

# **CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Date of order: 30<sup>th</sup> December, 2014**

## **STATEMENT OF REASONS**

**The Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Third Amendment) Regulations, 2014.**

### **1. Introduction**

- 1.1 The Central Commission, in due discharge of its responsibility for market development under section 66 of the Electricity Act, 2003 created the market based framework viz., renewable energy certificate and notified the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 (hereinafter Principal REC Regulations) vide notification dated 14th January, 2010. As mentioned in the Statement of Reasons issued along with the regulations, the concept of renewable energy certificate seeks to address the mismatch between availability of renewable energy sources and the requirement of obligated entities to meet their renewable purchase obligations. The REC mechanism is aimed at promoting additional investment in the renewable energy projects and providing an alternative mode to the RE generators for recovery of their costs.
- 1.2 The Commission made amendment to Regulation 5 of the Principal REC Regulations vide notification dated 29.09.2010 (hereinafter First Amendment Regulations). Subsequently, the Commission also made amendment to the Regulations 2, 5, 7, 8, 9 and 10 of the Principal REC Regulations vide notification dated 10.07.2013 (hereinafter Second Amendment Regulations). The principal objective of the Amendments was to provide clarity on applicability of the regulations to eligible entities and to bring in certain essential checks and balances in the REC related processes.
- 1.3 The Commission in its endeavor to strengthen the REC framework and address some of the design issues and remove ambiguities which are affecting its implementation, initiated the exercise of amendment to the REC Regulations and issued, vide public notice No.L-1/12/2010-CERC dated 30.09.2014, the draft of Central Electricity Regulatory

Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Third Amendment) Regulations, 2014 (hereinafter referred to as the draft Third Amendment REC Regulations) along with explanatory memorandum for inviting comments/ suggestions/ objections thereon. Last date of submission of comments / suggestions /objections was 30.10.2014. In response to the same, 87 stakeholders submitted their written comments /suggestions. The list of stakeholders who submitted written comments is enclosed as **Annexure-I**.

- 1.4 Subsequently, public hearing was held on 10.11.2014 to hear views of the stakeholders. The list of stakeholders who expressed their views/suggestions/comments in person is enclosed as **Annexure II**.

## **2. Consideration of the views of the stakeholders and analysis and findings of the Commission on important issues**

- 2.1 The following issues were proposed to be addressed through the present amendment:
  - i. Issue of eligibility for certificates to the distribution licensee for procurement of renewable energy beyond their renewable purchase obligation (RPO) target
  - ii. Issue of REC for sale of power to the distribution licensee of the area in which the eligible entity is located or sale at rate discovered at power exchange.
  - iii. Issuance of certificates to Captive Generating Plant (CGP), renewable energy generators selling electricity component to third party through open access at mutually decided rate
  - iv. REC pricing: Vintage Multiplier for solar projects
  - v. Validity period for RECs
- 2.2 Analysis of the views/comments/suggestions of the stakeholders and the Commission's decisions thereon are given in succeeding paragraphs.

## **3. Eligibility for certificates to the distribution licensee for procurement of renewable energy beyond their renewable purchase obligation (RPO) target**

- 3.1 The Commission in its draft Third Amendment proposed issuance of certificates to the distribution licensee beyond the renewable energy purchase obligation target. The said proposed amendments were as under :

***“Amendment of Regulation 5 of principal regulations: A new clause (1A) shall be added after clause (1) of Regulation 5 of the Principal Regulations as under:***

*(1A) A distribution licensee shall be eligible to apply for registration with the Central Agency for issuance of and dealing in Certificates if it fulfils the following conditions:*

*(a) It has procured renewable energy, in the previous financial year, at a tariff determined under Section 62 or adopted under Section 63 of the Act, in excess of the renewable purchase obligation as may be specified by the Appropriate Commission or in the National Action Plan on Climate Change or in the Tariff Policy, whichever is higher*

*Provided that the renewable purchase obligation as may be specified for a year, by the Appropriate Commission should not be lower than that for the previous financial year.*

*b) It has obtained a certification of procurement of renewable energy as provided in sub - clause (a) of this regulation, from the Appropriate Commission.*

*In clause (2) of Regulation 5, the words “or the distribution licensee, as the case may be” shall be added after the words “The generating company”.”*

### 3.2 Comments received

**3.2.1** We support the proposal of the Commission for issuance of RECs to the Discoms **(Reliance Infrastructure Limited)**

