

Bhopal, the 6th July 2016

No. : 987/MPERC/2017. In exercise of powers conferred under Section 181(2) (zd) read with Section 61 of the Electricity Act, 2003 (36 of 2003), and all other powers enabling it in this behalf, the Madhya Pradesh Electricity Regulatory Commission hereby makes the following Regulations, namely:

**Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Tariff determination of energy from Renewable Energy Sources) Regulations, 2017 {G-43 of 2017}**

1. **Short Title and Commencement:** 1) These Regulations may be called the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Tariff determination of energy from Renewable Energy Sources) Regulations, 2017 {G-43 of 2017}.
- 2) These Regulations shall extend to the whole of the State of Madhya Pradesh.
- 3) These Regulations shall come into force on 1.4.2017 or from the date of notification whichever is later and unless reviewed earlier or extended by the Commission, shall remain in force for a period of 5 years from the date of commencement.

2. **Definitions :**

(1) In these Regulations, unless the context otherwise requires,

- a) 'Act' means the Electricity Act, 2003 (36 of 2003);
- b) 'Auxiliary Energy Consumption' or 'AUX' in relation to a period in case of a generating station means the quantum of energy consumed by auxiliary equipment of the generating station, and transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;
- c) 'Bagasse' means waste produced as a by-product of processing operations in sugar industry;
- d) 'Bagasse based Co-generation' means the process in which more than one form of energy (such as steam and electricity) are produced in a sequential manner by use of bagasse;

- e) 'Biomass' means wastes produced during agricultural and forestry operations (for example straws and stalks) or produced as a by-product of processing operations of agricultural produce (e.g., husks, shells, deoiled cakes, etc); wood produced in dedicated energy plantations or recovered from wild bushes/weeds and the wood waste produced in some industrial operations;
- f) 'Biogas' means a gas created when organic matter like crop residues, sewage, Cow Dung and manure breaks down in an oxygen-free environment (ferments);
- g) 'Commission' means the Madhya Pradesh Electricity Regulatory Commission referred to in sub-section (1) of Section 82 of the Act;
- h) 'Conduct of Business Regulations' means the Madhya Pradesh Electricity Regulatory Commission (Conduct of Business) (Revision-I) Regulations, 2016 as amended from time to time;
- i) 'Control Period or Review Period' means the period during which the norms for determination of tariff specified in these Regulations shall remain valid;
- j) 'Gross Calorific Value' or 'GCV' in relation to a fuel used in generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one liter of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be;
- k) 'Generation from MSW' means the energy generated by incineration of Municipal Solid Waste;
- l) 'Hybrid Power Plant' means the power plant that uses more than one form of energy as input sources for electricity generation;
- m) 'Installed capacity' means the summation of the name plate capacities of all the units of the generating station or the capacity of the generating station (reckoned at the generator terminals), approved by the Commission from time to time;
- n) 'Inter-connection Point' shall mean interface point of renewable energy generating facility with the transmission system or distribution system, as the case may be:
- i. in relation to wind energy projects and Solar Photovoltaic Projects, inter-connection point shall be line isolator on outgoing feeder on HV side of the pooling sub-station;
  - ii. in relation to small hydro power, biomass power and non

fossil fuel based cogeneration power projects and Solar Thermal Power Projects the, inter-connection point shall be line isolator on outgoing feeder on HV side of generator transformer;

- o) 'Inadvertent Energy' means the power other than the contracted power and flows in the grid by displacement;
- p) 'MNRE' means the Ministry of New and Renewable Energy of the Government of India;
- q) 'Non-firm Power' means the power generated from renewable sources, the hourly variation of which is dependent upon nature's phenomenon like sun, cloud, wind, etc., that cannot be accurately predicted;
- r) 'Operation and Maintenance Expenses' or 'O&M expenses' means the expenditure incurred on operation and maintenance of the project, or part thereof; and includes the expenditure on manpower, repairs, spares, consumables, insurance and overheads;
- s) 'Project' means a generating station or the evacuation system upto inter-connection point, as the case may be, and in case of a small hydro generating station includes all components of generating facility such as dam, intake water conductor system, power generating station and generating units of the scheme, as apportioned to power generation;
- t) 'Renewable Energy' means the grid quality electricity generated from renewable energy sources;
- u) 'Renewable Energy Power Plants' means the power plants other than the conventional power plants generating grid quality electricity from renewable energy sources;
- v) 'Renewable Energy Sources' means renewable sources such as small hydro, wind, solar including its integration with combined cycle, biomass, bio fuel cogeneration, urban or municipal waste and other such sources as approved by the MNRE;
- w) 'Small Hydro' means Hydro Power projects with a station capacity up to and including 25 MW;
- x) 'Station Heat Rate' or 'SHR' means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals of a thermal generating station;

