00	454.00
$P\&M_{(0)}$ (RsL/MW)	Plant & Machinery Cost for the Base Year	356.43	324.29
dn	Capital Cost Escalation Factor	18.11%	18.11%
$P\&M_{(n)}$ (RsL/MW)	**Plant & Machinery Cost for the nth Year (FY 2014-15)**	**420.96**	**383.00**
$CC_{(n)}$ (RsL/MW)	**Capital Cost for the nth Year (FY2014-15)**	**589.35**	**536.20**

3.4. DEBT-EQUITY RATIO

In accordance with Regulation 13.1 of the RE Tariff Regulations, the debt and equity component for FY 2014-15 for SHP having capacities above 1 MW and up to and including 5 MW works out to Rs. 412.54 Lakh per MW and Rs. 176.80 Lakh per MW, respectively, and for projects having capacities above 5 MW and lower than or equal to 25 MW, the debt and equity component works out to Rs. 375.34 Lakh per MW and Rs. 160.86 Lakh per MW, respectively.

3.5. RETURN ON EQUITY

In accordance with Regulation 16.2 of the RE Tariff Regulations, the RoE works out as shown in the Table below:

Particulars	> 1 MW and up to and including 5 MW	> 5 MW to 25 MW
Opening Equity (in Rs lakh per MW)	176.80	160.86
Return on Equity for the first 10 years @19% (Rs lakh per MW)	33.59	30.56
Return on Equity after first 10 years @24% (Rs lakh per MW)	42.43	38.61

3.6. INTEREST ON LOAN

As explained in Paragraph 1.4 of this Order, the interest rate of 12.78% (9.78% +300 basis points) has been considered for small hydro projects having capacities above 1MW and up to and including 5MW with a gross opening loan amount of Rs. 412.54 Lakh per MW and for projects having capacities above 5 MW and lower than or equal to 25 MW with a gross opening loan amount of Rs. 375.34 Lakh per MW in FY 2014-15.

3.7. DEPRECIATION

In accordance with Regulation 15.2 of the RE Tariff Regulations, the depreciation will be charged at 7% for the first 10 years, and at 0.80% thereafter for the remaining useful period of 25 years for SHPs.

3.8. INTEREST ON WORKING CAPITAL

Regulation 17.1 of the RE Tariff Regulations provides for computation of the working capital requirements of the SHPs as under:

"(a) Operation & Maintenance expenses for one month;
(b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;
(c) Maintenance spares @ 15% of operation and maintenance expenses"

Further, as explained above in Paragraph 1.5 of this Order, Interest on Working Capital shall be computed at an interest rate equivalent to average Base Rate of State Bank of

India during the previous year plus 350 basis points, i.e., 13.28% (9.78% + 350 basis points).

3.9. OPERATION AND MAINTENANCE (O&M) EXPENSES

Regulation 32.1 of the RE Tariff Regulations provides, the normative O&M expenses for small hydro projects for FY 2010-11, to be escalated at the rate of 5.72% per annum over the Tariff Period for determination of the levelised tariff. Accordingly, the following table presents the normative O&M expenses considered by the Commission for small hydro power for FY 2014-15:

Project Size	O&M expenses (Rs Lakh/MW)
> 1 MW and up to and including 5 MW	22.45
5 MW to 25 MW	15.86

3.10. CAPACITY UTILISATION FACTOR (CUF)

In accordance with Regulation 30.1 of the RE Tariff Regulations, a CUF of 30% has been considered for determination of Tariff for SHPs.

3.11. AUXILIARY POWER CONSUMPTION

In accordance with Regulation 31 of the RE Tariff Regulations, the Normative Auxiliary Consumption of 1.0% has been considered for determination of tariff of SHPs.

3.12. INCENTIVE FOR MINI/MICRO HYDRO PROJECTS

The RE Tariff Regulations provide for a higher tariff for Mini/Micro hydro projects over the other SHP projects, as reproduced below:

"33.1 Tariff for Mini/Micro Hydro Projects shall be higher by Rs 0.50/kWh ***or such other higher amount as may be stipulated by Commission from time to time*** *over and*

*above the tariff applicable for Small Hydro Projects with installed capacity more than 1 MW but up to and including 5 MW." (**Emphasis Added**)*

In pursuance of Regulation 33.1 of the RE Tariff Regulations and in order to encourage deployment of Mini/Micro Hydro power projects, while determining the generic tariff for the second year of the Control Period in the Tariff Order dated 29 April, 2011 in Case No 39 of 2011, the Commission has further categorised small hydel projects below 1 MW into two sub categories, viz., a) above 500 kW and up to and including 1 MW at single location, and b) 500 kW & below at single location. Further, in view of the lack of economies of scale associated with such small hydel projects, the Commission has provided preferential tariff incentive for Mini/Micro hydel projects below 500 kW. Accordingly, in line with the principle outlined under earlier Order, the Commission hereby determines the tariff for such sub-categories of Mini/Micro Hydro Projects for FY 2014-15 as under:

a) Tariff for Mini/Micro Hydro Projects above 500 kW and up to and including 1 MW at single location shall be higher by Rs 0.50 per kWh over and above the tariff applicable for Small Hydro Projects with installed capacity more than 1 MW but up to and including 5 MW.
b) Tariff for Mini/Micro Hydro Projects of capacity 500 kW and below at single location shall be higher by Rs 1.00 per kWh over and above the tariff applicable for Small Hydro Projects with installed capacity more than 1 MW but upto and including 5 MW.

3.13. LEVELLISED TARIFF FOR NEW SMALL HYDRO PROJECTS IN FY 2014-15

In light of the above parameters and the discount factor worked out as 15.54% for levelisation of tariff for SHPs, the generic tariffs for Small Hydro Projects for FY 2014-15 have been determined as under:

Tariff for New RE Projects-Small Hydro Projects, Mini and Micro Hydro Projects

Small Hydro Power	Tariff Period	Levelised Tariff (FY 2014-15)	Benefit of Accelerated Depreciation (if availed)	Net Levelised Tariff (upon adjusting for accelerated depreciation benefit) (if availed)
		(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Mini and Micro Hydro				
500 and below	35	6.06	0.62	5.44
Above 500 kW and up to and including 1 MW	35	5.56	0.62	4.94
Other SHP				
Above 1 MW and up to and including 5 MW	35	5.06	0.62	4.44
Above 5 MW to 25 MW	13	4.32	0.56	3.75

Notes:

- The above Tariff shall be valid for Projects commissioned in FY 2014-15.
- The above Tariff shall be valid for a tariff period of 35 years from their Commercial Operation Date (COD) for Projects less than and including 5 MW, and for 13 years for Projects with installed capacity greater than 5 MW and up to and including 25 MW

4. BIOMASS POWER PROJECTS

4.1. KEY PROVISIONS OF RE TARIFF REGULATIONS

The Chapter 5 of the RE Tariff Regulations provides technology specific norms for determination of tariff for Biomass Power Projects and the same shall be applicable to new Biomass Projects only from the fourth year of the Control Period, i.e., from FY 2013-14. The relevant Regulations specifying the applicability of such norms is reproduced as under:

"35.1 The capital cost and performance norms as specified under Regulation 36 to Regulation 40 shall be applicable only for new biomass power projects with effect from April 1, 2013.

35.2 The fuel related aspects specified under Regulation 41 to Regulation 47 shall be applicable for existing and new biomass power projects with effect from April 1, 2013:

Provided that norms in respect of Station Heat Rate, Gross Calorific Value and Auxiliary Consumption factor for existing biomass power projects shall be as stipulated under the respective RE tariff Order as referred under Regulation 3.2."

In addition, the Regulations also specify that the fuel price for each year of operation, of both existing and new Biomass Projects shall be adjusted based on an indexation mechanism with effect from April 1, 2013. The relevant extract of the Regulations is reproduced as under:

"47.1 In case of (existing and new) biomass power projects, the following indexing mechanism for adjustment of fuel prices for each year of operation, from April 1, 2013, will be applicable for determination of applicable variable charge component of tariff:

The indexed Biomass Fuel Price (Pn) in case of Biomass Power projects for each year (n) of the Control Period shall be notified pursuant to notification of such indexed Biomass Fuel Price norm as applicable for Biomass Power projects within Maharashtra by Central Electricity Regulatory Commission in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations.

Where,

P (n) = Price per ton of biomass for the nth year to be considered for tariff determination"

Accordingly, in case of Biomass power projects commissioned on or prior to 31 March, 2014, the variable charge component of the tariff for FY 2014-15 shall be determined as outlined under Para 4.17 of this Order, whereas, fixed charge component of the tariff of such projects shall continue to be governed by the relevant Orders issued by the Commission.

4.2. CAPITAL COST OF BIOMASS BASED POWER PROJECTS FOR FY 2014-15

The Commission under Regulation 36.1 has specified the normative capital cost for the biomass power projects based on Rankine cycle technology as Rs 402.54 Lakh per MW for FY 2010-11, which shall be linked to the indexation mechanism as specified under Regulation 36.1 of the RE Tariff Regulations. In accordance with the above referred Regulation, the normative capital cost of biomass power projects based on Rankine cycle technology shall be Rs. 480.71 Lakh per MW for FY 2014-15.

Capital Cost Indexation for Biomass Power Projects (FY2014-15)

Indexation Formulation

CC(n)=P&M(n)*[1+F1+F2+F3]

dn = (a*(SIn-1/SI0)-1)+b*(EIn-1/EI0)-1))/(a+b)

P&M(n)=P&M(0)*(1+dn)

Variable	Description	Value
a	Weightage for Steel Index	0.7
b	Weightage for Electrical Machinery Index	0.3
F_1	Factor for Land and Civil Work	0.10
F_2	Factor for Erection and Commissioning	0.09
F_3	Factor for IDC and Financing	0.14

Month/Year	Electrical & Machinery		Iron & Steel	
	2013	2009	2013	2009
January	133.90	124.60	152.40	118.00
February	133.80	124.50	153.70	118.00
March	134.10	123.90	153.80	117.20
April	134.50	123.60	155.10	124.00
May	135.50	123.80	154.50	124.30
June	135.60	123.70	153.30	122.20
July	135.60	123.70	153.40	123.10
August	135.70	123.70	154.00	125.30
September	136.30	120.30	154.30	131.40
October	136.70	120.70	155.20	130.80
November	137.00	120.50	153.80	131.70
December		120.40		131.60
Average	**135.34**	**122.78**	**153.95**	**124.80**

Parameter	Description	Cost
$CC_{(0)}$(RsL/MW)	Capital Cost for the Base Year	402.54
$P\&M_{(0)}$ (RsL/MW)	Plant & Machinery Cost for the Base Year	302.66
dn	Capital Cost Escalation Factor	19.42%
$P\&M_{(n)}$ (RsL/MW)	**Plant & Machinery Cost for the nth Year (FY 2014-15)**	**361.44**
$CC_{(n)}$ (RsL/MW)	**Capital Cost for the nth Year (FY2014-15)**	**480.71**

4.3. DEBT-EQUITY RATIO

In accordance with Regulation 13.1 of the RE Tariff Regulations, the debt and equity component for Biomass Power Projects to be commissioned in FY 2014-15 works out to Rs. 336.50 Lakh per MW and Rs. 144.21 Lakh per MW respectively.