**3.2.2** The proposal of issuing REC to Discoms in excess of RPO is vehemently opposed as this action will completely shut-off open access in the country. Such a change will create a strong perverse incentive for Discoms to deny open access to RE. Discoms enjoy huge bargaining power vis-a-vis generators as they have to approve the PPA, approve open access, approve connectivity and commissioning and several others aspects of the commissioning and operation of the generation plant. It is likely that the Discoms will use these discretionary powers to arm twist projects to sign preferential PPAs. It will also create an incentive for Discoms to resist change in the preferential tariffs as they will force generators to sign PPAs by denying open access. It is suggested that the following two conditions be added: (1) The Discom has not received waiver of RPO in any of the previous years and if carry forward was allowed in the past, then no outstanding compliance remains from such carry forward; (2) The preferential tariff set by the State Commission is equal to or higher than the preferential tariff suggested by CERC. **(Bhilangana Hydro Power Limited)**

**3.2.3** There is already a surplus inventory of RECs in the market which have remained unsold on account of non-compliance by the obligated entity. In order to protect the interest of RE generators, the distribution licensee may be entitled to claim RECs only on the surplus energy left with them after fulfilling their respective RPOs for three subsequent financial years from the date of availability of the said surplus energy. **(Shree Renuka Sugar Limited)**

**3.2.4** Proposal of issuance of REC to Discom is a welcome step. While the interest of such States procuring excess power is protected, at the same time no duty has been cast on the defaulting States who fail to meet their RPO target. It is therefore suggested that a provision be made in the Regulations mandating the State Discoms to seek budget to achieve the target set by the SERC in the tariff order of the relevant Discom. It is further suggested that the State Discoms may be mandated to procure RECs in case of shortfall in meeting RPO. (**Punjab Energy Development Agency**)

**3.2.5** Discoms have been exempted from accreditation with State Agency. It is suggested that all the eligible entities should be kept at par and given similar treatment. Being eligible entity, Discoms should also apply for accreditation with State Agency and Registration with Central Agency. (**Punjab Energy Development Agency**)

**3.2.6** We are vehemently opposing the Commission's proposal. Distribution licensee is having powers to sign PPA, issue open access permission/approvals, etc. and due to the proposed change, distribution licensee may force the generator to sign power purchase agreement (PPA) on preferential tariff instead of providing open access permission/approval. (**Indian Biomass Power Association**)

**3.2.7** Obligated entities should not get RECs at least for old period and old projects, as already big inventory is there and allowing them RECs as proposed will further kill us. Such RECs issued can be sold only if all other RECs get sold in a particular one trading session. (**Hindustan Platinum Private Limited**)

**3.2.8** Instead of allowing Discom to procure REC, the excess renewable power procured by them may be allowed by each SERC to be carried forward in the next FY. If Discoms are allowed to obtain and dump RECs in the market, it would further increase the already vast REC inventory. Any step which would further increase the REC supply so drastically should not be taken at this juncture of the market. Only after RPO enforcement is strictly implemented in all States that any such move be considered. (**RSM GC Advisory**)

**3.2.9** We strongly object to the proposed amendment to allow distribution licensees to be considered eligible for availing RECs even when they have procured renewable power under preferential tariff route (Section 62). The proposed amendment is not only against the market principles but also contradicts the basic premise of REC framework wherein RECs are NOT to be issued for projects developed through preferential tariff route. Another important aspect to be considered here is discriminatory treatment being introduced through proposed REC amendment amongst the class of Obligated Entities. The proposed amendment seeks to consider only Distribution Licensees to be eligible for availing RECs, whereas there are other class of Obligated Entities as well i.e. Captive Users and Open Access Consumers, which have not been considered under proposed amendment for eligibility of RECs. In fact, monitoring, compliance and enforcement of these classes of obligated entities (i.e. captive users and Open access consumers) have not been initiated in many States so far. Without addressing these

issues, it would be unfair to introduce REC amendment only for the select class of Obligated Entities, which is discriminatory. (**InWEA**)

