

Consolidated Chhattisgarh State Electricity Regulatory Commission
(Renewable Purchase Obligation and REC framework Implementation)
Regulations, 2021

(Consolidated up to Notification dated 31.12.2022)

Name of Regulation	Regulation Number	Notification Date
Chhattisgarh State Electricity Regulatory Commission (Renewable Purchase Obligation and REC framework Implementation) Regulations, 2021	91/CSERC/2021	11-11-2021
Chhattisgarh State Electricity Regulatory Commission (Renewable Purchase Obligation and REC framework Implementation) (First Amendment) Regulations, 2022	97/CSERC/2022	31-12-2022

Chhattisgarh State Electricity Regulatory Commission
Vidyut Niyamak Bhawan
Irrigation Colony, Shanti Nagar, Raipur

Dated 29 October, 2021

No. 91/CSERC/2021 - Section 86(1)(e) of the Electricity Act, 2003 (the Act) mandates the State Commission to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee.

The Tariff Policy 2016 notified by the Central Government further entrust SERCs to fix a minimum percentage for purchase of energy from such sources taking into account availability of such sources in the region and its impact on retail tariffs. Further it prescribes that solar power consumption to reach to the level of 8% of total consumption, by March 2022 or as notified by Central Government.

Accordingly, Government of India (GoI) is giving thrust to develop renewable source of energy with a defined target of 175 GW of renewable energy by 2022.

Keeping the above in view, the Chhattisgarh State Electricity Regulatory Commission, in exercise of the power vested to the Commission under section 86(1)(e) of the Act read with section 181 of the Act, notifies Chhattisgarh State Electricity Regulatory Commission (Renewable Purchase Obligation and REC framework Implementation) Regulations, 2021, for the period 2021-2024.

**CHHATTISGARH STATE ELECTRICITY REGULATORY COMMISSION
(RENEWABLE PURCHASE OBLIGATION AND REC FRAMEWORK
IMPLEMENTATION) REGULATIONS, 2021**

1. Short Title, Extent and Commencement

- 1.1 These Regulations shall be called the Chhattisgarh State Electricity Regulatory Commission (Renewable Purchase Obligation and REC framework Implementation) Regulations, 2021.
- 1.2 These Regulations shall extend to the whole of the State of Chhattisgarh.
- 1.3 These Regulations shall come into force from April 01, 2021.

2. Definitions

- 2.1 In these Regulations, unless the context otherwise requires:

- I. "**Act**" means the Electricity Act, 2003 (36 of 2003), including amendments thereto;
- II. "**Captive User**" shall have same meaning as defined in rule 3(2) of Electricity Rules 2005;
- III. "**Central Agency**" means the agency as the Central Commission may designate from time to time;
- IV. "**Central Commission**" means the Central Electricity Regulatory Commission referred to in sub-section (1) of section 76 of the Act;
- V. "**Certificate**" means the Renewable Energy Certificate (REC) issued by the Central Agency in accordance with the procedures prescribed by it and under the provisions specified in the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010;
- VI. "**Commission**" means the Chhattisgarh State Electricity Regulatory Commission as referred in subsection (1) of section 82 of the Act;
- VII. "**Cogeneration**" means a process which simultaneously produces two or more forms of useful energy (including electricity);
- VIII. "**Existing RE Project**" means the renewable energy generating project declared under commercial operation from a date prior to April 01, 2021;
- IX. "**Floor price**" means the minimum price as determined by the Central Commission in accordance with Central Electricity Regulatory Commission (Terms and Conditions for recognition and issue of Renewable energy Certificate for Renewable Energy Generation) Regulations, 2010, as amended from time to time, at and above which the Certificate can be dealt in the power exchange;
- X. "**Forbearance price**" means the ceiling price as determined by the Central Commission in accordance with the Central Electricity Regulatory Commission

(Terms and Conditions for recognition and issue of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010, as amended from time to time, within which only the Certificate can be dealt in power exchange;