4.4. RETURN ON EQUITY

In accordance with Regulation 16.2 of the RE Tariff Regulations, the RoE works out as shown in the Table below:

Particulars	Biomass Project
Opening Equity (in Rs lakh per MW)	144.21
Return on Equity for the first 10 years @19% (Rs lakh per MW)	27.40
Return on Equity after first 10 years @24% (Rs lakh per MW)	34.61

4.5. INTEREST ON LOAN

As explained in Paragraph 1.4 of this Order, the interest rate of 12.78% (9.78% +300 basis points) has been considered for Biomass projects commissioned in FY 2014-15 with a gross opening loan amount of Rs. 336.50 Lakh per MW in FY 2014-15.

4.6. DEPRECIATION

In accordance with Regulation 15.2 of the RE Tariff Regulations, the depreciation will be charged at 7% for the first 10 years, and at 2% thereafter for the remaining useful period of 10 years for Biomass Projects.

4.7. INTEREST ON WORKING CAPITAL

Regulation 17.2 of the RE Tariff Regulations provides for computation of the working capital requirements of the Biomass Projects as under:

"(a) Operation & Maintenance expenses for one month;

(b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;

(c) Maintenance spares @ 15% of operation and maintenance expenses"

Further, as explained above in Paragraph 1.5 of this Order, Interest on Working Capital shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 350 basis points, i.e., 13.28% (9.78% + 350 basis points).

4.8. PLANT LOAD FACTOR (PLF)

In accordance with Regulation 37.1 of the RE Tariff Regulations, Threshold PLF

a) During Stabilisation: 60%
b) During the remaining period of the first year (after stabilisation): 70%
c) From 2nd Year onward: 80% has been considered for determination of Tariff for Biomass Projects.

4.9. AUXILIARY POWER CONSUMPTION

In accordance with Regulation 38.1 of the RE Tariff Regulations, the Normative Auxiliary Consumption of 10.0% has been considered for determination of tariff of Biomass Projects.

4.10. STATION HEAT RATE

In accordance with Regulation 39.1 of the RE Tariff Regulations, the Normative Station Heat Rate of 3800 kcal per kWh has been considered for determination of tariff of Biomass Projects.

4.11. OPERATION AND MAINTENANCE EXPENSES

Regulation 40.1 of the RE Tariff Regulations specifies the normative Operation & Maintenance (O&M) expenses for Biomass Projects for FY 2010-11 as Rs. 21.41 Lakh per MW, which is to be escalated at the rate of 5.72% per annum over the Tariff Period as per Regulation 40.2 of the RE Tariff Regulations, for determination of the levellised tariff. Accordingly, the O&M expenses for Biomass Projects for FY 2014-15 have been considered as Rs. 26.75 Lakh per MW.

4.12. CALORIFIC VALUE

In accordance with Regulation 45.1 of the RE Tariff Regulations, the average Calorific Value of the Biomass Fuel (s) of 3611 kcal per kg has been considered for determination of tariff of Biomass Projects.

4.13. FUEL COST

Regulation 46 of the RE Tariff Regulations, specifies the Biomass fuel price during first three years of the Control Period (i.e. FY 2010-11, FY 2011-12 & FY 2012-13) as Rs. 2605 per MT, which shall be further linked to indexation mechanism as specified under Regulation 47.

In its Order dated 22 March, 2013 in Case No. 6 of 2013, the Commission determined the Biomass Price as Rs. 3160 per MT for FY 2013-14 based on biomass fuel price as stipulated by CERC for FY 2013-14using equivalent heat value approach. Similarly, it is observed that CERC under its draft RE Tariff Order for FY 2014-15 has stipulated Biomass fuel price of Rs. 3198.61 per MT for Maharashtra and Calorific Value of 3300 kcal per kg.

'Compliance Monitoring' under the Regulation 44 of the RE Tariff Regulations stipulate that the biomass project developers are required to submit to MEDA necessary information with regards to fuel usage and such necessary financial statements or documents as stipulated from time to time. It has been observed by the Commission that the above information has not been furnished by project developers.

The Regulation 47 of RE Tariff Regulations states as follows:

"…

The indexed Biomass Fuel Price (Pn) in case of Biomass Power projects for each year (n) of the Control Period shall be notified pursuant to notification of such

indexed Biomass Fuel Price norm as applicable for ***Biomass Power projects within Maharashtra by Central Electricity Regulatory Commission in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations.***

..."

Further, Regulation 44 of CERC RE Tariff Regulations states as follows:

"...

Biomass fuel price during first year of the Control Period (i.e. FY 2012-13) shall be as specified in the table below and shall be linked to index formulae as specified under Regulation 45. ***Alternatively, for each subsequent year of the Tariff Period, the normative escalation factor of 5% per annum shall be applicable at the option of the biomass project developer.***

..."

Accordingly, this Commission proposes to use 5% escalation factor over the fuel cost specified for Biomass projects commissioned in FY 2013-14 in accordance with CERC RE Tariff Regulations, 2012 in order to determine the fuel cost for Biomass power projects commissioned in FY 2014-15. Thus, the fuel cost for biomass power projects to be commissioned in FY 2014-15 in Maharashtra is proposed to be Rs 3318 per MT.

4.14. LEVELISED TARIFF FOR BIOMASS POWER PROJECTS COMMISSIONED DURINGFY 2014-15

In light of the above parameters and the discount factor worked out as 15.39% for levelisation of tariff for Biomass Projects, the generic tariffs for Biomass Power Projects for FY 2014-15 have been determined as under:

4.15. TARIFF FOR BIOMASS POWER PROJECTS COMMISSIONED DURING FY 2014-15

Levellised Fixed Charge (Rs/kWh)	Variable Charge for FY 2014-15 (Rs/kWh)	Tariff for FY 2014-15 (Rs/kWh)	Benefit of Accelerated Depreciation (if availed) (Rs/kWh)	Net Tariff (upon adjusting for accelerated depreciation benefit) (if availed) (Rs/kWh)
2.24	3.88	6.12	0.22	5.90

The Tariff Rate comprises two parts, viz., (i) fixed charge component, and (ii) variable charge component and shall be applicable for sale of power by Rankine Cycle based biomass power project to distribution licensees within Maharashtra during FY 2014-15.

4.16. VARIABLE CHARGE FOR BIOMASS POWER PROJECTS COMMISSIONED PRIOR TO FY 2013-14

In its Order dated 22 March, 2013 in Case No. 6 of 2013, the Commission had determined the variable charge for biomass power projects for FY 2013-14 as Rs. 4.01 per kWh based on biomass fuel price of Rs 3188/MT. Considering the biomass fuel price of Rs 3318/MT during FY 2014-15 as outlined under earlier paragraphs, the Commission has considered the variable charge of biomass power projects commissioned prior to FY 2013-14 as Rs. 4.21 per kWh [i.e., Rs 4.01/kWh x Rs 3318 per MT/ Rs 3160 per MT] for FY 2014-15.

4.17. TARIFF FOR BIOMASS POWER PROJECTS COMMISSIONED PRIOR TO FY 2013-14

Fixed charge component of the Tariff for biomass power projects commissioned prior to FY 2013-14 shall be governed as per the terms and conditions outlined under relevant biomass Tariff Orders (i.e. Case No. 37 of 2003 and Case 83 of 2008).

Fixed Charge linked to year of operation (Rs/kWh)	Variable Charge for FY 2014-15 (Rs/kWh)	Tariff for FY 2014-15 (Rs/kWh)
1.70*	**4.21**	**5.91**

** Considering first year of operation as per Order dt 8 August, 2005 in Case No 37 of 2003 and Case no. 83 of 2008)*

5. NON-FOSSIL FUEL BASED CO-GENERATION PROJECT

5.1. KEY PROVISIONS OF RE TARIFF REGULATIONS

The Chapter 6 of the RE Tariff Regulations provides technology specific norms for determination of tariff for non-fossil fuel based co-generation projects and the same are applicable to existing and new non-fossil fuel based co-generation projects only from the fourth year of the Control Period, i.e., from FY 2013-14. The relevant Regulations specifying the applicability of such norms is reproduced as under.

"49.1 The capital cost and performance norms as specified under Regulation 50 to Regulation 54 and Regulation 62 shall be applicable only for new non-fossil fuel based co-generation projects with effect from April 1, 2013.

49.2 The fuel related aspects specified under Regulation 55 to Regulation 61 shall be applicable for existing and new biomass power projects with effect from April 1, 2013:

Provided that norms in respect of specific fuel consumption, Gross Calorific Value and Auxiliary Consumption factor for existing non-fossil fuel based co-generation projects shall be as stipulated under the respective RE tariff Order as referred under Regulation 3.2."

In addition, the Regulations also specify that the fuel price for each year of operation, of both existing and new non-fossil fuel based co-generation projects shall be adjusted based on an indexation mechanism with effect from 1 April, 2013. The relevant extract of the Regulations is as reproduced as under:

"56.1 In case of (existing and new) non-fossil fuel based co-generation projects, the following indexing mechanism for adjustment of fuel prices for each year of operation, from April 1, 2013, will be applicable for determination of applicable variable charge component of tariff:

The indexed Bagasse Fuel Price (Pn) in case of Non-fossil fuel based Co-generation projects for each year (n) of the Control Period shall be notified pursuant to notification of such indexed Bagasse Fuel Price norm as applicable for Non-fossil fuel based Co-generation projects within Maharashtra by Central

Electricity Regulatory Commission in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations.

Where,

P (n) = Price per ton of Bagasse for the nth year to be considered for tariff determination"

Accordingly, in case of Non fossil fuel based power projects commissioned on or prior to 31 March, 2014, the variable charge component of the tariff for FY 2014-15 shall be determined as outlined under Para 5.13 of this Order, whereas, fixed charge component of the tariff of such projects shall continue to be governed by the relevant Orders issued by the Commission.

5.2. CAPTITAL COST OF NON-FOSSIL FUEL BASED CO-GENERATION PROJECTS COMMISSIONED DURING FY 2014-15

The Commission under Regulation 50.1 has specified the normative capital cost for the Non-fossil fuel based Co-generation project as Rs 398.07 Lakh per MW for FY 2010-11, which shall be linked to the indexation mechanism specified under Regulation 50.1 of the RE Tariff Regulations. In accordance to the above referred Regulation, the normative capital cost of Non-fossil fuel based Co-generation projects shall be Rs 475.37 Lakh per MW for FY 2014-15.