- 3.2.10** We request the Hon'ble Commission to consider allowing such dispensation only for DISCOMs that demonstrate surplus in RPO compliance for at least three consecutive yearly periods. Suitable provisos may be introduced to that effect. (**InWEA**)
- 3.2.11** InWEA would like to humbly submit that the present market condition is not conducive to such amendments and would tilt the balance in favour of utilities. If all the DISOMS are to be issued REC, the conditions - of not refusing APPC PPAs, meeting RPO for three consecutive years and RPO more than the previous year, must be included to retain the balance in the market. (**Indian Wind Energy Association**)
- 3.2.12** Any non-fulfillment of past year RPOs (including waived or carried forward RPO) shall be adjusted first and balance additional procurement beyond National level target or State level target, whichever is higher should be considered for issuance of RECs to the Distribution Licensees. (**Wind Independent Power producers Association, Continuum Wind Energy (India) Pvt. Ltd.**)
- 3.2.13** The proposal to allow REC to any obligated entity is opposed (**Suryashakti, Systematic Enterprises, Flow Devices Systems, INWEA**)
- 3.2.14** The proposal to allow REC to any obligated entity is opposed. It seems to incentivize the obligated entity and penalize the investor who wants to contribute for renewal source of energy (**Shriji Polymers**).
- 3.2.15** The obligated entity should not get RECs atleast for past periods and old projects. (**Hindustan Platinum**).
- 3.2.16** Provision should be made simultaneously in the REC Regulations requiring the State Discoms to seek budget for achieving the RPO targets set by the SERCs and State Regulators to provide for the budget in the Tariff Order of that year itself. Further, State Discoms need to be mandated to procure the RECs for the shortfall from the Power Exchange in the relevant year itself. The Regulations should debar the SERCs to allow carry forward of the shortfall in the RPO. (**KRBL, Punjab Energy Development Agency, Manikaran Power**)
- 3.2.17** Obligated entities should not be allowed RECs as this is not their business to buy solar power and sell RECs. This will lead to windfall profit for Discoms. (**India Vidhya Power**)
- 3.2.18** Issuance of RECs to the obligated entity will increase the supply of RECs – which might lead to piling up of REC inventory (**CLP Wind, Inox Wind, IWTMA, Inox Renewables, RSM**)
- 3.2.19** For issuance of RECs to the obligated entity there must be two further restrictions (a) The discom has not received waiver of RPO in any of the previous years, and if carry-forward was allowed in the past then no outstanding compliance remains from such carry forward (b) The preferential tariff set by the State commission is equal to or higher than the preferential tariff suggested by CERC for the category of RECs that are

proposed to be applied for by the discom. (**Bhilangana Hydro Power,Ginni Global,Kanoria Chemicals, RE connect**)

- 3.2.20** This clause should also be made applicable to the CGPs for the renewable power generated & consumed by them over and above the National Action Plan on Climate Change (NAPCC) targets or in tariff policy whichever is higher. (**Himachal Small Hydro Power Association**)
- 3.2.21** A distribution licensee shall get eligibility to apply for registration with the Central Agency for issuance of and dealing in certificates only if it has procured renewable energy in excess of renewable purchase obligation as may be specified by the Appropriate Commission or in the National Action Plan on Climate Change or in the Tariff policy whichever is higher from the date of the applicability of the order till the previous financial year. (**Tata Power**)
- 3.2.22** Distribution licensees may be entitled to claim RECs only on the surplus energy left with them after fulfilling their respective RPOs for three subsequent financial years from the date of availability of the said surplus energy. (**Renuka Sugar**)
- 3.2.23** The distribution licensee should be given category 2 status where the REC of category 2 entity will be sold only after the complete sale of category 1 REC offered in any trading session. (**Solar Power Society**)
- 3.2.24** To allow half certificates of REC for distribution utilities on purchase of energy over and above the RPO fixed by SERC's from time to time- (**Mytrah Energy, Indian Wind Power association**)
- 3.2.25** TANGEDCO appreciates the proposal of the Commission to bring the Distribution Licensees of RE rich States like Tamil Nadu as eligible entity to participate in the REC market. It is requested that since the REC scheme has been introduced in 2010, and TANGEDCO purchased RE power over and above the RPO target from 2011, the CERC may kindly consider that the TANGEDCO should be made eligible for REC retrospectively from 2011-12. (**TANGEDCO**)
- 3.2.26** The draft notification dated 30.09.2014 to amend the CERC regulations on REC is realistic and forward looking. The amendment provides for eligibility of REC against renewable energy procured in excess of RPO. For all intents and purposes, it seems appropriate. To avoid varied interpretation, such as in case of Himachal Pradesh, where surplus RE procured by distribution licensee is sold to other obligated entities as renewable power, it will be appropriate to re-word 1A (a) as " (a) it has procured renewable energy and supplied within its area, in previous financial year.....is higher" (**HPERC**).
- 3.2.27** CERC may kindly clarify that captive/third party solar rooftops injecting power directly into consumer system shall also be eligible for REC. All State Commissions provide for measurement and recording of such internally injected energy, which is duly recorded by the utility while taking consumer/main meter reading. (**Hindustan Power**)