- y) 'Solar PV Power' means the Solar Photo Voltaic power project that uses sunlight for direct conversion into electricity through Photo Voltaic technology;
- z) 'Solar Thermal Power' means the Solar Thermal Power Project that uses sunlight for direct conversion into electricity through Concentrated Solar Power technology based on either line focus or point focus principle;
- za) 'Useful Life' in relation to a unit of a generating station including evacuation system shall mean the following duration from the Date of Commercial Operation (COD) of such generation facility, namely:-
- |   |          |
|---|----------|
| (a) Wind energy power project                           | 25 years |
| (b) Biomass power project with Rankine cycle technology | 20 years |
| (c) Bagasse based cogeneration project                  | 20 years |
| (d) Small Hydro Power Plant                             | 35 years |
| (e) Solar PV/Solar thermal power project                | 25 years |
| (f) Biogas based power project                          | 20 years |
| (g) Municipal Solid Waste Power Project                 | 20 years |
- zb) 'Year' means a financial year.

(2) Words and expressions used but not used in these Regulations shall have the same meaning as assigned to them in the Act.

#### Scope and extent of application:

These Regulations shall apply in all cases where tariff, for a generating station or a unit thereof based on renewable sources of energy, is to be determined by the Commission under Section 62 read with Section 86 of the Act.

Provided that these Regulations shall apply subject to the fulfillment of eligibility criteria specified in Regulation 4 of these Regulations.

#### 4. Eligibility Criteria:

- a) Wind power project – using new wind turbine generators.
- b) Small hydro project – located at the sites approved by State Nodal Agency/ State Government using new plant and machinery, and installed power plant capacity to be lower than or equal to 25 MW at single location.
- c) Biomass power project based on Rankine cycle technology – Biomass power projects using new plant and machinery based on Rankine cycle technology and using biomass fuel sources.
- d) Bagasse based co-generation project – The project shall qualify to be termed as a baggase based co-generation project, if it meets the qualifying requirement of a cogeneration project;
- e) Solar PV and Solar Thermal Power Project – Based on Technologies approved by MNRE.
- f) Biogas based Power Project – The project shall qualify to be termed as a biogas based power project, if it is using new plant and machinery and having grid connected system that uses 100% Biogas fired engine, coupled with Biogas technology for co-digesting Cow Dung , vegetable waste and other bio waste as may be approved by MNRE.
- g) Municipal Solid Waste Power Project – Based on incineration of Municipal Solid Waste as approved by MNRE.

### Chapter 1: General Principles

#### 5. Control Period or Review Period:

The Control Period or Review Period under these Regulations shall be of five years w.e.f. 01.04.2017 or from the date of order, whichever is later.

Provided that the benchmark capital cost for Solar PV and Solar thermal projects may be reviewed from time to time as the Commission deems it necessary;

Provided also that the tariff determined as per these Regulations for the RE projects commissioned during the Control Period, shall continue to be applicable for the entire duration of the 'useful life' as specified in these Regulations;

Provided also that in case Regulations for the next Control Period are not notified until commencement of next Control Period, the tariff norms as per these Regulations shall continue to remain applicable until notification of the revised Regulations.

**6. Project Specific tariff:**

- a) The Commission may determine Project specific tariff, on case to case basis, as and when situation arises.
- b) Determination of Project specific Tariff for generation of electricity from such renewable energy sources shall be in accordance with such terms and conditions as stipulated under relevant Orders of the Commission.

Provided that the financial norms as specified under Chapter-2 of these Regulations, except for capital cost, shall be ceiling norms while determining the project specific tariff.