Capital Cost Indexation for Cogen and Bagasse based Power Projects (FY2014-15)

Indexation Formulation

CC(n)=P&M(n)*[1+F1+F2+F3]

dn = (a*(SIn-1/SI0)-1)+b*(EIn-1/EI0)-1))/(a+b)

P&M(n)=P&M(0)*(1+dn)

Variable	Description	Value
a	Weightage for Steel Index	0.7
b	Weightage for Electrical Machinery Index	0.3
F_1	Factor for Land and Civil Work	0.10
F_2	Factor for Erection and Commissioning	0.09
F_3	Factor for IDC and Financing	0.14

Month/Year	Electrical & Machinery		Iron & Steel	
	2013	2009	2013	2009
January	133.90	124.60	152.40	118.00
February	133.80	124.50	153.70	118.00
March	134.10	123.90	153.80	117.20
April	134.50	123.60	155.10	124.00
May	135.50	123.80	154.50	124.30
June	135.60	123.70	153.30	122.20
July	135.60	123.70	153.40	123.10
August	135.70	123.70	154.00	125.30
September	136.30	120.30	154.30	131.40
October	136.70	120.70	155.20	130.80
November	137.00	120.50	153.80	131.70
December		120.40		131.60
Average	**135.34**	**122.78**	**153.95**	**124.80**

Parameter	Description	Cost
$CC_{(0)}$(RsL/MW)	Capital Cost for the Base Year	398.07
$P\&M_{(0)}$ (RsL/MW)	Plant & Machinery Cost for the Base Year	299.30
dn	Capital Cost Escalation Factor	19.42%
$P\&M_{(n)}$ (RsL/MW)	**Plant & Machinery Cost for the nth Year (FY 2014-15)**	**357.42**
$CC_{(n)}$ (RsL/MW)	**Capital Cost for the nth Year (FY2014-15)**	**475.37**

5.3. DEBT-EQUITY RATIO

In accordance with Regulation 13.1 of the RE Tariff Regulations, the debt and equity component for FY 2014-15 for Non-fossil fuel based Co-generation project works out to Rs. 332.76 Lakh per MW and Rs. 142.61 Lakh per MW respectively.

5.4. RETURN ON EQUITY

In accordance with Regulation 16 of the RE Tariff Regulations, the RoE works out as shown in the Table below:

Particulars	Non-fossil fuel based Co-generation project
Opening Equity (in Rs lakh per MW)	142.61
Return on Equity for the first 10 years @19% (Rs lakh per MW)	27.10
Return on Equity after first 10 years @24% (Rs lakh per MW)	34.23

5.5. INTEREST ON LOAN

As explained in Paragraph 1.4 of this Order, the interest rate of 12.78% (9.78% +300 basis points) has been considered for Non-fossil fuel based Co-generation project with a gross opening loan amount of Rs. 332.76 Lakh per MW in FY 2014-15.

5.6. DEPRECIATION

In accordance with Regulation 15 of the RE Tariff Regulations, the depreciation will be charged at 7% for the first 10 years, and at 2% thereafter for the remaining useful period of 10 years for Non-fossil fuel based Co-generation projects.

5.7. INTEREST ON WORKING CAPITAL

Regulation 17 of the RE Tariff Regulations provides for computation of the working capital requirements of the Biomass Projects as under:

"(a) Operation & Maintenance expenses for one month;
(b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;
(c) Maintenance spares @ 15% of operation and maintenance expenses"

Further, as explained above in Paragraph 1.5 of this Order, Interest on Working Capital shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 350 basis points, i.e., 13.28% (9.78% + 350 basis points).

5.8. OPERATION AND MAINTENANCE (O&M) EXPENSES

Regulation 62.1 of the RE Tariff Regulations specifies the normative Operation & Maintenance (O&M) expenses for Non-fossil fuel based Co-generation projects for FY 2010-11 as Rs. 14.11 Lakh per MW, which is to be escalated at the rate of 5.72% per annum over the Tariff Period as per Regulation 62.2 of the RE Tariff Regulations, for determination of the levelised tariff. Accordingly, the O & M expenses for Non-fossil fuel based Co-generation project for FY 2014-15 has been considered as Rs. 17.63 Lakh per MW.

5.9. PLANT LOAD FACTOR (PLF)

In accordance with Regulation 51.2 of the RE Tariff Regulations, Plant load Factor of 60% has been considered for determination of Tariff for Non-fossil fuel based Co-generation project.

5.10. AUXILIARY POWER CONSUMPTION

In accordance with Regulation 52.1 of the RE Tariff Regulations, the Auxiliary Consumption of 8.5% has been considered for determination of tariff of Biomass Projects.

5.11. STATION HEAT RATE

In accordance with Regulation 53.1 of the RE Tariff Regulations, the Normative Station Heat Rate of 3600 kcal per kWh has been considered for determination of tariff of Non-fossil fuel based Co-generation project.

5.12. CALORIFIC VALUE

In accordance with Regulation 54.1 of the RE Tariff Regulations, the average Calorific Value of the bagasse Fuel of 2250 kcal per kg has been considered for determination of tariff of Non-fossil fuel based Co-generation project.

5.13. FUEL COST

Regulation 55.1 of the RE Tariff Regulations, specifies the Bagasse fuel price during first three years of the Control Period (i.e. FY 2010-11, FY 2011-12 & FY 2012-13) as Rs. 1832 per MT, which shall be further linked to indexation mechanism as specified under Regulation 56. Further, in its Order dated 22 March, 2013 in Case No. 6 of 2013, the

Commission determined the Bagasse Price as Rs. 1963 per MT for FY 2013-14 based on Bagasse price as specified by CERC for FY 2013-14.

'Compliance Monitoring' under the Regulation 61 of the RE Tariff Regulations stipulate that the Non-fossil fuel based Co-generation project developers are required to submit to MEDA necessary information with regards to fuel usage and such necessary financial Statements or documents as stipulated from time to time. It has been observed by the Commission that the above information has not been furnished by project developers.

Regulation 56 of the MERC RE Tariff Regulations, 2010 states as follows:

"…

The indexed Bagasse Fuel Price (Pn) in case of Non-fossil fuel based Co-generation projects for each year (n) of the Control Period shall be notified pursuant to notification of such indexed ***Bagasse Fuel Price norm as applicable for Non-fossil fuel based Co-generation projects within Maharashtra by Central Electricity Regulatory Commission in accordance with indexation mechanism stipulated under CERC RE Tariff Regulations.***

…"

Regulation 53 of the CERC RE Tariff Regulations states as follows:

"…

The price of Bagasse shall be as specified in the table below and shall be linked to indexation formula as outlined under Regulation 54. ***Alternatively, for each subsequent year of the Control Period, the normative escalation factor of 5% per annum shall be applicable at the option of the project developer.***

…"

Accordingly, this Commission proposes to use 5% escalation factor over the fuel cost specified for Non-fossil fuel based Co-generation projects commissioned in FY 2013-14 in accordance with CERC RE Tariff Regulations, 2012 in order to determine the fuel cost for Non-fossil fuel based Co-generation projects commissioned in FY 2014-15. Thus, the fuel cost for Non-fossil fuel based Co-generation projects to be commissioned in FY 2014-15 in Maharashtra is proposed to be Rs 2061.15 per MT.

5.14. LEVELLISED TARIFF FOR NON-FOSSIL FUEL BASED CO-GENERATION PROJECTS IN FY 2014-15

In light of the above parameters and the discount factor worked out as 15.39% for levelisation of tariff for Non-fossil fuel based Co-generation projects commissioned in FY 2014-15, the generic tariffs for Non-fossil fuel based Co-generation projects for FY 2014-15 have been determined as under:

TARIFF FOR NON-FOSSIL FUEL BASED CO-GENERATION PROJECTS

Tariff for Non-Fossil based Bagasse Cogen Power Projects

Date of Commissioning of the Cogeneration Project	Fixed Charge (Rs/kWh)	Variable Charge for FY 2014-15 (Rs/kWh)	Tariff for FY 2014-15 (Rs/kWh)	Benefit of Accelerated Depreciation (if availed) (Rs/kWh)	Net Levellised Tariff (upon adjusting for accelerated depreciation benefit) (if availed) (Rs/kWh)
During FY 2014-15	2.45	3.60	6.05	0.28	5.77
Prior to FY 2013-14	2.26*	3.60	5.86		

** As per Order dt 11 January, 2010 in Case No 123 of 2008*

The Tariff Rate comprises of two parts, viz., (i) fixed charge component, and (ii) variable charge component and shall be applicable for sale of power by non-fossil fuel based co-generation project to Distribution Licensees within Maharashtra during FY 2014-15.

5.15. TARIFF FOR NON-QUALIFYING NON-FOSSIL FUEL-BASED CO-GENERATION PLANTS

The Commission has determined the Tariff for non-qualifying non-fossil fuel based co-generation (NQNFFC) projects as Rs 1.94 per kWh with escalation of 2% per annum on compounded basis under its Order (Case 26 of 2004) dated May 25, 2005. In its Order dated 22 March, 2013 in Case No 6 of 2013, the Tariff Rate for existing non-qualifying non-fossil fuel based co-generation projects for FY 2013-14 has been determined as Rs

2.28 per kWh. Accordingly, the Tariff Rate for existing non-qualifying non-fossil fuel based co-generation projects for FY 2014-15 works out to Rs 2.33 per kWh.

6. SOLAR PHOTOVOLTAIC (PV) PROJECTS

6.1. USEFUL LIFE

Regulation 2.1 (ff) of the RE Tariff Regulations defines 'useful life' in relation to a Unit of a generating station (including evacuation system) to mean the duration from the date of commercial operation (COD) till such time as specified under the RE Tariff Regulations for such generation facility. Accordingly, as per Regulation 2.1 (ff), the useful life specified for Solar PV Projects is 25 years.

6.2. CONTROL PERIOD

The Control Period for Solar PV Projects shall be in accordance with the relevant stipulations made under para 1.1 of this Order.

6.3. TARIFF PERIOD

Regulation 6 of the RE Tariff Regulations, specifies the Tariff Period for Solar PV projects as 25 years. In terms of Regulation 6.4 and 6.5 of the RE Tariff Regulations, the Tariff Period specified shall be reckoned from the date of commercial operation of the RE projects and the tariff determined under the Regulations shall be applicable only for the duration of the Tariff Period.

6.4. CAPITAL COST OF SOLAR PV PROJECTS

The CERC has notified RE Tariff Regulation 2012 for the second Control Period (i.e., FY 2012-13 to FY 2016-17). The CERC, vide its suo-motu Order dated 7 January, 2014 has proposed to consider the normative capital cost for the Solar PV power projects to be commissioned in FY 2014-15 as Rs 612 Lakh per MW

The above capital cost norm shall also apply for Solar PV projects in Maharashtra for FY 2014-15, provided PPAs are signed after 31 March, 2014 and solar PV project is commissioned during FY 2014-15.

6.5. DEBT-EQUITY RATIO

In accordance with Regulation 13.1 of the RE Tariff Regulations, the normative debt and equity component for Solar PV Projects shall be Rs. 428.4 Lakh per MW and Rs. 183.60 Lakh per MW, respectively.

6.6. RETURN ON EQUITY

In accordance with Regulation 16.1 of the RE Tariff Regulations, the RoE for Solar PV Projects works out as shown in the Table below:

Particulars	**Solar PV**
Opening Equity (in Rs lakh per MW)	183.60
Return on Equity for the first 10 years @ 19% (in Rs lakh per MW)	34.88
Return on Equity after first 10 years @24% (in Rs lakh per MW)	44.06

6.7. INTEREST ON LOAN

As explained in Paragraph 1.4 of this Order, the interest rate of 12.78% (9.78% + 300 basis points) has been considered for Solar PV Projects for loan amount of Rs. 428.4 Lakh per MW in FY 2014-15.

6.8. DEPRECIATION

In accordance with Regulation 15 of the RE Tariff Regulations, the depreciation will be charged at 7% for the first 10 years and at 1.33% thereafter for the remaining useful period of 15 years for Solar PV projects.