- XI. **"Hydro Purchase Obligation (HPO)"** means obligation to procure power from large hydropower projects which came into commercial operation after 08.03.2019 and power from untied capacity (i.e. without PPA) from the project commissioned before 08.03.2019;
- XII. **"Large Hydro Projects (LHP)"** means hydel power station with an installed capacity above 25 MW, which came into commercial operation after 08.03.2019;
- XIII. **"New RE Project"** means the renewable energy project whose date of commercial operation shall be on or subsequent to April 01,2021;
- XIV. **"Power Exchange"** means any exchange operating as the power exchange for electricity in terms of the order(s) issued by the Central Commission;
- XV. **"Obligated Entity"** means the distribution licensee(s), captive user(s), open access consumer(s) including a open access consumer meeting part of energy from distribution licensee & part through open access (non RE consumption) in the State of Chhattisgarh, who have to mandatorily comply with renewable purchase obligation under these Regulations subject to fulfilment of conditions outlined under Regulation 3;
- XVI. **"Quantum of purchase"** means the share of electricity from renewable sources required to be purchased by obligated entity(s), expressed on a percentage of its total consumption (LV, HV and EHV sales), as specified in these regulations.
- XVII. **"Renewable Energy Sources"** means renewable sources such as small hydel, wind, solar, biomass including bagasse, bio fuel cogeneration, urban or municipal waste, large hydro plants (which came into commercial operation after 08.03.2019) and such other sources as recognized or approved by MNRE;
- XVIII. **"Small Hydel Plant (SHP)"** means hydel power station with an installed capacity 25 MW and below, which includes mini hydel and micro hydel plants;
- XIX. **"State"** means the State of Chhattisgarh;
- XX. **"State Agency"** means the agency designated by the Commission from time to time to act as the agency for accreditation and recommending the renewable energy projects for registration and to undertake functions under these Regulations;
- XXI. **"Year"** means a financial year.

- 2.2 Words and expressions used and not defined in these Regulations but defined in the Act shall have the meanings assigned to them in the Act. Expressions used herein but not specifically defined in these Regulations or in the Act but defined under any law passed by a legislature and applicable to the electricity industry in the State shall have the meaning assigned to them in such law.

3. Obligated Entities and Operating Period:

The minimum percentage as specified under Regulation 4.3 shall be applicable to all Distribution Licensees in the State of Chhattisgarh as well as to open access consumers and captive users within the State of Chhattisgarh, subject to following conditions:

- I. Co-located and non co-located captive user(s) with connected load of 1 MW and above (or such other capacity as may be stipulated by order(s) of the Commission from time to time); shall be subjected to minimum percentage of Renewable Purchase Obligation (RPO) to the extent of its captive consumption met through captive generating plant.

Provided that the end users, who do not full fill the requirements as captive users as defined in Electricity Rules 2005 in a financial year, shall be subjected to minimum percentage of Renewable Purchase Obligation (RPO) to the extent of its consumption met through such power plant.

- II. Open access consumer of 1 MW and above (procuring non RE power) not having a supply agreement with distribution licensee in whose area of supply the consumer is located but availing supply of energy under the open access regulations from a person other than the distribution licensee of the area under Section 42(2) of the Act shall be subjected to minimum percentage of RPO to the extent of its energy consumption of non RE power.

Open access consumer of 1 MW and above who has a supply agreement with distribution licensee in whose area of supply the consumer is located and also has supply agreement with a person other than the distribution licensee under Open Access regulations shall also be subjected to minimum percentage of RPO to the extent of his consumption (non RE consumption) met through such other sources source.

Obligated entities consuming power in any year to the extent of total RPO specified under Regulation 4 from fossil fuel based co-generation power plant shall be exempted from the RPO. In case of consumption of obligated entities from such co-generation power plant is less than the total RPO specified under Regulation 4.3, such obligated entities shall be required to fulfil the RPO to the extent of shortfall.

Provided that the Commission may, by order(s), revise the minimum capacity referred to under sub-clause (I), sub-clause (II) and sub-clause (III) above from time to time.

Provided that quantum of renewable power procured/consumed by open access consumers and captive users shall be accounted for meeting RPO.