**7. Petition and proceedings for determination of Tariff:**

- (1) The Commission shall determine the generic tariff on the basis of suo-motu petition for renewable energy technologies for which norms have been specified under the Regulations.
- (2) Notwithstanding anything contained in these Regulations,
  - a) the generic tariff determined for Solar PV projects based on the capital cost and other norms applicable for any year of the control period shall also apply for such projects during the next year; and
  - b) the generic tariff determined for Solar thermal projects based on the capital cost and other norms for the any year of the control period shall also apply for such projects during the next two years,

Provided that

- (i) the Power Purchase Agreements in respect of the Solar PV projects and Solar thermal projects as mentioned in this clause are signed on or before last day of the year for which generic tariff is determined; and
- (ii) the entire capacity covered by the Power Purchase Agreements is

commissioned on or before 31<sup>st</sup> March of the next year in respect of Solar PV projects and on or before 31<sup>st</sup> March of subsequent two years in respect of Solar thermal projects.

(3) A petition for determination of project specific tariff shall be accompanied by such fee as may be determined by Regulations and shall be accompanied by:

a) detailed project report outlining technical and operational details, site specific aspects, premise for capital cost and financing plan etc.

b) a Statement of all applicable terms and conditions and expected expenditure for the period for which tariff is to be determined.

c) a statement containing full details of calculation of any subsidy and incentive received, due or assumed to be due from the Central/State Government. This statement shall also include the proposed tariff calculated without consideration of the subsidy and incentive.

d) any other information that the Commission requires the petitioner to submit.

(4) The proceedings for determination of tariff shall be in accordance with the MPERC(Conduct of Business) (Revision-I) Regulations, 2016.

#### 8. Tariff Structure:

(1) The tariff for renewable energy technologies shall consist of the following fixed cost components:

(a) Capital Cost;

(b) Return on equity;

(c) Interest on loan capital;

(d) Depreciation;

(e) Interest on working capital;

(f) Operation and maintenance expenses;

2) For renewable energy technologies having fuel cost component, like biomass/MSW power projects etc., the fuel cost shall be determined as variable cost component.

**9. Tariff Design:**

- (1) The generic tariff shall normally be determined on levellised basis.
- (2) For the purpose of levellised tariff computation, the discount factor equivalent to Post Tax weighted average cost of capital shall be considered.
- (3) Levelisation shall be carried out for the 'useful life' of the Renewable Energy project.

**9. Tariff Design:****10. Despatch principles for electricity generated from Renewable Energy Sources:**

- (1) The biomass power generating station and bagasse based co-generation power projects with an installed capacity of 2 MW and above shall be subjected to scheduling and despatch principles as specified under Indian Electricity Grid Code (IEGC) and also subjected to "merit order dispatch".
- (2) Wind power generation plants where the sum of generation capacity of such plants connected at the connection point to the transmission or distribution system is 10 MW and above and connection point is 33 KV and above shall be subjected to scheduling and despatch code as specified under Indian Electricity Grid Code (IEGC) -2010, as amended from time to time.
- (3) Solar generating plants with capacity of 5 MW and above and connected at the connection point of 33 KV level and above shall be subjected to scheduling and despatch code as specified under Indian Electricity Grid Code (IEGC) - 2010, as amended from time to time.
- (4) All other renewable energy power plants shall be subjected to 'scheduling' and 'merit order despatch' principles as and when decided by the Commission.



## Chapter 2: Financial Principles

### 11. Capital Cost:

The norms for the Capital cost as specified in the subsequent technology specific chapters shall be inclusive of all capital work including plant and machinery, civil work, erection and commissioning, financing and interest during construction, and evacuation infrastructure up to inter-connection point;

Provided that for project specific tariff determination, the generating company shall submit the break-up of capital cost items along with its petition in the manner specified under Regulation 8.

### 12. Debt Equity Ratio:

- (1) For generic tariff to be determined based on suo-motu petition, the debt equity ratio shall be 70:30.
- (2) For Project specific tariff, the following provisions shall apply:-

If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

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

### 13. Loan and Finance Charges:

#### (1) Loan Tenure

For the purpose of determination of tariff, loan tenure of 10 years shall be considered.

#### (2) Interest Rate

- (a) The loans arrived at in the manner indicated in the Regulation 13 shall be considered as gross normative loan for calculation for interest on loan.

(b) For the purpose of computation of tariff, the normative interest rate shall be considered as may be estimated by the Commission.

(c) 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.

**14. Depreciation:**

(1) The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission. The Salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the Capital Cost of the asset.

(2) Depreciation per annum shall be computed on 'Straight Line Method'. The depreciation rate for the first 10 years of the Useful life shall be 7% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 11<sup>th</sup> year onwards.