6.9. INTEREST ON WORKING CAPITAL

Regulation 17.1 of the RE Tariff Regulations provides for computation of the working capital requirements for Solar PV Projects as under:

"(a) Operation & Maintenance expenses for one month;

(b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative CUF;

(c) Maintenance Spares @ 15% of operation and maintenance expenses"

Further, as explained above in Paragraph 1.5 of this Order, Interest on Working Capital shall be computed at an interest rate equivalent to average Base Rate of State Bank of India during the previous year plus 350 basis points, i.e., 13.28% (9.78% + 350 basis points).

6.10. OPERATION AND MAINTENANCE (O&M) EXPENSES

Regulation 67.1 of the RE Tariff Regulations specifies the normative O&M expenses for Solar PV projects for FY 2010-11 as Rs. 9.51 Lakh per MW, to be escalated at the rate of 5.72% per annum over the Tariff Period, for determination of the levelised tariff. Accordingly, the O&M expense norm for Solar PV projects for FY 2014-15 has been considered as Rs. 11.87 Lakh per MW.

6.11. CAPACITY UTILISATION FACTOR

In accordance with Regulation 66.1 of the RE Tariff Regulations, CUF of 19% has been considered for determination of Tariff for Solar PV power projects.

6.12. LEVELISED TARIFF FOR SOLAR PV POWER PROJECTS IN FY 2014-15

In light of the parameters discussed in the preceding paragraphs and with respect to the discount factor of 15.54% derived based on the methodology stipulated in Paragraph 1.6 of this Order, the generic tariffs for Solar PV Projects for FY 2014-15 have been determined as under:

Tariff for New RE Projects-Solar Power Projects [Refer Regulation 3.1 of RE Tariff Regulations]				
Particulars	Tariff Period	Levelised Tariff (FY 2014-15)	Benefit of Accelerated Depreciation (if availed)	Net Levellised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
		(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Solar PV	25	7.15	1.02	6.13

The above Tariff shall be applicable for Solar PV Projects wherein PPA are signed after 31 March, 2014 and projects are commissioned during FY 2014-15, and shall be valid for a tariff period of 25 years from the Commercial Operation Date (COD).

The Tariff for Solar PV Projects to be commissioned during FY 2014-15, wherein PPA are signed on or before 31 March, 2014, shall be as stipulated in the Commission's Generic RE Tariff Order (Case No. 6 of 2013) for RE technologies for the fourth year of the Control Period, issued on 22 March, 2013.

6.13. LEVELLISED TARIFF FOR SOLAR ROOFTOP PV AND OTHER SMALL SOLAR PROJECTS IN FY 2014-15

Regulation 68.1 of the RE Tariff Regulations specifies that the tariff for Solar Rooftop PV projects and other small solar projects will be Rs 0.50 per kWh higher than the Tariff specified for Solar PV projects in the Regulations. Accordingly, the Tariff for such Projects in FY 2014-15 shall be as follows:

Tariff for New Solar Rooftop PV and other small Solar Power Projects

Particular	Tariff Period	Levelised Total Tariff (FY 2014-15)	Benefit of Accelerated Depreciation (if availed)	Net Levelised Tariff (upon adjusting for Accelerated Depreciation benefit) (if availed)
		(Rs/kWh)	(Rs/kWh)	(Rs/kWh)
Solar Power Projects				
Solar rooftop PV and other small solar power Projects	25	7.65	1.02	6.63

The above Tariff shall be applicable for Solar Rooftop PV and other small solar Projects wherein PPA are signed after 31 March, 2014 and projects are commissioned during FY 2014-15, and the same shall be valid for a tariff period of 25 years from the Commercial Operation Date (COD).

The Tariff for Solar Rooftop PV and other small solar Projects to be commissioned during FY 2014-15 wherein PPA are signed on or before 31 March, 2014, shall be as specified in the Commission's Generic RE Tariff Order (Case No. 6 of 2013) for RE technologies for the fourth year of the Control Period, issued on 22 March, 2013.

7. The detailed computations of the generic tariff for various RE technologies have been annexed with this Order, as per the details given hereunder:

S No	Renewable Energy Projects	Annexure
1	**Wind Power Projects**	
	Wind Zone-I	Annexure 1A
	Wind Zone-II	Annexure 1B
	Wind Zone III	Annexure 1C
	Wind Zone IV	Annexure 1D
2	**Small Hydro Power Projects**	
	SHP Projects Less than 5 MW	Annexure 2A
	SHP Projects between 5 MW and 25 MW	Annexure 2B
3	**Biomass Power Project**	Annexure 3
4	**Non-Fossil Fuel Based Co-Generation Project**	Annexure 4
5	**Solar Projects**	
	Solar PV Projects	Annexure 5A

8. This Draft Order (*Suo-motu*) is issued to invite objections, comments and suggestions from all stakeholders including RE Developers, Distribution Licensees, Maharashtra Energy Development Agency (MEDA), consumers, etc. All stakeholders may submit their objections, comments and suggestions on the same. The Commission shall finalize the Order after taking a view on the submissions received from the stakeholders on the draft Order.

Sd/-	**Sd/-**
(Vijay L. Sonavane)	(Chandra Iyengar)
Member	Chairperson

Annexure – 1A
(Wind Zone-1)

Form 1.1 Assumptions Parameters — **Wind Zone**

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	1
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	22%
			Useful Life	Years	25
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/M	575.00
3	**Sources of Fund**				
			Tariff Period	Years	13
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	402.50
			Total Equity Amout	Rs Lacs	172.50
		Debt Component			
			Loan Amount	Rs Lacs	402.50
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	172.50
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	1.33%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	8.58
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Wind Power Projects under Zone - 1) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross/Net Generation	MU		1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		8.58	9.07	9.59	10.14	10.72	11.33	11.98	12.66	13.39	14.15	14.96	15.82	16.73	17.68	18.69	19.76	20.89	22.09	23.35	24.69	26.10	27.59	29.17	30.84	32.60
Depreciation	Rs Lakh		40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67
Interest on term loan	Rs Lakh		48.86	43.72	38.57	33.43	28.29	23.14	18.00	12.86	7.71	2.57	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
Interest on working Capital	Rs Lakh		3.22	3.13	3.05	2.96	2.87	2.79	2.71	2.63	2.55	2.48	1.92	1.97	2.02	2.07	2.13	2.18	2.25	2.31	2.38	2.45	2.53	2.61	2.69	2.79	2.88
Return on Equity	Rs Lakh		32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40
Total Fixed Cost	**Rs Lakh**		**133.69**	**128.95**	**124.23**	**119.55**	**114.90**	**110.29**	**105.72**	**101.18**	**96.68**	**92.23**	**65.95**	**66.86**	**67.81**	**68.82**	**69.89**	**71.01**	**72.20**	**73.46**	**74.80**	**76.21**	**77.69**	**79.27**	**80.93**	**82.69**	**84.55**
Per unit Fixed Cost	Rs/kWh	**5.60**	6.94	6.69	6.45	6.20	5.96	5.72	5.49	5.25	5.02	4.79	3.42	3.47	3.52	3.57	3.63	3.68	3.75	3.81	3.88	3.95	4.03	4.11	4.20	4.29	4.39

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M expn	Rs/kWh	**0.65**	0.45	0.47	0.50	0.53	0.56	0.59	0.62	0.66	0.69	0.73	0.78	0.82	0.87	0.92	0.97	1.03	1.08	1.15	1.21	1.28	1.35	1.43	1.51	1.60	1.69
Depreciation	Rs/kWh	**1.73**	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Int. on term loan	Rs/kWh	**1.29**	2.54	2.27	2.00	1.73	1.47	1.20	0.93	0.67	0.40	0.13	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
Int. on working capital	Rs/kWh	**0.14**	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.14	0.13	0.13	0.10	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15
RoE	Rs/kWh	**1.80**	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
Total COG	**Rs/kWh**	**5.60**	**6.94**	**6.69**	**6.45**	**6.20**	**5.96**	**5.72**	**5.49**	**5.25**	**5.02**	**4.79**	**3.42**	**3.47**	**3.52**	**3.57**	**3.63**	**3.68**	**3.75**	**3.81**	**3.88**	**3.95**	**4.03**	**4.11**	**4.20**	**4.29**	**4.39**

COG excl. RoE

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Fixed Cost	5.60		107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95
Levellised Tariff	**5.60**	Rs/Unit																									

Determination of Additional Depreciation for Wind Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	15%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	575.00

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.18	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	16.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																										
Opening	%	100.0%	82.5%	70.1%	59.6%	50.7%	43.1%	36.6%	31.1%	26.4%	22.5%	19.1%	16.2%	13.8%	11.7%	10.0%	8.5%	7.2%	6.1%	5.2%	4.4%	3.8%	3.2%	2.7%	2.3%	2.0%
Allowed during the year	%	17.50%	12.38%	10.52%	8.94%	7.60%	6.46%	5.49%	4.67%	3.97%	3.37%	2.87%	2.44%	2.07%	1.76%	1.50%	1.27%	1.08%	0.92%	0.78%	0.66%	0.56%	0.48%	0.41%	0.35%	0.29%
Closing	%	82.5%	70.1%	59.6%	50.67%	43.07%	36.61%	31.11%	26.45%	22.48%	19.11%	16.24%	13.81%	11.73%	9.97%	8.48%	7.21%	6.13%	5.21%	4.43%	3.76%	3.20%	2.72%	2.31%	1.96%	1.67%
Accelrated Deprn.	Rs Lakh	100.63	71.16	60.48	51.41	43.70	37.14	31.57	26.84	22.81	19.39	16.48	14.01	11.91	10.12	8.60	7.31	6.22	5.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Net Depreciation Benefit	Rs Lakh	85.45	40.80	30.12	21.05	13.34	6.78	1.21	-3.52	-7.55	-10.97	-13.88	-16.35	-18.45	-20.24	-21.76	-23.05	-24.14	-11.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Tax Benefit	Rs Lakh	29.04	13.87	10.24	7.16	4.53	2.31	0.41	-1.20	-2.57	-3.73	-4.72	-5.56	-6.27	-6.88	-7.40	-7.83	-8.21	-3.83	1.53	1.30	1.10	0.94	0.80	0.68	0.58
Energy generation	MU	0.96	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93
Per unit benefit	Rs/Unit	3.01	0.72	0.53	0.37	0.24	0.12	0.02	-0.06	-0.13	-0.19	-0.24	-0.29	-0.33	-0.36	-0.38	-0.41	-0.43	-0.20	0.08	0.07	0.06	0.05	0.04	0.04	0.03
Discounting Factor		1.00	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03

Levellised benefit	**0.36**	**Rs/Unit**

Annexure – 1B
(Wind Zone-2)