- 3.2.28** Clarity required on whether non-solar and solar RPOs combined would be considered for issuance. (**InWEA, IREF**)
- 3.2.29** The proposed amendment is against market principles and contradicts REC framework wherein RECs are not to be issued for projects developed through preferential tariff routes. Such amendment should only be allowed for Discoms that demonstrate surplus in RPO compliance for at least two consecutive yearly periods. (**IREF**)

### 3.3 Analysis and Decision

Introduction of REC framework is aimed at increasing the overall renewable energy capacity in the country. It provides an alternative option for the Obligated Entities to meet their RPO target. However, given the relatively higher cost of generation from renewable energy sources, the distribution licensees are generally reluctant to purchase renewable energy beyond their RPO. In fact, a majority of the distribution licensees reportedly do not even fulfill the minimum level of RPO target, much less going beyond their RPO target. **This is a serious issue and the solution to this lies with the State Commissions as the Central Commission does not have jurisdiction over RPO setting or compliance. This has been highlighted in the Forum of Regulators (FOR) meetings on a number of occasions.** This Commission believes that the State Commissions will take appropriate steps to address this aspect and enforce RPO compliance in the larger interest of energy security in the country.

Any policy or regulatory framework, the Commission feels, should have deterrents against non-performance as well as incentives for better performance. While deterrent against non-compliance of RPO is a necessity, it is equally important to consider a framework for incentivizing procurement of RE power. Issuance of certificates to the distribution companies is definitely an inducement for procurement of renewable energy beyond the RPO targets. The NAPCC also recognizes the concept of issuance of certificates in event of excess renewable power purchase beyond the national target:

*Para 4.2.2 (ii) "...CERC may also issue certificates to SERCs that procure renewables based power in excess of the national standard. Such certificates may be tradable among SERCs, to enable SERCs falling short to meet their renewables standard obligations...."*

Many stakeholders have raised an apprehension that issuance of RECs to the distribution licensees will inundate REC market. The Commission would like to clarify that the issuance of certificates to the eligible distribution licensees will be applicable only from the financial year preceding the year of issuance of the notification of this regulation and shall not be applicable on retrospective basis.

Some stakeholders have submitted that the eligible distribution licensee should also follow the accreditation and registration procedure as followed by the RE generators. The

Commission is in agreement with the suggestions received and directs the Central Agency to frame necessary procedure in this regard and seek approval of the Commission.

Some of the stakeholders have also submitted that time limit should be specified for obtaining certification from the Appropriate Commission. Accordingly, the Commission in the final regulation has incorporated appropriate timelines within which the eligible distribution licensee has to approach the Appropriate Commission.

Some of the stakeholders have also submitted that any non-fulfillment of RPO in the past years, any waiver or carry forward of RPO by the Appropriate Commission in the previous year, should be adjusted before issuance of RECs to the distribution licenses. The Commission is in agreement with the suggestions and has decided to incorporate such conditions in the final Regulations as under:

***“Amendment of Regulation 5 of principal regulations: A new clause (1A) should be added after clause (1) of Regulation 5 of the Principal Regulations as under:***

*(1A) A distribution licensee shall be eligible to apply for registration with the Central Agency for issuance of and dealing in Certificates if it fulfils the following conditions:*

*(a) It has procured renewable energy, in the previous financial year, at a tariff determined under Section 62 or adopted under Section 63 of the Act, in excess of the renewable purchase obligation as may be specified by the Appropriate Commission or in the National Action Plan on Climate Change or in the Tariff Policy, whichever is higher*

*Provided that the renewable purchase obligation as may be specified for a year, by the Appropriate Commission should not be lower than that for the previous financial year.*

*Provided further that any shortfall in procurement against the non-solar or solar power procurement obligation set by the Appropriate Commission in the previous three years, including the shortfall waived or carried forward by the said Commission, shall be adjusted first and only the remaining additional procurement beyond the threshold renewable purchase obligation – being that specified by the Appropriate Commission or in the National Action Plan Climate Change or in the Tariff Policy, whichever is higher - shall be considered for issuance of RECs to the distribution licensees.*

*b) It has obtained a certification from the Appropriate Commission, towards procurement of renewable energy as provided in sub - clause (a) of this regulation.*