(3) Depreciation shall be chargeable from the first year of commercial operation.

**15. Return on Equity:**

(1) The value base for the equity shall be 30% of the capital cost or actual equity (in case of project specific tariff determination) as determined under Regulation 13.

(2) The normative Return on Equity shall be at 20% per annum for the useful life of the project.

**16. Interest on Working Capital:**

(1) The Working Capital requirement in respect of wind energy projects, Small Hydro Power, Solar PV and Solar thermal power projects shall be computed in accordance with the following:

Wind Energy / Small Hydro Power / Solar PV / Solar thermal

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 spare @ 15% of operation and maintenance expenses

(2) The Working Capital requirement in respect of following power projects shall be computed in accordance as follows:

**Biomass, Biogas Power, MSW and Bagasse based Co-generation**

a) Fuel costs for four months equivalent to normative PLF;

b) Operation & Maintenance expense for one month;

c) Receivables equivalent to 2 (Two) months of fixed and variable charges for sale of electricity calculated on the target PLF;

d) Maintenance spare @ 15% of operation and maintenance expenses

(3) Interest on Working Capital shall be at interest rate estimated by the Commission.

**17. Operation and Maintenance Expenses:**

(1) 'Operation and Maintenance or O&M expenses' shall comprise of repairs and maintenance (R&M), establishment including employee expenses and administrative & general expenses.

(2) Operation and maintenance expenses shall be determined based on normative O&M expenses as specified by the Commission subsequently in these Regulations for the first Year of Control Period.

(3) Normative O&M expenses allowed during first year of the Control Period under these Regulations shall be escalated at the rate of 5.72% per annum over the Useful life of the project.

**18. Sharing of CDM Benefits:**

(1) The proceeds of carbon credit from approved CDM project shall be shared between generating company and concerned beneficiaries in the following manner, namely-

- a) 100% of the gross proceeds on account of CDM benefit to be retained by the project developer in the first year after the date of commercial operation of the generating station;
- b) In the second year, the share of the beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the generating company and the beneficiaries.

**19. Subsidy or incentive by the Central / State Government:**

The Commission shall indicate in the tariff order whether any incentive or subsidy offered by the Central or State Government is taken into consideration or not. However, the accelerated depreciation benefit if availed by the generating company, for the renewable energy power plants shall be taken into consideration while determining the tariff under these Regulations.

**20. Discounting Factor:**

The Commission shall indicate the discounting factor in the tariff order for the purpose of working out the Levelized tariff for the useful life of the project.

**21. Taxes and Duties:**

Tariff determined under these Regulations shall be exclusive of taxes and duties as may be levied by the appropriate Government:

Provided that the taxes and duties levied by the appropriate Government shall be allowed as pass through on actual incurred basis.

### Chapter 3: Technology specific parameters for Wind Energy

#### 22. Capital Cost:

- (1) The capital cost for wind energy project shall include Wind turbine generator including its auxiliaries, land cost, site development charges and other civil works, transportation charges, evacuation cost up to inter-connection point, financing charges and Interest During Construction.
- (2) The capital cost for wind energy projects shall be Rs. 575 Lakh/MW, which can be revised for future Control Period looking to the technological advancement.

#### 23. Capacity Utilisation Factor (CUF):

- (1) CUF norms shall be considered at 23% or more. The M.P. Power Management Co. Ltd. shall invariably provide monthly data of generation of units by the Wind Electric Generators projects to the Commission by 20<sup>th</sup> of each month following the month of generation.

#### 24. Operation and Maintenance (O & M) Expenses:

- (1) Normative O&M expenses for the first year of operation shall be 1% of the capital cost per MW.
- (2) Normative O&M expenses allowed under these Regulations shall be escalated at the rate of 5.72% per annum over the useful life to compute the levelised tariff.

#### Chapter 4: Technology specific parameters for Small Hydro Project

##### 25. Capital Cost:

- (1) The normative capital cost for small hydro projects during the Control Period shall be as follows:

Project Size	Capital Cost (Rs. in Lakh/ MW)
Below 5 MW	650
5 MW to 25 MW	635

##### 26. Capacity Utilisation Factor:

Capacity Utilisation factor for the small hydro projects shall be 30%.

##### 27. Auxiliary Consumption:

Normative Auxiliary Consumption for the small hydro projects shall be 1.0%.