Form 1.1 Assumptions Parameters — **Wind Zone**

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	2
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	25%
			Useful Life	Years	25
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	575.00
3	**Sources of Fund**				
			Tariff Period	Years	13
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	402.50
			Total Equity Amout	Rs Lacs	172.50
		Debt Component			
			Loan Amount	Rs Lacs	402.50
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	172.50
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	1.33%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	8.58
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Wind Power Projects under Zone - 2) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross/Net Generation	MU		2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		8.58	9.07	9.59	10.14	10.72	11.33	11.98	12.66	13.39	14.15	14.96	15.82	16.73	17.68	18.69	19.76	20.89	22.09	23.35	24.69	26.10	27.59	29.17	30.84	32.60
Depreciation	Rs Lakh		40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67
Interest on term loan	Rs Lakh		48.86	43.72	38.57	33.43	28.29	23.14	18.00	12.86	7.71	2.57	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
Interest on working Capital	Rs Lakh		2.65	2.67	2.69	2.70	2.72	2.74	2.76	2.78	2.80	2.83	2.85	2.88	2.91	2.94	2.97	3.00	3.04	3.07	3.11	3.15	3.20	3.24	3.29	3.34	3.40
Return on Equity	Rs Lakh		32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40
Total Fixed Cost	**Rs Lakh**		**133.12**	**128.48**	**123.87**	**119.30**	**114.75**	**110.24**	**105.77**	**101.33**	**96.93**	**92.58**	**66.88**	**67.77**	**68.70**	**69.69**	**70.73**	**71.83**	**73.00**	**74.23**	**75.53**	**76.91**	**78.36**	**79.90**	**81.53**	**83.25**	**85.07**
Per unit Fixed Cost	**Rs/kWh**	**4.93**	6.08	5.87	5.66	5.45	5.24	5.03	4.83	4.63	4.43	4.23	3.05	3.09	3.14	3.18	3.23	3.28	3.33	3.39	3.45	3.51	3.58	3.65	3.72	3.80	3.88

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M expn	Rs/kWh	**0.57**	0.39	0.41	0.44	0.46	0.49	0.52	0.55	0.58	0.61	0.65	0.68	0.72	0.76	0.81	0.85	0.90	0.95	1.01	1.07	1.13	1.19	1.26	1.33	1.41	1.49
Depreciation	Rs/kWh	**1.52**	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Int. on term loan	Rs/kWh	**1.13**	2.23	2.00	1.76	1.53	1.29	1.06	0.82	0.59	0.35	0.12	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
Int. on working capital	Rs/kWh	**0.13**	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.16
RoE	Rs/kWh	**1.58**	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Total COG	**Rs/kWh**	**4.93**	**6.08**	**5.87**	**5.66**	**5.45**	**5.24**	**5.03**	**4.83**	**4.63**	**4.43**	**4.23**	**3.05**	**3.09**	**3.14**	**3.18**	**3.23**	**3.28**	**3.33**	**3.39**	**3.45**	**3.51**	**3.58**	**3.65**	**3.72**	**3.80**	**3.88**
COG excl. RoE																											
Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Fixed Cost	4.93		107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95
Levellised Tariff	**4.93**	Rs/Unit																									

Determination of Additional Depreciation for Wind Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	15%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	575.00

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.18	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	16.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																										
Opening	%	100.0%	82.5%	70.1%	59.6%	50.7%	43.1%	36.6%	31.1%	26.4%	22.5%	19.1%	16.2%	13.8%	11.7%	10.0%	8.5%	7.2%	6.1%	5.2%	4.4%	3.8%	3.2%	2.7%	2.3%	2.0%
Allowed during the year	%	17.50%	12.38%	10.52%	8.94%	7.60%	6.46%	5.49%	4.67%	3.97%	3.37%	2.87%	2.44%	2.07%	1.76%	1.50%	1.27%	1.08%	0.92%	0.78%	0.66%	0.56%	0.48%	0.41%	0.35%	0.29%
Closing	%	82.5%	70.1%	59.6%	50.67%	43.07%	36.61%	31.11%	26.45%	22.48%	19.11%	16.24%	13.81%	11.73%	9.97%	8.48%	7.21%	6.13%	5.21%	4.43%	3.76%	3.20%	2.72%	2.31%	1.96%	1.67%
Accelrated Deprn.	Rs Lakh	100.63	71.16	60.48	51.41	43.70	37.14	31.57	26.84	22.81	19.39	16.48	14.01	11.91	10.12	8.60	7.31	6.22	5.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Net Depreciation Benefit	Rs Lakh	85.45	40.80	30.12	21.05	13.34	6.78	1.21	-3.52	-7.55	-10.97	-13.88	-16.35	-18.45	-20.24	-21.76	-23.05	-24.14	-11.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Tax Benefit	Rs Lakh	29.04	13.87	10.24	7.16	4.53	2.31	0.41	-1.20	-2.57	-3.73	-4.72	-5.56	-6.27	-6.88	-7.40	-7.83	-8.21	-3.83	1.53	1.30	1.10	0.94	0.80	0.68	0.58
Energy generation	MU	1.10	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
Per unit benefit	Rs/Unit	2.65	0.63	0.47	0.33	0.21	0.11	0.02	-0.05	-0.12	-0.17	-0.22	-0.25	-0.29	-0.31	-0.34	-0.36	-0.37	-0.18	0.07	0.06	0.05	0.04	0.04	0.03	0.03
Discounting Factor		1.00	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03

Levellised benefit	**0.31**	**Rs/Unit**

Annexure – 1C
(Wind Zone-3)

Form 1.1 Assumptions Parameters — **Wind Zone**

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	3
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	30%
			Useful Life	Years	25
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/M	575.00
3	**Sources of Fund**				
			Tariff Period	Years	13
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	402.50
			Total Equity Amout	Rs Lacs	172.50
		Debt Component			
			Loan Amount	Rs Lacs	402.50
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	172.50
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	1.33%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	8.58
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Wind Power Projects under Zone - 3) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross/Net Generation	MU		2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		8.58	9.07	9.59	10.14	10.72	11.33	11.98	12.66	13.39	14.15	14.96	15.82	16.73	17.68	18.69	19.76	20.89	22.09	23.35	24.69	26.10	27.59	29.17	30.84	32.60
Depreciation	Rs Lakh		40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67
Interest on term loan	Rs Lakh		48.86	43.72	38.57	33.43	28.29	23.14	18.00	12.86	7.71	2.57	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
Interest on working Capital	Rs Lakh		3.22	3.13	3.05	2.96	2.87	2.79	2.71	2.63	2.55	2.48	1.92	1.97	2.02	2.07	2.13	2.18	2.25	2.31	2.38	2.45	2.53	2.61	2.69	2.79	2.88
Return on Equity	Rs Lakh		32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40
Total Fixed Cost	**Rs Lakh**		**133.69**	**128.95**	**124.23**	**119.55**	**114.90**	**110.29**	**105.72**	**101.18**	**96.68**	**92.23**	**65.95**	**66.86**	**67.81**	**68.82**	**69.89**	**71.01**	**72.20**	**73.46**	**74.80**	**76.21**	**77.69**	**79.27**	**80.93**	**82.69**	**84.55**
Per unit Fixed Cost	**Rs/kWh**	**4.11**	5.09	4.91	4.73	4.55	4.37	4.20	4.02	3.85	3.68	3.51	2.51	2.54	2.58	2.62	2.66	2.70	2.75	2.80	2.85	2.90	2.96	3.02	3.08	3.15	3.22

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M expn	Rs/kWh	**0.47**	0.33	0.35	0.36	0.39	0.41	0.43	0.46	0.48	0.51	0.54	0.57	0.60	0.64	0.67	0.71	0.75	0.80	0.84	0.89	0.94	0.99	1.05	1.11	1.17	1.24
Depreciation	Rs/kWh	**1.27**	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Int. on term loan	Rs/kWh	**0.95**	1.86	1.66	1.47	1.27	1.08	0.88	0.68	0.49	0.29	0.10	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
Int. on working capital	Rs/kWh	**0.11**	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
RoE	Rs/kWh	**1.32**	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Total COG	**Rs/kWh**	**4.11**	**5.09**	**4.91**	**4.73**	**4.55**	**4.37**	**4.20**	**4.02**	**3.85**	**3.68**	**3.51**	**2.51**	**2.54**	**2.58**	**2.62**	**2.66**	**2.70**	**2.75**	**2.80**	**2.85**	**2.90**	**2.96**	**3.02**	**3.08**	**3.15**	**3.22**

COG excl. RoE

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Fixed Cost	4.11		107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95
Levellised Tariff	**4.11**	Rs/Unit																									

Determination of Additional Depreciation for Wind Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	15%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	575.00

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.18	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	16.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																										
Opening	%	100.0%	82.5%	70.1%	59.6%	50.7%	43.1%	36.6%	31.1%	26.4%	22.5%	19.1%	16.2%	13.8%	11.7%	10.0%	8.5%	7.2%	6.1%	5.2%	4.4%	3.8%	3.2%	2.7%	2.3%	2.0%
Allowed during the year	%	17.50%	12.38%	10.52%	8.94%	7.60%	6.46%	5.49%	4.67%	3.97%	3.37%	2.87%	2.44%	2.07%	1.76%	1.50%	1.27%	1.08%	0.92%	0.78%	0.66%	0.56%	0.48%	0.41%	0.35%	0.29%
Closing	%	82.5%	70.1%	59.6%	50.67%	43.07%	36.61%	31.11%	26.45%	22.48%	19.11%	16.24%	13.81%	11.73%	9.97%	8.48%	7.21%	6.13%	5.21%	4.43%	3.76%	3.20%	2.72%	2.31%	1.96%	1.67%
Accelrated Deprn.	Rs Lakh	100.63	71.16	60.48	51.41	43.70	37.14	31.57	26.84	22.81	19.39	16.48	14.01	11.91	10.12	8.60	7.31	6.22	5.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Net Depreciation Benefit	Rs Lakh	85.45	40.80	30.12	21.05	13.34	6.78	1.21	-3.52	-7.55	-10.97	-13.88	-16.35	-18.45	-20.24	-21.76	-23.05	-24.14	-11.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Tax Benefit	Rs Lakh	29.04	13.87	10.24	7.16	4.53	2.31	0.41	-1.20	-2.57	-3.73	-4.72	-5.56	-6.27	-6.88	-7.40	-7.83	-8.21	-3.83	1.53	1.30	1.10	0.94	0.80	0.68	0.58
Energy generation	MU	1.31	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Per unit benefit	Rs/Unit	2.21	0.53	0.39	0.27	0.17	0.09	0.02	-0.05	-0.10	-0.14	-0.18	-0.21	-0.24	-0.26	-0.28	-0.30	-0.31	-0.15	0.06	0.05	0.04	0.04	0.03	0.03	0.02
Discounting Factor		1.00	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03

Levellised benefit	**0.26**	**Rs/Unit**

Annexure – 1D
(Wind Zone-4)

Form 1.1 Assumptions Parameters — **Wind Zone**

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	4
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	32%
			Useful Life	Years	25
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/M	575.00
3	**Sources of Fund**				
			Tariff Period	Years	13
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	402.50
			Total Equity Amout	Rs Lacs	172.50
		Debt Component			
			Loan Amount	Rs Lacs	402.50
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	172.50
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	1.33%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	8.58
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Wind Power Projects under Zone - 4) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross/Net Generation	MU		2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		8.58	9.07	9.59	10.14	10.72	11.33	11.98	12.66	13.39	14.15	14.96	15.82	16.73	17.68	18.69	19.76	20.89	22.09	23.35	24.69	26.10	27.59	29.17	30.84	32.60
Depreciation	Rs Lakh		40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	40.25	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67	7.67
Interest on term loan	Rs Lakh		48.86	43.72	38.57	33.43	28.29	23.14	18.00	12.86	7.71	2.57	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
Interest on working Capital	Rs Lakh		3.22	3.13	3.05	2.96	2.87	2.79	2.71	2.63	2.55	2.48	1.92	1.97	2.02	2.07	2.13	2.18	2.25	2.31	2.38	2.45	2.53	2.61	2.69	2.79	2.88
Return on Equity	Rs Lakh		32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	32.78	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40	41.40
Total Fixed Cost	**Rs Lakh**		**133.69**	**128.95**	**124.23**	**119.55**	**114.90**	**110.29**	**105.72**	**101.18**	**96.68**	**92.23**	**65.95**	**66.86**	**67.81**	**68.82**	**69.89**	**71.01**	**72.20**	**73.46**	**74.80**	**76.21**	**77.69**	**79.27**	**80.93**	**82.69**	**84.55**
Per unit Fixed Cost	**Rs/kWh**	**3.85**	4.77	4.60	4.43	4.26	4.10	3.93	3.77	3.61	3.45	3.29	2.35	2.39	2.42	2.46	2.49	2.53	2.58	2.62	2.67	2.72	2.77	2.83	2.89	2.95	3.02