¹[The RPO framework outlined under these Regulations shall commence from the April01, 2021 and shall generally be applicable until March31, 2030 (i.e., upto the financial year 2029-2030). The RPO specified for the Financial Year 2029-30 shall be continued beyond 2029-30 till any revision is effected by the Commission in this regard.]¹

4. Quantum of Cogeneration and Renewable Purchase Obligation (RPO) for Obligated Entity

4.1 Computation of total consumption for RPO for obligated entities shall be as under:-

Sr.	Obligated Entity	Total Consumption
1.	Distribution licensee(s)	LV, HV plus EHV sales
2.	Co-located captive users	Gross generation minus auxiliary consumption minus total energy injected into the grid
3.	Non co-located captive users	Actual energy consumed by captive user from captive generating plant through grid
4.	Co-located end users who do not qualify as captive user under Electricity Rules 2005	Gross generation minus auxiliary consumption minus total energy injected into the grid
5.	Open Access consumer	Energy consumed by the Open Access consumer

4.2 ¹[All renewable energy purchase directly from generating stations or through trader or through power exchanges shall be considered for meeting the RPO;

For meeting the RPO, renewable power purchases made by the obligated entities under long term power purchase agreements with the biomass based generating plants and coal based thermal power plants co-firing bio-mass shall only be considered.

Purchases made by obligated entities from renewable energy sources other than biomass coal based thermal power plants co-firing bio-mass such as small hydel, large hydro, wind and solar under long-term, medium-term and short-term arrangements, will be considered for meeting the RPO.

Electricity generated from coal based thermal power plants including captive and co-generation power plants co-firing bio-mass shall be considered for meeting the RPO of obligated entities such as co-located, non co-located captive users and co-located end users who do not qualify as captive users under Electricity Rules 2005.

Methodology of estimation of electricity generated from biomass in biomass co-firing coal based thermal power plants, including captive and co-generation power plants co-firing biomass shall be as per Annexure A.]¹

4.3 The defined minimum percentages of RPO are given below in the Table 1.

Table 1: Minimum quantum of electricity in each category to be procured by Obligated Entity as percentage of total consumption¹[

Year	Solar	Non-Solar		Total
		HPO	Others	
2021-22	10.50%	0.18%	10.5%	21.18%

Year	Wind RPO	HPO	Other RPO	Total RPO
2022-23	0.81%	0.35%	23.44%	24.61%
2023-24	1.60%	0.66%	24.81%	27.08%
2024-25	2.46%	1.08%	26.37%	29.91%
2025-26	3.36%	1.48%	28.17%	33.01%
2026-27	4.29%	1.80%	29.86%	35.95%
2027-28	5.23%	2.15%	31.43%	38.81%
2028-29	6.16%	2.51%	32.69%	41.36%
2029-30	6.94%	2.82%	33.57%	43.33%

- (a) Wind RPO shall be met by energy produced from Wind Power Projects (WPPs), commissioned after 31st March 2022 and the wind energy consumed over and above 7% from WPPs commissioned till 31st March 2022.
- (b) HPO shall be met only by energy produced from Hydro Power Projects (including pumped storage projects (PSPs) and Small Hydro Projects (SHPs)), commissioned after 8th March 2019.
- (c) Other RPO may be met by energy produced from any RE power project not mentioned in (a) and (b) above.
- (d) Any shortfall remaining in achievement of ‘Other RPO’ category in a particular year can be met with either the excess energy consumed from WPPs, commissioned after 31st March 2022 beyond ‘Wind RPO’ for that year or with, excess energy consumed from eligible Hydro Power Projects (including PSPs and SHPs), commissioned after 8th March 2019 beyond ‘HPO’ for that year or partly from both. Further, any shortfall in achievement of ‘Wind RPO’ in a particular year can be met with excess energy consumed from Hydro Power Plants, which is in excess of ‘HPO’ for that year and vice versa.
- (e) The following percentage of total energy consumed shall be solar/wind energy along with/through storage.

FY	Storage (on Energy basis)
2023-24	1.0%
2024-25	1.5%
2025-26	2.0%
2026-27	2.5%
2027-28	3.0%
2028-29	3.5%
2029-30	4.0%

The Energy Storage Obligation in table above shall be calculated in energy terms as a percentage of total consumption of electricity and shall be treated as fulfilled only when at least 85% of the total energy stored in the Energy Storage System (ESS), on an annual basis, is procured from renewable energy sources.

The Energy Storage Obligation to the extent of energy stored from RE sources shall be considered as a part of fulfilment of the “Total RPO”.