##### 28. Operation and Maintenance Expenses:

Normative Operation and Maintenance (O&M) expenses during the Control period shall be at 3% of the capital cost in first year of the project with an escalation at the rate of 5.72% per annum for the balance useful life of the project for the purpose of determination of tariff.

#### Chapter 5: Technology specific parameters for Biomass Power Projects based on Rankine Cycle Technology

##### 29. Capital Cost:

The normative capital cost for the biomass power projects based on Rankine cycle shall be Rs. 475 Lakh/MW during the Control Period.

##### 30. Plant Load Factor:

The Plant Load Factor for the purpose of determination of Tariff shall be:

- a) During the first year of operation: 65%  
 b) From 2<sup>nd</sup> Year onwards : 80%

**31. Auxiliary Consumption:**

The auxiliary power consumption factor shall be 10% for the determination of tariff.

**32. Station Heat Rate:**

The Station Heat Rate for biomass power projects shall be 3800 kCal/ kWh.

**33. Operation and Maintenance Expenses:**

Normative O&M expenses for the first year of operation during the control period shall be at 4% of the capital cost and shall be escalated at the rate of 5.72% per annum during the balance useful life of the project.

**34. Fuel Mix:**

The biomass power plant shall be designed in such a way that it uses different types of non-fossil fuels (except Baggase) available within the vicinity of biomass power project such as crop residues, agro-industrial residues, forest residues etc. and other biomass fuels as may be approved by MNRE.

**35. Use of Fossil Fuel:**

The use of fossil fuels (coal) shall not be allowed.

**36. Gross Calorific Value:**

The Gross Calorific Value of the biomass fuel used (except Baggasse) for the purpose of determination of tariff shall be at 3600 kCal/kg.

**37. Fuel Cost:**

Biomass fuel (except Baggasse) price during first year of operation shall be at Rs. 2500 per tonne and for each subsequent year of the useful life, the normative escalation factor of 5% per annum shall be applicable.

**Chapter 6: Technology specific parameters for Bagasse based Cogeneration Projects**

38. As defined in the Electricity Act, 2003, the cogeneration means a process which simultaneously produces two or more forms of useful energy (including electricity). In baggase based cogeneration projects, the bagasse is burnt to produce steam. This steam is used in production of sugar as a primary process. Also, it is used to run the turbine generator to produce electricity as a secondary process. The sugar industry uses the electricity so produced for its own consumption and the surplus energy, if any, will be available for sale either to third party or to the grid.

39. The number of operating days for such projects shall be 150 days (crushing) + 60 days (off-season)=210 days operating days.

40. The tariff for such inadvertent power supplied to the grid shall be at the rate as determined by the Commission during the control period.

41. The tariff for such inadvertent power supplied to the grid shall be at the rate as determined by the Commission during the control period subject to the condition that it shall not be more than the rate as determined for the inadvertent power for other renewable sources of energy.

**Chapter 7: Technology specific parameters for Solar Photovoltaic Power Project****42. Technology Aspects:**

Norms for Solar Photovoltaic (PV) power under these Regulations shall be applicable for grid connected PV systems that directly convert solar energy into electricity and are based on the technologies such as crystalline silicon or thin film etc. as may be approved by MNRE.

**43. Capital Cost:**

The normative capital cost for setting up Solar Photovoltaic Power Project shall be Rs. 530 Lakh/MW for the control period unless amended.



**44. Capacity Utilisation Factor:**

The Capacity utilisation factor for Solar PV project shall be 19%.

**45. Operation and Maintenance Expenses:**

- (1) The O&M Expenses shall be Rs. 7 Lakh/MW for the 1<sup>st</sup> year of operation.
- (2) Normative O&M expenses shall be escalated from 2<sup>nd</sup> year onwards at the rate of 5.72% per annum.

**46. Auxiliary Consumption:**

The auxiliary consumption factor shall be 0.25%.

47. The tariff determined based on the norms shall be the maximum tariff and the M.P. Power Management Co. Ltd. on behalf of the Distribution Licensee shall invite bids from Generators/ Developers. The Generators/ Developers bidding lowest tariff will be allowed to install the power plant within Madhya Pradesh for selling the generated power to the Distribution Licensees.