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M expn	Rs/kWh	**0.44**	0.31	0.32	0.34	0.36	0.38	0.40	0.43	0.45	0.48	0.50	0.53	0.56	0.60	0.63	0.67	0.71	0.75	0.79	0.83	0.88	0.93	0.98	1.04	1.10	1.16
Depreciation	Rs/kWh	**1.19**	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Int. on term loan	Rs/kWh	**0.89**	1.74	1.56	1.38	1.19	1.01	0.83	0.64	0.46	0.28	0.09	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
Int. on working capital	Rs/kWh	**0.10**	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10
RoE	Rs/kWh	**1.24**	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48
Total COG	**Rs/kWh**	**3.85**	**4.77**	**4.60**	**4.43**	**4.26**	**4.10**	**3.93**	**3.77**	**3.61**	**3.45**	**3.29**	**2.35**	**2.39**	**2.42**	**2.46**	**2.49**	**2.53**	**2.58**	**2.62**	**2.67**	**2.72**	**2.77**	**2.83**	**2.89**	**2.95**	**3.02**

COG excl. RoE

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Fixed Cost	3.85		107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95	107.95
Levellised Tariff	**3.85**	Rs/Unit																									

Determination of Additional Depreciation for Wind Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	15%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	575.00

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	15.18	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	30.36	16.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																										
Opening	%	100.0%	82.5%	70.1%	59.6%	50.7%	43.1%	36.6%	31.1%	26.4%	22.5%	19.1%	16.2%	13.8%	11.7%	10.0%	8.5%	7.2%	6.1%	5.2%	4.4%	3.8%	3.2%	2.7%	2.3%	2.0%
Allowed during the year	%	17.50%	12.38%	10.52%	8.94%	7.60%	6.46%	5.49%	4.67%	3.97%	3.37%	2.87%	2.44%	2.07%	1.76%	1.50%	1.27%	1.08%	0.92%	0.78%	0.66%	0.56%	0.48%	0.41%	0.35%	0.29%
Closing	%	82.5%	70.1%	59.6%	50.67%	43.07%	36.61%	31.11%	26.45%	22.48%	19.11%	16.24%	13.81%	11.73%	9.97%	8.48%	7.21%	6.13%	5.21%	4.43%	3.76%	3.20%	2.72%	2.31%	1.96%	1.67%
Accelrated Deprn.	Rs Lakh	100.63	71.16	60.48	51.41	43.70	37.14	31.57	26.84	22.81	19.39	16.48	14.01	11.91	10.12	8.60	7.31	6.22	5.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Net Depreciation Benefit	Rs Lakh	85.45	40.80	30.12	21.05	13.34	6.78	1.21	-3.52	-7.55	-10.97	-13.88	-16.35	-18.45	-20.24	-21.76	-23.05	-24.14	-11.28	4.49	3.82	3.24	2.76	2.34	1.99	1.69
Tax Benefit	Rs Lakh	29.04	13.87	10.24	7.16	4.53	2.31	0.41	-1.20	-2.57	-3.73	-4.72	-5.56	-6.27	-6.88	-7.40	-7.83	-8.21	-3.83	1.53	1.30	1.10	0.94	0.80	0.68	0.58
Energy generation	MU	1.40	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Per unit benefit	Rs/Unit	2.07	0.49	0.37	0.26	0.16	0.08	0.01	-0.04	-0.09	-0.13	-0.17	-0.20	-0.22	-0.25	-0.26	-0.28	-0.29	-0.14	0.05	0.05	0.04	0.03	0.03	0.02	0.02
Discounting Factor		1.00	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03

Levellised benefit	**0.24**	**Rs/Unit**

Annexure – 2A
(SHP above 1 MW and up to and including 5 MW)

Form 1.1 Assumptions Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Capacity <=5 MW
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	30%
			Auxilliary Consumption		1%
			Useful Life	Years	35
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	589.35
3	**Sources of Fund**				
			Tariff Period	Years	35
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	412.54
			Total Equity Amout	Rs Lacs	176.80
		Debt Component			
			Loan Amount	Rs Lacs	412.54
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	176.80
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	0.80%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	22.45
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Small Hydro Projects of Capacity <=5MW) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
O&M Expenses	Rs Lakh		22.45	23.73	25.09	26.53	28.04	29.65	31.34	33.14	35.03	37.04	39.16	41.39	43.76	46.27	48.91	51.71	54.67	57.79	61.10	64.60	68.29	72.20	76.33	80.69	85.31	90.19	95.35	100.80	106.57	112.66	119.11	125.92	133.12	140.74	148.79
Depreciation	Rs Lakh		41.25	41.25	41.25	41.25	41.25	41.25	41.25	41.25	41.25	41.25	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71
Interest on term loan	Rs Lakh		50.08	44.81	39.54	34.26	28.99	23.72	18.45	13.18	7.91	2.64	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		3.61	3.65	3.69	3.73	3.78	3.83	3.88	3.94	4.00	4.06	4.12	4.19	4.27	4.34	4.43	4.51	4.60	4.70	4.80	4.91	5.03	5.15	5.28	5.41	5.55	5.70	5.86	6.03	6.21	6.40	6.60	6.81	7.03	7.27	7.52
Return on Equity	Rs Lakh		33.59	33.59	33.59	33.59	33.59	33.59	33.59	33.59	33.59	33.59	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43	42.43
Total Fixed Cost	**Rs Lakh**		**150.98**	**147.03**	**143.16**	**139.37**	**135.66**	**132.05**	**128.52**	**125.10**	**121.78**	**118.58**	**90.43**	**92.74**	**95.18**	**97.76**	**100.49**	**103.37**	**106.42**	**109.64**	**113.05**	**116.66**	**120.46**	**124.49**	**128.75**	**133.25**	**138.01**	**143.04**	**148.36**	**153.98**	**159.93**	**166.21**	**172.85**	**179.88**	**187.30**	**195.15**	**203.45**
Per unit Fixed Cost	**Rs/kWh**	**5.06**	5.80	5.65	5.50	5.36	5.21	5.08	4.94	4.81	4.68	4.56	3.48	3.56	3.66	3.76	3.86	3.97	4.09	4.21	4.35	4.48	4.63	4.78	4.95	5.12	5.30	5.50	5.70	5.92	6.15	6.39	6.64	6.91	7.20	7.50	7.82

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
O&M expn	Rs/kWh	**1.31**	0.86	0.91	0.96	1.02	1.08	1.14	1.20	1.27	1.35	1.42	1.50	1.59	1.68	1.78	1.88	1.99	2.10	2.22	2.35	2.48	2.62	2.77	2.93	3.10	3.28	3.47	3.66	3.87	4.10	4.33	4.58	4.84	5.12	5.41	5.72
Depreciation	Rs/kWh	**1.26**	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Int. on term loan	Rs/kWh	**0.96**	1.92	1.72	1.52	1.32	1.11	0.91	0.71	0.51	0.30	0.10	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	**0.15**	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19	0.20	0.20	0.21	0.21	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27	0.28	0.29
RoE	Rs/kWh	**1.37**	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63
Total COG	**Rs/kWh**	**5.06**	**5.80**	**5.65**	**5.50**	**5.36**	**5.21**	**5.08**	**4.94**	**4.81**	**4.68**	**4.56**	**3.48**	**3.56**	**3.66**	**3.76**	**3.86**	**3.97**	**4.09**	**4.21**	**4.35**	**4.48**	**4.63**	**4.78**	**4.95**	**5.12**	**5.30**	**5.50**	**5.70**	**5.92**	**6.15**	**6.39**	**6.64**	**6.91**	**7.20**	**7.50**	**7.82**

COG excl. RoE

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Fixed Cost	5.06		131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52	131.52
Levellised Tariff	**5.06**	Rs/Unit																																			

Determination of Additional Depreciation for Small Hydro Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20%
Income Tax (MAT)	20.96%
Income Tax (Normal Rates)	33.99%
Capital Cost	589.35

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	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%
Book Depreciation	Rs Lakh	15.56	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	31.12	16.97	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
Accelerated Depreciation																																				
Opening	%	100%	50%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	50.00%	40.00%	8.00%	1.60%	0.32%	0.06%	0.01%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.0%	10.0%	2.0%	0.40%	0.08%	0.02%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accelrated Deprn.	Rs Lakh	294.67	235.74	47.15	9.43	1.89	0.38	0.08	0.02	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	279.12	204.62	16.03	-21.69	-29.23	-30.74	-31.04	-31.10	-31.11	-31.12	-31.12	-31.12	-31.12	-31.12	-31.12	-31.12	-31.12	-16.97	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
Tax Benefit	Rs Lakh	94.87	69.55	5.45	-7.37	-9.94	-10.45	-10.55	-10.57	-10.58	-10.58	-10.58	-10.58	-10.58	-10.58	-10.58	-10.58	-10.58	-5.77	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
Energy generation	MU	1.30	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01

Levellised benefit	**0.62**	**Rs/Unit**

Annexure – 2B
(above 5 MW to 25 MW)

Form 1.1 Assumptions Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Capacity >5 up to 25 MW
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	30%
			Auxilliary Consumption		1%
			Useful Life	Years	35
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	536.20
3	**Sources of Fund**				
			Tariff Period	Years	13
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	375.34
			Total Equity Amout	Rs Lacs	160.86
		Debt Component			
			Loan Amount	Rs Lacs	375.34
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	160.86
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10
			Return on Equity 11th year onwards	% p.a	24.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	0.80%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	15.86
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Small Hydro Projects of Capacity - >5 up to 25 MW) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Net Generation	MU		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
O&M Expenses	Rs Lakh		15.86	16.77	17.73	18.74	19.81	20.95	22.14	23.41	24.75	26.16	27.66	29.24	30.92	32.68	34.55	36.53	38.62	40.83	43.17	45.63	48.24	51.00	53.92	57.01	60.27	63.71	67.36	71.21	75.28	79.59	84.14	88.96	94.04	99.42	105.11
Depreciation	Rs Lakh		37.52	37.52	37.52	37.52	37.52	37.52	37.52	37.52	37.52	37.52	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29
Interest on term loan	Rs Lakh		45.54	40.75	35.96	31.16	26.37	21.57	16.78	11.99	7.19	2.40	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		2.98	3.00	3.03	3.07	3.10	3.13	3.17	3.21	3.25	3.30	3.34	3.39	3.44	3.50	3.56	3.62	3.68	3.75	3.82	3.90	3.98	4.07	4.16	4.25	4.35	4.46	4.57	4.69	4.82	4.95	5.09	5.24	5.40	5.57	5.74
Return on Equity	Rs Lakh		30.55	30.55	30.55	30.55	30.55	30.55	30.55	30.55	30.55	30.55	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59	38.59
Total Fixed Cost	**Rs Lakh**		**132.45**	**128.59**	**124.79**	**121.04**	**117.35**	**113.72**	**110.16**	**106.68**	**103.26**	**99.93**	**73.88**	**75.51**	**77.24**	**79.06**	**80.99**	**83.03**	**85.18**	**87.46**	**89.87**	**92.41**	**95.10**	**97.95**	**100.96**	**104.14**	**107.50**	**111.05**	**114.81**	**118.78**	**122.98**	**127.42**	**132.11**	**137.08**	**142.32**	**147.87**	**153.73**
Per unit Fixed Cost	Rs/kWh	4.32	5.09	4.94	4.80	4.65	4.51	4.37	4.23	4.10	3.97	3.84	2.84	2.90	2.97	3.04	3.11	3.19	3.27	3.36	3.45	3.55	3.66	3.76	3.88	4.00	4.13	4.27	4.41	4.57	4.73	4.90	5.08	5.27	5.47	5.68	5.91