Provided that RPO and energy storage obligation for the year 2022-23 & beyond shall be subject modification/amendments specified by MoP/MNRE from time to time, if any.]¹

Provided further that the power purchases under the long term power purchase agreements (PPA) for the purchase of renewable energy sources already entered into by the distribution licensees shall be continued till their present validity, even if the total purchases under such agreements exceeds the percentage as specified herein above and any such excess purchase by distribution licensees will be adjusted to meet the its obligation for previous years or for next year.

Provided further that the distribution licensees shall prepare a plan for procurement of power from RE sources under its long-term power procurement plan so as to comply with minimum RPO target as stipulated above.

Provided also that captive users, consuming electricity from captive generating plants (CGP), commissioned before 1st April 2016, shall have RPO target applicable for FY 2015-16, which is 1% solar and 6.25% non-solar.

Provided also that for CGPs commissioned after 1st April 2016 onwards, the RPO levels as specified in Regulations or MoP trajectory, whichever is higher, for the year of commissioning of the CGPs shall be applicable.

Provided also that in case of any augmentation in the capacity of the CGPs, the RPO for augmented capacity shall be the RPO applicable as specified in these Regulations for the year in which the CGPs have been augmented.

- 4.4 ¹[Such power purchase shall be made at tariffs determined by the Commission from time to time for procurement of power by distribution licensees or price discovered through competitive bidding as per the guidelines prescribed by MNRE. Long term purchase already contracted by the distribution licensees as per the orders of the Commission for biomass-based power plants, power generated from co firing of biomass in thermal power plants, small hydel plants or solar power plants in the State shall be reckoned for the purpose of the purchase obligation given above.]¹
- 4.5 While indicating the quantum of purchase from renewable sources, the distribution licensee(s) shall indicate the sources from which purchase of the specified quantum is planned. The distribution licensee(s) shall as far as possible shall source the proposed quantum of electricity from renewable sources within their respective areas of supply. However, non availability of such sources in the distribution licensee's area will not be accepted as a ground for exemption from the purchase obligation or for reduction in the quantum required to be purchased as per these regulations.
- 4.6 Every "Obligated Entity" may meet its RPO target by way of its own generation or procurement of power from RE developer or by way of power purchase from other licensee or by way of purchase of Renewable Energy Certificate (REC) or by way of combination of any of the above options.
- 4.7 The obligated entity may ensure adequate payment security mechanism for purchase of energy from renewable sources.

- 4.8 The Commission shall specify the renewable purchase obligation for next control period after three years. The purchase obligation as under clause 4.3 above shall be valid till it is revised by the Commission.
- 4.9 Non-compliance of purchase obligation under clause 4.3 shall be treated as a violation of these regulations and punishable under the provisions of Section 142 of the Act.

5. Certificates under the Regulations of the Central Commission

- 5.1 Subject to the terms and conditions contained in these Regulations, the Certificates issued under the Central Electricity Regulatory Commission's (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and its subsequent amendments shall be the valid instruments for the discharge of the mandatory obligations set out in these Regulations for the obligated entity to purchase electricity from renewable energy sources.

Provided that in the event of the obligated entity fulfilling the renewable purchase obligation by purchase of certificates, the obligation to purchase electricity from generation based on renewable energy other than solar can be fulfilled by purchase of non-solar certificates and the obligation to purchase electricity from generation based on solar as renewable energy source can be fulfilled by purchase of solar certificates only during the control period.

- 5.2 Subject to such direction as the Commission may give from time to time, the obligated entity shall act consistent with the Central Electricity Regulatory Commission's (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and its subsequent amendments notified by the Central Commission with regards to the procurement of the certificates for fulfilment of the RPO under these Regulations.
- 5.3 The photocopy of Renewable Energy Certificates purchased by the obligated entity from the power exchange in terms of the regulations of the Central Commission mentioned in clause 5.1 and 5.2 of these Regulations shall be produced by the obligated entities to the State agency within 15 days of its purchase.

6. State Agency

- 6.1 Chhattisgarh State Renewable Energy Development Agency (CREDA) is designated as State Agency for accreditation and recommending the renewable energy projects for registration. CREDA shall undertake functions under these Regulations.
- 6.2 The State Agency shall function in accordance with the directions issued by the Commission and shall act in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and its subsequent amendments or enactments.
- 6.3 The State Agency shall develop suitable protocol for collection of information from various sources such as renewable energy generating companies, obligated entities, SLDC, chief electrical inspector etc., on regular basis and compile such information to compute the compliance of RPO target by such Obligated Entities.