**Chapter 8: Technology specific parameters for Solar Thermal Power Project****48. Technology Aspects:**

Norms for Solar thermal power under these Regulations shall be applicable for Concentrated solar power (CSP) technologies viz. line focusing or point focusing, as may be approved by MNRE, and uses direct sunlight, concentrating it several times to reach higher energy densities and thus higher temperatures whereby the heat generated is used to operate a conventional power cycle to generate electricity.

**49. Capital Cost:**

The normative capital cost for setting up Solar Thermal Power Project shall be Rs. 1200 Lakh/MW for the control period unless amended.

**50. Capacity Utilisation Factor (CUF):**

The Capacity Utilisation Factor shall be 23%.

**51. Operation and Maintenance Expenses:**

(1) The O&M Expenses shall be 1% of capital cost for the 1<sup>st</sup> year of operation.

(2) Normative O&M expenses shall be escalated from 2<sup>nd</sup> year onwards at the rate of 5.72% per annum.

**52. Auxiliary Consumption:**

The auxiliary consumption factor shall be 6.5%.

53. The tariff determined based on the norms shall be the maximum tariff and the M.P. Power Management Co. Ltd. on behalf of the Distribution Licensee shall invite bids from Generators/ Developers. The Generators/ Developers bidding lowest tariff will be allowed to install the power plant within Madhya Pradesh for selling the generated power to the Distribution Licensees.

**Chapter 9: Technology specific parameters for Biogas based Power Projects****54. Technology Aspect:**

The norms for tariff determination specified hereunder are for grid connected biogas based power projects that uses 100% Biogas fired engine, coupled with Biogas technology using Cow Dung, vegetable waste etc.

**55. Capital Cost:**

The normative capital cost for such biogas based power project shall be Rs. 950 Lakh/MW during the Control Period.

**56. Plant Load Factor:**

The Plant Load Factor for determination of tariff shall be 70% during first year

of operation and 80 % from 2<sup>nd</sup> year onwards.

**57. Auxiliary Consumption:**

The auxiliary power consumption factor shall be 10% for determination of tariff.

**58. Operation and Maintenance Expenses:**

(1) Normative O&M expenses per MW for the first year of operation shall be 4% of the capital cost.

(2) Normative O&M expenses shall be escalated from 2<sup>nd</sup> year onwards at the rate of 5.72% per annum.

**59. Specific Fuel Consumption:**

Normative specific fuel consumption shall be 10.7 kg/kWh.

**60. Fuel Cost:**

Fuel cost during the first year of operation shall be Rs. 175/MT. This shall be escalated from 2<sup>nd</sup> year onwards at 5.72% per annum.

**61. Income from Manure:**

The income from manure shall be considered at Rs. 1.5 per Kg. or more during the control period.

**Chapter 10: Technology specific parameters for Municipal Solid Waste Power Projects**

**62. Capital Cost:**

The normative capital cost for the Municipal Solid Waste power projects shall be Rs. 1500 Lakh/MW during the Control Period.

**63. Plant Load Factor:**

The Plant Load Factor for the purpose of determination of Tariff shall be:

a) During the first year of operation: 65%

b) From 2<sup>nd</sup> Year onwards : 75%

**64. Auxiliary Consumption:**

The auxiliary power consumption factor shall be 15% for the determination of tariff.

**65. Operation and Maintenance Expenses:**

Normative O&M expenses for the first year of operation during the Control period shall be at 5% of the capital cost and shall be escalated at the rate of 5.72% per annum during the balance useful life of the project.

**66. Other Costs:**

The fuel cost in such projects shall not be considered in line with CERC. Therefore, related norm like Station Heat Rate, Fuel cost escalation, Gross Calorific Value etc. are not applicable.

**Chapter 11: Miscellaneous****67. Deviation from norms:**

Tariff for sale of electricity generated from a generating station based on renewable energy sources, may also be agreed between a generating company and a licensee, in deviation from the norms specified in these Regulations subject to the conditions that the levellised tariff over the useful life of the project on the basis of the norms in deviation does not exceed the levellised tariff calculated on the basis of the norms specified in these Regulations.

68. The preferential tariffs as determined by the Commission for the aforesaid renewable sources of energy (other than solar) shall also be subject to bidding after the date of issue of notification by the Central Government in terms of the Tariff Policy, 2016.

**69. Power to amend:**

The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected may amend any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

By Order of the Commission  
Shailendra Saxena, Commission Secretary