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
O&M expn	Rs/kWh	**0.93**	0.61	0.64	0.68	0.72	0.76	0.81	0.85	0.90	0.95	1.01	1.06	1.12	1.19	1.26	1.33	1.40	1.48	1.57	1.66	1.75	1.85	1.96	2.07	2.19	2.32	2.45	2.59	2.74	2.89	3.06	3.23	3.42	3.61	3.82	4.04
Depreciation	Rs/kWh	**1.15**	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Int. on term loan	Rs/kWh	**0.87**	1.75	1.57	1.38	1.20	1.01	0.83	0.64	0.46	0.28	0.09	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	**0.12**	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.20	0.21	0.21	0.22
RoE	Rs/kWh	**1.25**	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48
Total COG	**Rs/kWh**	**4.32**	**5.09**	**4.94**	**4.80**	**4.65**	**4.51**	**4.37**	**4.23**	**4.10**	**3.97**	**3.84**	**2.84**	**2.90**	**2.97**	**3.04**	**3.11**	**3.19**	**3.27**	**3.36**	**3.45**	**3.55**	**3.66**	**3.76**	**3.88**	**4.00**	**4.13**	**4.27**	**4.41**	**4.57**	**4.73**	**4.90**	**5.08**	**5.27**	**5.47**	**5.68**	**5.91**

COG excl. RoE

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Fixed Cost	4.32		112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30	112.30
Levellised Tariff	**4.32**	Rs/Unit																																			

Determination of Additional Depreciation for Small Hydro Power Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	535.98

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	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%
Book Depreciation	Rs Lakh	14.15	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	28.30	15.44	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

Accelerated Depreciation																																				
Opening	%	100%	50%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	50.00%	40.00%	8.00%	1.60%	0.32%	0.06%	0.01%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing	%	50.0%	10.0%	2.0%	0.40%	0.08%	0.02%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Acceliated Degrn.	Rs Lakh	267.99	214.39	42.88	8.58	1.72	0.34	0.07	0.01	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Net Depreciation Benefit	Rs Lakh	253.84	186.09	14.58	-19.72	-26.58	-27.96	-28.23	-28.29	-28.30	-28.30	-28.30	-28.30	-28.30	-28.30	-28.30	-28.30	-28.30	-15.44	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
Tax Benefit	Rs Lakh	86.28	63.25	4.96	-6.70	-9.04	-9.50	-9.60	-9.61	-9.62	-9.62	-9.62	-9.62	-9.62	-9.62	-9.62	-9.62	-9.62	-5.25	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
Energy generation	MU	1.30	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01

Levellised benefit	**0.56**	**Rs/Unit**

Annexure – 3
(Bio Mass Power Project)

2.1 Form Template for Biomass Power Projects- Other

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stablisatio	%	10%
			Auxillary Consumption after stabilisation	%	10%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablization)	%	70%
			PLF(second year onwards)	%	80%
			Useful Life	Years	20
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	480.71
3	**Financial Assumptions**				
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	336.50
			Total Equity Amout	Rs Lacs	144.21
		Debt Component			
			Loan Amount	Rs Lacs	336.50
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	144.21
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10.00
			Return on Equity after 10 years		24.00%
			Discount Rate (equiv. to WACC)		15.39%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.99%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate(power plant)	%	7.00%
			Depreciation Rate 11th year onwards	%	2.00%
			Years for 7% depreciation rate		10.00
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15%
		Receivables for Debtors		Months	2
		For Variable Charges			
		Biomass Stock		Months	4
		Interest On Working Capital		%	13.28%
6	**Fuel Related Assumptions**				
		Heat Rate	After Stabilisation period	Kcal/kwh	3800
		Biomass			
			Base Price(FY14-15)	Rs/T	3318
			GCV - Biomass	Kcal/kg	3611
7	**Operation & Maintenance**				
		power plant (FY 2014-15)		Rs Lakh	26.75
		Total O & M Expenses Escalation		%	5.72%

2.2 Form Template for (Biomass Power Projects) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.69	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01	7.01
Auxiliary Consumption	MU		0.57	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Net Generation	MU		5.12	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31

Vaiable Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		198.82	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70	244.70
Per unit Var Cost	**Rs/kWh**		3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		26.75	28.27	29.89	31.60	33.41	35.32	37.34	39.48	41.74	44.12	46.65	49.31	52.14	55.12	58.27	61.60	65.13	68.85	72.79	76.95
Depreciation	Rs Lakh		33.64	33.64	33.64	33.64	33.64	33.64	33.64	33.64	33.64	33.64	9.61	9.61	9.61	9.61	9.61	9.61	9.61	9.61	9.61	9.61
Interest on term loan	Rs Lakh		40.84	36.54	32.24	27.94	23.64	19.34	15.05	10.75	6.45	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		16.57	20.25	20.30	20.35	20.41	20.47	20.53	20.60	20.67	20.74	20.82	20.90	20.99	21.08	21.18	21.28	21.39	21.51	21.63	21.76
Return on Equity	Rs Lakh		27.39	27.39	27.39	27.39	27.39	27.39	27.39	27.39	27.39	27.39	34.60	34.60	34.60	34.60	34.60	34.60	34.60	34.60	34.60	34.60
Total Fixed Cost	**Rs Lakh**		**145.19**	**146.10**	**143.47**	**140.93**	**138.50**	**136.17**	**133.95**	**131.86**	**129.88**	**128.05**	**111.68**	**114.43**	**117.34**	**120.41**	**123.66**	**127.10**	**130.73**	**134.57**	**138.63**	**142.93**
Per unit Fixed Cost	**Rs/kWh**		2.83	2.32	2.27	2.23	2.20	2.16	2.12	2.09	2.06	2.03	1.77	1.81	1.86	1.91	1.96	2.02	2.07	2.13	2.20	2.27

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit	Levellised	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	**3.88**	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88
O&M expn	Rs/kWh	**0.61**	0.52	0.45	0.47	0.50	0.53	0.56	0.59	0.63	0.66	0.70	0.74	0.78	0.83	0.87	0.92	0.98	1.03	1.09	1.15	1.22
Depreciation	Rs/kWh	**0.48**	0.66	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Int. on term loan	Rs/kWh	**0.36**	0.80	0.58	0.51	0.44	0.37	0.31	0.24	0.17	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	**0.33**	0.32	0.32	0.32	0.32	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.34	0.34	0.34	0.34	0.34
RoE	Rs/kWh	**0.47**	0.53	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Total COG	**Rs/kWh**	**6.12**	**6.71**	**6.20**	**6.15**	**6.11**	**6.08**	**6.04**	**6.00**	**5.97**	**5.94**	**5.91**	**5.65**	**5.69**	**5.74**	**5.79**	**5.84**	**5.89**	**5.95**	**6.01**	**6.08**	**6.15**

Levellised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.867	0.751	0.651	0.564	0.489	0.424	0.367	0.318	0.276	0.239	0.207	0.179	0.155	0.135	0.117	0.101	0.088	0.076	0.066
Variable Cost			198.8	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7	244.7
Fixed Cost			114.8	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3	141.3

Levellised Tariff (Variable)	3.88
Levellised Tariff (Fixed)	2.24
Levellised Tariff (Rs/Unit)	**6.12**

Determination of Accelerated Depreciation for Biomass Power Project

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.99%
Capital Cost	480.6

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%
Book Depreciation	Rs Lakh	12.69	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	13.84	0.00	0.00
Accelerated Depreciation																					
Opening	%	100%	50%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	50%	40.00%	8.00%	1.60%	0.32%	0.06%	0.01%	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%
Closing	%	50%	10%	2.00%	0.40%	0.08%	0.02%	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%
Accelrated Deprn.	Rs Lakh	240.30	192.24	38.45	7.69	1.54	0.31	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	227.61	166.87	13.07	-17.69	-23.84	-25.07	-25.31	-25.36	-25.37	-25.38	-25.38	-25.38	-25.38	-25.38	-25.38	-25.38	-25.38	-13.84	0.00	0.00
Tax Benefit	Rs Lakh	77.37	56.72	4.44	-6.01	-8.10	-8.52	-8.60	-8.62	-8.62	-8.63	-8.63	-8.63	-8.63	-8.63	-8.63	-8.63	-8.63	-4.70	0.00	0.00
Net Energy generation	MU	2.56	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Per unit benefit	Rs/Unit	3.02	0.90	0.07	-0.10	-0.13	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.14	-0.07	0.00	0.00
Discounting Factor		1.00	0.93	0.81	0.70	0.61	0.53	0.45	0.39	0.34	0.30	0.26	0.22	0.19	0.17	0.14	0.13	0.11	0.09	0.08	0.07

Tax Benefit Levellised	12.82	
Electricity Generation (Levellised)	5.81	
Levellised benefit	**0.22**	**(Rs/kWh)**

Annexure – 4
(Cogen Power Projects)

2.1 Form Template for Cogen Power Projects

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Auxillary Consumption during stablisatio	%	8.5%
			Auxillary Consumption after stabilisation	%	8.5%
			PLF(Stablization for 6 months)	%	60%
			PLF(during first year after Stablization)	%	60%
			PLF(second year onwards)	%	60%
			Useful Life	Years	20
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/MW	475.37
3	**Financial Assumptions**				
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	332.76
			Total Equity Amout	Rs Lacs	142.61
		Debt Component			
			Loan Amount	Rs Lacs	332.76
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	142.61
			Return on Equity for first 10 years	% p.a	19.00%
			RoE Period	Year	10.00
			Return on Equity after 10 years		24.00%
			Discount Rate (equiv. to WACC)		15.39%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.99%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate(power plant)	%	7.00%
			Depreciation Rate 11th year onwards	%	2.00%
			Years for 7% depreciation rate		10.00
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15%
		Receivables for Debtors		Months	2
		For Variable Charges			
		Biomass Stock		Months	4
		Interest On Working Capital		%	13.28%
6	**Fuel Related Assumptions**				
		Heat Rate	After Stabilisation period	Kcal/kwh	3600
		Biomass			
			Base Price - Bagasse (FY14-15)	Rs/T	2061.15
			GCV - Bagasse	Kcal/kg	2250
7	**Operation & Maintenance**				
		power plant (FY 2014-15)			17.63
		Total O & M Expenses Escalation		%	5.72%