- 6.4 The summary statement of RE procurement and RPO compliance by different Obligated Entities shall be published by the State Agency on cumulative basis quarterly by 15th of next month on its website.
- 6.5 The State Agency shall submit quarterly status by 15th of next month to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission, if required, for compliance of the renewable purchase obligation.
- 6.6 The Commission may from time to time fix the remuneration and charges payable to the State Agency by an order towards discharge of its functions under these Regulations if required.
- 6.7 If the Commission observes that the State Agency is not able to discharge its functions satisfactorily, it may by general or special order, and by recording reasons in writing, designate any other agency to function as State Agency as it considers appropriate.
- 6.8 The Commission may by an Order assign any other responsibility to the State agency as it deems fit for the discharge of its function under these regulations.

7. Distribution Licensee(s)

- 7.1 Each distribution licensee shall indicate, along with sufficient proof thereof, the estimated quantum of purchase from renewable energy sources for the ensuing year in tariff/ annual performance review petition in accordance with Regulations notified by the Commission. The estimation of quantum of renewable energy purchase for the ensuing year(s) in Tariff Order shall be in accordance with clause 4.1 and 4.3 of these Regulations. In the event the actual energy consumption (as per clause 4.1 and 4.3) by the distribution licensee being different from that as estimated in the Tariff Order by the Commission, the RPO in MUs shall be deemed to have been modified in accordance with percentages fixed in clause 4.3 of these Regulations.

Illustration:

Suppose if, estimated EHV sales of the distribution licensee A is 3697.17 MU and LV & HV sales is 22370.70 MU for the year 2021-22. RPO is required to be estimated from the quantum 26067.87 MU. From these estimated figures, the solar obligation estimated is 2737.12 MU (i.e. 10.5%), hydro power obligation is 46.92 MU (i.e. 0.18%) and other non-solar obligation is 2737.12 MU (i.e. 10.5%). Now after the end of year 2021-22, if the actual EHV sales is 3600 MU and LV & HV sales is 24400 MU, which is at variance from figures as estimated in the Tariff Order for the year 2021-22, RPO will be derived from quantum 28000 MU. Now according to the actual figures, the modified solar, hydro power and other non-solar obligation for year 2021-22 will be 2940 MU, 50.4 and 2940 MU respectively.

- 7.2 Each distribution licensee shall have to submit necessary details regarding total purchases and consumption of electricity and purchase of energy from renewable sources for fulfilment of RPO on monthly basis to the State Agency.
- 7.3 Any excess purchase of renewable energy or the REC procured by distribution licensee(s) for meeting the RPO in any year shall be considered for meeting the RPO for the subsequent years only after meeting the cumulative deficit (backlog) RPO of

previous years. Further, after meeting the previous years' shortfalls, surplus left, if any, may be carried over to next year for meeting the RPO of the next year only.

- 7.4 If the distribution licensee fails to fulfil the minimum quantum of purchase from renewable energy sources i.e. RPO, it shall be liable for action as per clause 9 of these Regulations.

Provided that, while monitoring the RPO compliance of the distribution licensees, the Commission shall consider its impact on the retail tariff of the consumers of the State.

8. Captive User(s) and Open Access Consumer(s)

- 8.1 The quantum of RPO mentioned in clause 4.3 of these Regulations shall be applicable to captive user(s) and open access consumer(s) from the April 01, 2021. Captive user(s) and open access consumer(s) may fulfil its RPO through the Renewable Energy Certificates as provided in clause 4 above.

Provided that captive user(s) and open access consumers consuming power in any year to the extent of RPO specified under Regulation 4.3 from fossil fuel based co-generation power plant shall be exempted from the RPO.

- 8.2 Every Captive user(s) and open access consumer(s) shall have to submit necessary details regarding total consumption of electricity and purchase of energy from renewable sources for fulfilment of RPO on monthly basis to the State Agency.
- 8.3 Any excess purchase of renewable energy or the REC procured by captive user(s) and open access consumer(s) for meeting the RPO in any financial year shall be considered for meeting the RPO for the next financial year.
- 8.4 If the Captive user(s) and Open Access consumer(s) are unable to fulfil the criteria, the shortfall of the targeted quantum would attract compensation as per clause 9 of these Regulations.
- 8.5 In case obligated entities are different units of single legal entity and located at different places within the State, combined RPO purchased by such legal entity shall be reckoned for the purpose of meeting RPO.