*In clause (2) of Regulation 5, the words “or the distribution licensee, as the case may be” shall be added after the words “The generating company”.*

#### **4. Issue of REC for Sale of power to the distribution licensee of the area in which the eligible entity is located or sale at rate discovered at power exchange.**

The Commission proposed amendment to Regulation 7 of the Principal Regulations as under:

*The following new clauses shall be added under Regulation 7 of the Principal Regulations as under:*

*“(7) An eligible entity that sells the electricity generated to the distribution licensee of the area in which the eligible entity is located, at the pooled cost of power purchase of such distribution licensee as determined by the Appropriate Commission or sells electricity at the rate discovered at the power Exchange, shall be issued one Certificate for one Megawatt hour of electricity generated from renewable energy source and injected into the grid.*

##### **4.1 Comments received**

- 4.1.1 It is suggested that the newly added clause 7 of Regulation 7 should be worded as under –  
“An eligible entity that sells the electricity generated to the distribution licensee of the State” instead of “distribution licensee of the area.” This will ensure that all the distribution companies in State will have equal opportunity in purchasing power from RE projects. (**Reliance Infrastructure Limited**)
- 4.1.2 The area should be defined properly. (**Torrent Power**)
- 4.1.3 Sale of electricity through power exchanges comes under OA in collective transaction category. Presently on Power Exchange Platform, sale of RE is not separately monitored. The same will be a tedious task. In fact in explanatory memorandum it has been mentioned that eligible RE generators mainly fall under three categories. Viz. APPC, CGP and OA route. Accordingly it is suggested to remove this category under this clause. (**Power System operation Corporation Private Limited, REConnect Energy Solutions Limited, Kanoria Chemicals and Industries Limited**)
- 4.1.4 The sentence “the rate discovered at the power exchange” should be replaced by “at the power exchanges in the day ahead market.” (**IEX**)
- 4.1.5 The Commission has proposed that the power traded through the exchange will be given 1:1 RECs even though the projects traded under Open Access which is arbitrary and should be struck off. These projects should be treated at par with Open Access Projects. (**Dinesh K. Patel**)
- 4.1.6 There should be equity among traders vis-à-vis Exchanges and intent of multiplier for third party and CGP should be applicable for sale of power on power exchanges. Issuance of RECs for sale on power exchange should depend on rate of realization at power exchange (**Association of Power Traders**)

## **4.2 Analysis and Decision**

One of the stakeholders has suggested that the eligible entity that sells the electricity generated at APPC to any distribution licensee of the State should be made eligible for issuance of RECs. The eligibility criteria is defined in Regulation 5 of the CERC REC Regulations and no amendment to the same has been proposed. As such, this suggestion is beyond the scope of the present regulatory dispensation.

The Commission is in agreement with the suggestions that the power traded through power exchange should be at par with that transacted through Open Access. However, the proposition of adding the new clause (7) under Regulation 7 is being kept in abeyance for the moment in view of the decision of the Commission (explained in subsequent paras) in the context of the proposal for addition of clauses (8) and (9) under Regulation 7.

## **5. Issuance of certificates to Captive Generating Plant (CGP), renewable energy generators selling electricity component to third party through open access at mutually decided rate**

The Commission proposed amendment to Regulation 7 of the Principal Regulations as under:

*The following new clauses shall be added under Regulation 7 of the Principal Regulations as under:*

*(8) An eligible entity that sells the electricity generated to any other licensee or to an open access consumer at a mutually agreed price shall be issued Half Certificate for one Megawatt hour of electricity generated from renewable energy source and injected into the grid.*

*(9) An eligible entity which is a CGP based on renewable energy sources shall be issued Half Certificate for self-consumption of one Megawatt hour electricity generated from renewable energy source.*

### **5.1 Comments received**

**5.1.1 Stakeholders like Ujaas, TNPL, Indian Sugar Mills Association, Green Infra, ITC, Essar Power, Enrich, Hero Future Engines, CVK Solar, RSM, Indian Biomass Power Association, WIPPA, UP sugar mills Cogen, Renuka Sugar, REC stakeholder forum, Continuum Wind, Mytrah Energy, Indian Wind Power Association,**