2.2 Form Template for (Cogen and Bagasse based Power Projects) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU		5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26
Auxiliary Consumption	MU		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Net Generation	MU		4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81

Vaiable Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Biomass Cost	Rs Lakh		173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33	173.33

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
O&M Expenses	Rs Lakh		17.63	18.63	19.70	20.83	22.02	23.28	24.61	26.02	27.51	29.08	30.74	32.50	34.36	36.32	38.40	40.60	42.92	45.38	47.97	50.72
Depreciation	Rs Lakh		33.27	33.27	33.27	33.27	33.27	33.27	33.27	33.27	33.27	33.27	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51
Interest on term loan	Rs Lakh		40.38	36.13	31.88	27.63	23.38	19.13	14.88	10.63	6.38	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working Capital	Rs Lakh		14.66	14.69	14.72	14.76	14.79	14.83	14.87	14.92	14.96	15.01	15.06	15.12	15.18	15.24	15.30	15.37	15.44	15.52	15.60	15.68
Return on Equity	Rs Lakh		27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	27.09	34.22	34.22	34.22	34.22	34.22	34.22	34.22	34.22	34.22	34.22
Total Fixed Cost	**Rs Lakh**		**133.03**	**129.81**	**126.66**	**123.57**	**120.55**	**117.60**	**114.72**	**111.92**	**109.20**	**106.57**	**89.53**	**91.34**	**93.26**	**95.28**	**97.43**	**99.69**	**102.09**	**104.62**	**107.29**	**110.12**

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Variable COG	Rs/kWh	**3.60**	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60
O&M expn	Rs/kWh	**0.51**	0.37	0.39	0.41	0.43	0.46	0.48	0.51	0.54	0.57	0.60	0.64	0.68	0.71	0.76	0.80	0.84	0.89	0.94	1.00	1.05
Depreciation	Rs/kWh	**0.60**	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Int. on term loan	Rs/kWh	**0.44**	0.84	0.75	0.66	0.57	0.49	0.40	0.31	0.22	0.13	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Int. on working capital	Rs/kWh	**0.31**	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.33
RoE	Rs/kWh	**0.59**	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Total COG	**Rs/kWh**	**6.05**	**6.37**	**6.30**	**6.24**	**6.17**	**6.11**	**6.05**	**5.99**	**5.93**	**5.87**	**5.82**	**5.47**	**5.50**	**5.54**	**5.59**	**5.63**	**5.68**	**5.73**	**5.78**	**5.84**	**5.89**

Levellised Tariff	Unit	Year -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Discount Factor			1	0.867	0.751	0.651	0.564	0.489	0.424	0.367	0.318	0.276	0.239	0.207	0.179	0.155	0.135	0.117	0.101	0.088	0.076	0.066

Levellised Tariff (Variable)	3.60
Levellised Tariff (Fixed)	2.45
Levellised Tariff (Rs/Unit)	**6.05**

Determination of Accelerated Depreciation for Cogen and Bagasse based Power Project

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.99%
Capital Cost	475.3

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%
Book Depreciation	Rs Lakh	12.55	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	25.09	13.69	0.00	0.00
Accelerated Depreciation																					
Opening	%	100%	50%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	50%	40.00%	8.00%	1.60%	0.32%	0.06%	0.01%	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%
Closing	%	50%	10%	2.00%	0.40%	0.08%	0.02%	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%
Accelrated Deprn.	Rs Lakh	237.63	190.11	38.02	7.60	1.52	0.30	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Depreciation Benefit	Rs Lakh	225.09	165.01	12.93	-17.49	-23.57	-24.79	-25.03	-25.08	-25.09	-25.09	-25.09	-25.09	-25.09	-25.09	-25.09	-25.09	-25.09	-13.69	0.00	0.00
Tax Benefit	Rs Lakh	76.51	56.09	4.39	-5.94	-8.01	-8.43	-8.51	-8.53	-8.53	-8.53	-8.53	-8.53	-8.53	-8.53	-8.53	-8.53	-8.53	-4.65	0.00	0.00
Net Energy generation	MU	2.40	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
Discounting Factor		1.00	0.93	0.81	0.70	0.61	0.53	0.45	0.39	0.34	0.30	0.26	0.22	0.19	0.17	0.14	0.13	0.11	0.09	0.08	0.07

Levellised benefit	**0.28**	**(Rs/kWh)**

Annexure – 5
(Solar PV)

Form 1.1 Assumptions Parameters

S. No.	Assumption Head	Sub-Head	Sub-Head (2)	Unit	Assumptions
1	**Power Generation**				
		Capacity			
			Installed Power Generation Capacity	MW	1
			Capacity Utilization Factor	%	19%
			Useful Life	Years	25
2	**Project Cost**				
		Capital Cost/MW	Power Plant Cost	Rs Lacs/M	612.00
3	**Sources of Fund**				
			Tariff Period	Years	25
		Debt: Equity			
			Debt	%	70%
			Equity	%	30%
			Total Debt Amount	Rs Lacs	428.40
			Total Equity Amout	Rs Lacs	183.60
		Debt Component			
			Loan Amount	Rs Lacs	428.40
			Repayment Period(incld Moratorium)	years	10
			Interest Rate	%	12.78%
		Equity Component			
			Equity amount	Rs Lacs	183.60
			Return on Equity for first 10 years	% p.a	19.00%
			Weighted average of ROE		22.00%
			Discount Rate		15.54%
4	**Financial Assumptions**				
		Fiscal Assumptions			
			Income Tax	%	33.990%
			MAT Rate (for first 10 years)	%	20.960%
		Depreciation			
			Depreciation Rate for first 10 years	%	7.00%
			Depreciation Rate 11th year onwards	%	1.33%
			Years for 7% rate		10
5	**Working Capital**				
		For Fixed Charges			
		O&M Charges		Months	1
		Maintenance Spare	(% of O&M exepenses)		15.00%
		Receivables for Debtors		Months	2
		Interest On Working Capital		%	13.28%
6	**Operation & Maintenance**				
		power plant (FY14-15)		Rs Lakh	11.87
		Total O & M Expenses Escalation		%	5.72%

Form 1.2 Form Template for (Solar PV Projects) : Determination of Tariff Component

Units Generation	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross/Net Generation	MU		1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66

Fixed Cost	Unit	Year--->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh		11.87	12.55	13.27	14.03	14.83	15.68	16.57	17.52	18.52	19.58	20.70	21.89	23.14	24.46	25.86	27.34	28.90	30.56	32.31	34.15	36.11	38.17	40.36	42.66	45.10
Depreciation	Rs Lakh		42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16
Interest on term loan	Rs Lakh		52.00	46.53	41.06	35.58	30.11	24.63	19.16	13.69	8.21	2.74	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
Interest on working Capital	Rs Lakh		3.00	3.02	3.05	3.07	3.09	3.12	3.15	3.18	3.21	3.24	3.28	3.31	3.35	3.39	3.44	3.48	3.53	3.58	3.64	3.69	3.75	3.82	3.89	3.96	4.03
Return on Equity	Rs Lakh		34.88	34.88	34.88	34.88	34.88	34.88	34.88	34.88	34.88	34.88	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06
Total Fixed Cost	**Rs Lakh**		**144.60**	**139.83**	**135.09**	**130.40**	**125.75**	**121.15**	**116.60**	**112.11**	**107.67**	**103.29**	**76.20**	**77.42**	**78.71**	**80.08**	**81.52**	**83.05**	**84.66**	**86.36**	**88.17**	**90.07**	**92.09**	**94.21**	**96.47**	**98.85**	**101.36**
Per unit Fixed Cost	Rs/kWh	7.15	8.69	8.40	8.12	7.83	7.56	7.28	7.01	6.74	6.47	6.21	4.58	4.65	4.73	4.81	4.90	4.99	5.09	5.19	5.30	5.41	5.53	5.66	5.80	5.94	6.09

Levallised tariff corresponding to Useful life

Per Unit Cost of Generation	Unit		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M expn	Rs/kWh	**1.03**	0.71	0.75	0.80	0.84	0.89	0.94	1.00	1.05	1.11	1.18	1.24	1.31	1.39	1.47	1.55	1.64	1.74	1.84	1.94	2.05	2.17	2.29	2.42	2.56	2.71
Depreciation	Rs/kWh	**2.13**	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Int. on term loan	Rs/kWh	**1.59**	3.12	2.80	2.47	2.14	1.81	1.48	1.15	0.82	0.49	0.16	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
Int. on working capital	Rs/kWh	**0.19**	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.21	0.21	0.21	0.22	0.22	0.22	0.23	0.23	0.23	0.24	0.24
RoE	Rs/kWh	**2.21**	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Total COG	**Rs/kWh**	**7.15**	**8.69**	**8.40**	**8.12**	**7.83**	**7.56**	**7.28**	**7.01**	**6.74**	**6.47**	**6.21**	**4.58**	**4.65**	**4.73**	**4.81**	**4.90**	**4.99**	**5.09**	**5.19**	**5.30**	**5.41**	**5.53**	**5.66**	**5.80**	**5.94**	**6.09**

Discount Factor			1	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Fixed Cost	7.15		119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08	119.08
Levellised Tariff	**7.15**	Rs/Unit																									

Determination of Additional Depreciation for Solar PV Projects

Depreciation amount	90%
Book Depreciation rate	5.28%
Tax Depreciation rate	80%
Additional Depreciation	20%
Income Tax (MAT)	20.960%
Income Tax (Normal Rates)	33.990%
Capital Cost	612.00

Years ---------->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Book Depreciation	%	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Book Depreciation	Rs Lakh	16.16	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	32.31	17.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accelerated Depreciation																										
Opening	%	100%	50%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allowed during the year	%	50.00%	40.00%	8.00%	1.60%	0.32%	0.06%	0.01%	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%
Closing	%	50.0%	10.0%	2.0%	0.40%	0.08%	0.02%	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%	0.00%
Accelrated Deprn.	Rs Lakh	306.00	244.80	48.96	9.79	1.96	0.39	0.08	0.02	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
Net Depreciation Benefit	Rs Lakh	289.84	212.49	16.65	-22.52	-30.36	-31.92	-32.24	-32.30	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-32.31	-17.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs Lakh	98.52	72.22	5.66	-7.66	-10.32	-10.85	-10.96	-10.98	-10.98	-10.98	-10.98	-10.98	-10.98	-10.98	-10.98	-10.98	-10.98	-5.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy generation	MU	0.83	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Per unit benefit	Rs/Unit	11.84	4.34	0.34	-0.46	-0.62	-0.65	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.66	-0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounting Factor		1.00	0.87	0.75	0.65	0.56	0.49	0.42	0.36	0.31	0.27	0.24	0.20	0.18	0.15	0.13	0.11	0.10	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.03
Applicable Discounting Factor		1.00	0.93	0.81	0.70	0.60	0.52	0.45	0.39	0.34	0.29	0.25	0.22	0.19	0.16	0.14	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.04	0.04	0.03

Levellised benefit	**1.03**	**Rs/Unit**