9. Consequences of default

- 9.1 If an obligated entity does not fulfil the renewable purchase obligation as provided in these Regulations during any financial year, the Commission may direct the Obligated Entity to maintain a separate fund for such amount as the Commission may determine on the basis of the shortfall in units of RPO and the forbearance price decided by the Central Commission.

Provided that the fund so created shall be utilised, as may be directed by the Commission.

Provided that the obligated entities shall not be authorized to use the fund created in pursuance of the above, without prior approval of the Commission.

Provided further that the Commission may empower an officer of the State Agency to procure required number of certificates to the extent of the shortfall in the fulfilment of the obligations, out of the amount in the fund.

Provided also that the obligated entity shall be in breach of its RPO Obligation, if it fails to deposit the amount directed by the Commission within specified time from the communication of the direction.

Provided that in case of any genuine difficulty in complying with the renewable purchase obligation because of non-availability of power from renewable energy sources or the RECs, the obligated entity can approach the Commission to carry forward the compliance requirement to the next year only.

Provided further that where the Commission has consented to carry forward of compliance requirement, the provision regarding creation of such fund as specified above shall not be applicable.

10. Priority for Grid Connectivity

- 10.1 Any person generating electricity from renewable energy sources, irrespective of installed capacity, shall have priority for open access, connectivity with distribution system or transmission system as the case may be. On an application from such person, the transmission licensee or distribution licensee, as the case may be, shall provide appropriate interconnection facilities, as far as feasible, before commissioning of the renewable energy project. Such interconnection shall follow the grid connectivity standards as specified in the Indian Standard Grid Code, State Grid Code and/or the manner prescribed by the Central Electricity Authority.

11. Renewable Energy Pricing

- 11.1 All the new renewable energy projects commissioned during the Control Period as specified above, shall have an option of following either the tariff structure and other conditions as stipulated in the Chhattisgarh State Electricity Regulatory Commission (Terms and conditions for determination of generation tariff and related matters for electricity generated by plants based renewable energy sources) Regulations, 2019 and its review/amendments from time to time and/or adopt the REC mechanism for pricing of the electricity generated from the project.

Provided that such a renewable energy generating plant having entered into a long term power purchase agreement for sale of electricity at a preferential tariff shall not, in case of premature termination of the agreement, be eligible for participating in the Renewable Energy Certificate (REC) scheme for a period of three years from the date of termination of such agreement or till the scheduled date of expiry of power purchase agreement whichever is earlier, if any order or ruling is found to have been passed by an Appropriate Commission or a competent court against the generating company for material breach of the terms and conditions of the said power purchase agreement.

Provided that such projects that opt for either preferential tariff or REC mechanism or the mix thereof, shall have to continue with the selected pricing mechanism for the entire Tariff Period or until validity of PPA; whichever is later, as outlined under Chhattisgarh State Electricity Regulatory Commission (Terms and conditions for determination of generation tariff and related matters for electricity generated by plants based renewable energy sources) Regulations, 2012 and its review/amendments from time to time.

Provided further that such new renewable energy project shall exercise its choice for selection of appropriate Pricing Mechanism prior to execution of the PPA with distribution licensee or with open access consumer, as the case may be.

- 11.2 The REC mechanism entails pricing of two components, namely, electricity component and renewable energy component or REC component representing environmental attributes of renewable energy generation. For the purpose of the Operating Period from FY 2021-22 to FY 2023-24, the effective electricity component price for the year shall be equivalent to Pooled Cost of power purchase excluding renewable energy of the host Utility for the previous year in whose area of jurisdiction such RE generation project is situated, whereas, the price of RECs shall be as discovered in the Power Exchanges.

Explanation - for the purpose of this Regulation, “Pooled Cost of Power Purchase” means the weighted average pooled price at which the distribution licensee has purchased the electricity including cost of self generation, if any, in the previous year from all the long-term and short-term energy suppliers, but excluding those based on renewable energy sources, as the case may be.