**InWEA, Hindustan Power** have opposed the differentiation in REC issuance for captive, open access and APPC.

- 5.1.2 Some stakeholders (**Suryashakti**) have opposed change in REC multiplier in case of sale to Third Party or Open Access as it leads to lower revenues and loss for the developer.
- 5.1.3 Captive user and open access projects should also get the same REC multiplier as given to projects selling power at APPC atleast till REC market is stabilized and all obligated entities start buying RECs. (**Shriji Polymers**)
- 5.1.4 Multiplier for APPC and open access should remain the same. The reason the project developers choose open access is because the State Electricity Board gives payment in 5-6 months (**Gupta Sons, Friends Salt Works, Flow Devices Systems**)
- 5.1.5 Multiplier should be rounded off to 3.60 instead of 3.58. (**Gupta Sons**)
- 5.1.6 There should not be any difference between APPC and open access. The calculations are done based on wind projects and these are not valid on solar projects as radiation level of each State is different and REC not getting sold is also a big risk and multiplier does not incorporate this. (**Hindustan Platinum, Friends Salt Works, Windsor Exports, IREF**)
- 5.1.7 Multiplier should be rounded off to 3.60 instead of 3.50 (**Gupta Sons, Hindustan Platinum**).
- 5.1.8 Large variations in State tariffs are there and Average energy shows variation from Rs 4.53 to Rs 8.62 per unit. This requires State specific “Multiplying Factors”. (**KRBL**)
- 5.1.9 There should not be multiplier for separate category of power sale for existing plants (**Indra Vidhya Power**)
- 5.1.10 REC issuance for APPC and Open Access should be same, since radiation levels in different States are different and APPC tariffs of different States are not the same in this condition. (**Deepak Industries**)
- 5.1.11 As an open access seller of power we are being levied charges by State Discom and utilities (wheeling charges, transmission charges and cross subsidy) which are not in case of APPC. (**Friends Salt Works**)
- 5.1.12 Instead of half certificates, the Commission may consider to issue 0.75 certificate because in case of Open Access consumers, there are various other expenses like transmission charges, cross subsidy charges, open access charges, losses etc. (**Rudraksh Energy**)
- 5.1.13 Multiplier of 100% & 89% for OA & CGP category respectively should be used instead of 50% (**InoxWind, Inox Renewables**)
- 5.1.14 The Commission should retain the denomination of RECs for non-APPC projects same as that of APPC based projects and may not consider any revision in the denomination (**IWTMA**)
- 5.1.15 Instead of multiplier based on the method of sale of power, the Commission should include vintage based multipliers for captive and open access projects as well similar to the proposed changes in the solar REC segment. (**Bhilangana Hydro Power**), (**Ginni Global**), (**Kanoria Chemicals**), (**RE connect**)

- 5.1.16 This should be dropped completely or dropped atleast for small hydro projects to attract investments in this segment. (**Himachal Small Hydro Power Association**)
- 5.1.17 The multiplier should be applicable to new generators who are yet to apply for REC accreditation. (**Punjab Energy Development Agency**), (**Manikaran Power**)
- 5.1.18 The concept of multiplier should be made applicable only for a period of 3 years to make APPC model at par with other and after that they should be treated as on today. (**IPPA**)
- 5.1.19 The price of electricity sold through traders using open access is market determined and involves both upside and downside risks and returns of varying nature. Further OA for RE project may become tougher as DISCOMs now have additional incentive to procure green power and claim certificates. (**Tata Power**)
- 5.1.20 The Commission set REC multiplier in case of solar CGP as follows: (i) Multiplier = 1.0 where the solar plant is a CGP and replaces part of utility power (ii) Multiplier = 1.2 where the solar plant is a CGP and replaces part of own thermal power generation. (**Hindalco**)
- 5.1.21 Monitoring of the route being followed by eligible RE generating stations will be a challenge, to be strictly ensured by State - level agencies - In case of bigger sized/mega solar projects, there is possibility of different commissioning dates. If such projects decide to come under REC mechanism, then it is not clear as to which commissioning date should be considered or probably the project should be bifurcated, to be registered under REC mechanism as separate projects on the basis of the commissioning dates. (**Power System operation**)
- 5.1.22 The main culprit for this outcome is the fact that RECs are given to projects without any regard to cut-off date or date of commissioning. It is for these projects that RECs have provided a windfall gain. The flood of RECs issued to these projects has resulted in the present state of the market and is preventing new investment in the market. It is suggested that, CERC should allow only those projects set up after the principal REC regulations were notified. (**Dinesh K. Patel**)
- 5.1.23 It is submitted that it would be improper to give differential treatment to APPC and non-APPC projects in terms of issuance of RECs. Further, it not clear from the proposed amendment whether this amendment shall be applicable prospectively only for RE projects to be registered after the date of notification of proposed amendment or prospectively even for all existing RE projects already registered under REC prior to date of notification of the proposed amendment. In case it is applicable for existing REC registered projects then, it defeats the principle of promissory estoppels as the REC projects have come up based upon regulatory framework prevalent in view of REC Regulations notified by CERC. Any mid-course modification to their eligibility of RECs (based on half multipliers etc) during their useful life of operation is against principle of natural justice. We request the Commission to clarify this point of prospective applicability of proposed amendment since existing provisions suggests that all 'Eligible Entities' (whether existing and future) would be covered under proposed amendment.

Even if the Commission chooses to apply only for new REC projects with prospective effect, we request Commission to reconsider this point.

5.1.24 The Commission should fundamentally reconsider its decision to allow any old projects and OA and CGP projects under REC mechanism – Additionally it would be better if old projects under the CGP/OA route (which have already recovered their costs) have multipliers much lower than those proposed. (**Prayas**)

5.1.25 Captive generation plants and plants setup for open access transactions should not be allowed in the present REC mechanism at all. Since the avoided cost of generation is 2-3 times the assumed APPC. Also, section 6.4 (ii) of NTP also only considers sale to Discoms at rates of conventional power. If a phasing out in gradual manner is required multipliers should be lowered as current multipliers do not account for FSA and Electricity Duty and that old CGP/OA plants have already recovered their cost. (**Prayas Energy Group**)

5.1.26 It is suggested that RE projects selling electricity at a price other than APPC should not be issued REC (**Mr. Navin Bansal, Mr. Lucky Aggarwal. Students, TERI University**)

5.1.27 There should not be any change in multiplier for existing plants under the scheme (**Nahar Industrial Enterprises Ltd**)

5.1.28 It is requested to keep a multiplier of 100% for OA category rather than theoretical 50%. (**INOX Wind Limited**)

5.1.29 Correlation of 1 MWH to 0.5 REC contravenes with Regulation 7 (6), that each certificate issued shall represent 1 MWh of electricity generated from RE source and injected into the grid. (**Power System Operation Corporation Limited**)

5.1.30 There are often failures in informing of changes in off-take routes and the same will have an impact. It will be a challenge to monitor the route being followed by RE generators and will need to be strictly followed by State level agencies. (**Power System Operation Corporation Limited**)

5.1.31 Like in Madhya Pradesh where projects with route of sale to third party, immaterialized sale is made to Discom at APPC. Clarity is required whether such project will fall under OA category. (**Power System Operation Corporation Limited**)

5.1.32 Extension of requirement of paying non-preferential wheeling charges and non-preferential banking benefits to OA projects. (**REConnect Energy Solutions Limited (Kanoria Chemicals and Industries Limited)**)

5.1.33 RE generators pay higher OA charges owing to low CUF of RE based generation putting RE sources at a disadvantageous position. Also many SERCs are not allowing banking to RE based projects and without banking 30-40% excess generation is lapsed or being paid at APPC rate. Devaluing REC for OA and CGP projects will make OA and CGP projects unviable and non-competitive. (**REC Stakeholder's Forum**)

5.1.34 Differential treatment for issue of REC based on different selling options would mean environmental attributes for same technology differ with the different selling options. (**REC Stakeholder's Forum**)

5.1.35 The CGPs who have invested in setting up such plants and /or complying with the requirement of metering and other requirements for becoming eligible entity will be greatly affected by the proposal of 0.5 as multiplier. The proposed multiplier should be applicable to new generators who are yet to apply for Registration. (**Punjab Energy Development Agency**)

5.1.36 Punjab State has single part tariff system. Hence, the Energy charge will be significantly lower and the calculation of multiplying factor will change altogether. (**Punjab Energy Development Agency**)

5.1.37 Restraining the power sale options for RE would be detrimental to the rapid development of RE which requires support and promotion. Reducing the REC support to half will disincentive the RE sector in contravention to the above rationale. The comparison of APPC (committed sale) v/s CGP/OA (non-guaranteed sale) is flawed. Moreover, APPC is a long-term PPA as against OA sale, which may be short /medium term sale. Thus in the comparison of long-term contract pricing v/s short / medium term contract pricing, the risk premium of short term trade is not considered. In case of Tamil Nadu, the multiplier is 1.2, this provides for CGP/OA generators to be eligible for 1.2 REC per MWh. Given the large variation in multiplier factor across States, the factor of 0.5 is flawed. (**Essar Power**)