Provided that the Central Commission may, in consultation with the Central Agency and Forum of Regulators, from time to time provide for the floor price and forbearance price separately for solar and non-solar RECs (renewable energy component);

Provided further that, with the progressive development of the electricity sector, the pricing methodologies for Electricity component and REC shall be reviewed at periodic intervals as may be considered by the Commission.

- 11.3 Tariff rate, tariff structure and other conditions for existing renewable energy project(s) have already been covered under respective renewable energy Tariff Orders issued by the Commission and the same shall continue to be operative as amended from time to time during the Operating Period, FY 2021-22 to FY 2023-24.
- 11.4 The consumers procuring power from RE sources through open access route shall be required to pay cross-subsidy surcharge, if any, as per conditions of the open access regulations/or Order as specified by the Commission.

12. Power to remove difficulties

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

13. Power to relax

- 13.1 The Commission may by general or special order, for reasons to be recorded in writing, relax 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

Secretary

¹[Annexure-A**Methodology estimation of electricity generated from biomass in biomass co-firing coal based thermal power plants, including captive and co-generation power plants co-firing biomass**

The methodology specified hereunder is to be followed by generating companies, State Load Dispatch Centre, State Agency for estimating electricity generated from biomass co-firing coal based thermal power plants, including captive and co-generation power plants co-firing biomass.

Step-1:

1. The electricity generated from biomass shall be estimated at generator terminal on monthly basis in accordance with the following formulae:

$$Eb(G) = [(Qb \times Gb) / ((Qc \times Gc) + (Qb \times Gb))] \times E(GT)$$

Where,

$Eb(G)$ = Electrical energy generated by biomass at generator terminal during the month (kWh);

Qb = Quantity of biomass consumed during the month (kg)

Gb = Weighted average Gross Calorific Value (GCV) of biomass consumed during the month (kCal/kg), as specified in the CSERC RE Tariff Regulations

$E(GT)$ = Gross electrical energy generated at generator terminal during the month (kWh)

Qc = Quantity of coal burnt during the month (kg)

Gc = Weighted average GCV of coal burnt during the month (kCal/kg)

2. The product ($Qb \times Gb$) represents heat (in kCal) input through biomass during the month and shall be estimated on monthly basis by applying the following formulae:

$Qb \times Gb$ (kCal) = {Opening balance of biomass (kg) x weighted average GCV of opening balance of biomass (kCal/kg)}

+ {quantity of biomass received during the month (kg) x weighted average GCV of biomass received during the month (kCal/kg)}

- {closing stock of biomass (kg) x weighted average GCV of the closing balance of biomass (kCal/kg)}.

3. The product ($Qc \times Gc$) represents heat (in kCal) input through coal during the month and shall be estimated on monthly basis by applying the following formulae:

$Qc \times Gc$ (kCal) = {Opening balance of coal (kg) x weighted average GCV of Opening balance of coal (kCal/kg)}

+ {quantity of coal received during the month (kg) x weighted average GCV of coal received during the month (kCal/kg)}

- {closing stock of coal (kg) x weighted average GCV of the closing balance of coal (kCal/kg)}

Step-2:

4. The ex-bus electrical energy generated by using biomass shall be estimated on monthly basis by applying following formulae:

$$Eb(\text{ex-bus}) = Eb(G) \{1 - [(E(GT) - ESO)/E(GT)]\}$$

Where,

$Eb(\text{ex-bus})$ = Electrical energy generated by biomass ex-bus during the month (kWh);

$Eb(G)$ = Electrical energy generated by biomass at Generator terminal during the month arrived at Step-1(kWh);

$E(GT)$ = Total electrical energy generated at generator terminal during the month (kWh);

ESO = Total energy sent out (ex-bus) during the month (kWh).

5. The generating company shall provide information to the beneficiaries and State Agency related to biomass uses and monitoring mechanism/power to get statistics for the use of biomass fuel shall be as per provisions specified in prevailing CSERC RE Tariff Regulations for biomass and co-generation plants. State Agency shall verify electricity generated from biomass co firing in power generating plants.

Monthly fuel and GCV accounts as maintained by generating station shall be made available to authorized representative/s of beneficiaries and SLDC on demand.]¹