5.1.38 We appreciate the concept of multiplier as it is required to encourage investment under APPC model, which was not opted on account of less revenue potential. But enforcing the concept of multiplier over the long horizon will close OA and CGP route. So to deal with the situation we would like to suggest that the concept of multiplier should be made applicable only for a period of 3 years to make APPC model at par with other and after that they should be treated as on today. (**IPPAI**)

5.1.39 This amendment also proposes to give 1 REC to a sub-category of OA projects, namely, those selling power on the power exchange. This will present a significant operational issue as several projects switch from short-term PPA under OA and selling power on the power exchange frequently. There is no mechanism to monitor the same. Further, in many cases the realization from sale on power exchange may be more than the rates identified in the table for OA above. In such cases giving only 0.5 RECs to projects under third party PPA will be discriminatory. (**Bhilangana Hydro Power Ltd.**)

5.1.40 We vehemently oppose the Commission's proposals on multipliers. The promoters started investing in the RE sector by considering the REC revenue in their financial calculations subsequent to the notification of principal REC Regulations. When Open Access and Captive consumers pay the normative charges like the conventional players, they are eligible to get RECs as they have not availed any concessions. The view that the RE generators are making extraordinary gain is not correct. At this point of time, this type of amendment will only affect the project promoters who invested in RE Sector. The Commission instead of reducing the REC may recommend stringent actions/norms for enforcement of RPO. (**Indian Biomass Power Association**)

- 5.1.41 Third party sale on mutually agreed price as well as self-consumption of CGPs should not qualify for the RECs as it leads to gaming. (**Simran Wind Power projects Limited**)
- 5.1.42 Retrospective implementation is protested. (**Friends Salt works and Allied Industries**)  
**(Ujaas Energy)**
- 5.1.43 An Open Access project takes a lot of risk of the market and changes in regulations while Captive generating plant does not have such a risk. Therefore, it is suggested that the REC project under captive and Open Access should not be clubbed together. It is also suggested that, a captive project should not be given REC (**Dinesh K. Patel**)
- 5.1.44 There should be a provision to not allow projects who have completed their PPAs, or other old projects, (those commissioned prior to the notification of the REC regulations) to enter into the REC mechanism. (**Prayas Energy Group**)
- 5.1.45 REC should not be an alternative mechanism for RPO fulfilment for RE rich States. (**Prayas Energy Group**)
- 5.1.46 KSEBL welcomes the CERC's proposal as it will encourage generators to sell their energy under APPC mode to local Discoms which will ensure cheaper RE power to Discoms. (**KSEBL**)
- 5.1.47 No justification of half REC proposed for Distribution Licensee other than host licensee. (**InWEA**)
- 5.1.48 Amendment applicability to registered projects would not be legally tenable. (**IREF**)
- 5.1.49 The multiplier for CGP may be arrived as an average of various scenarios which is 0.8 (**InWEA**)
- 5.1.50 The Captive generators and sale to distribution licensee may be excluded from Amendments (**InWEA**)
- 5.1.51 Revenue from RECs are not adequate to cover costs of OA wheeling transactions. (**IREF**)
- 5.1.52 Learned Senior Advocate Mr. Sanjay Sen referred to the Hon'ble Supreme Court Judgement dated 6.5.2009, (in the matter of Tata Power Limited v/s Reliance Energy Limited and others). He also referred to the Hon'ble APTEL Judgement dated 22.8.2014 in the matter of GUVNL v/s GERC and others, Appeal No. 279 of 2013. He argued that the action of the Commission would attract principles of Res-judicata, Promissory Estoppels and Legitimate Expectations. (**Mr. Sanjay Sen, Sr. Advocate**)

## **5.2 Analysis and Decision**

The Commission has analyzed the comments submitted by the stakeholders.

As on July 2014, a capacity of around 4,897 MW has been accredited under REC framework. Three States viz., Tamil Nadu, Maharashtra and Uttar Pradesh have the maximum number of REC accredited capacity. Tamil Nadu has around 50% capacity under OA and CGP route. Uttar Pradesh has 100% capacity under Bagasse based CGP route whereas in Maharashtra around 95% of capacity is through OA & CGP route. The issue of

higher realization by sale/consumption of electricity under OA/CGP route has been raised by different stakeholders.

The REC mechanism is an alternative cost recovery mechanism. Therefore, it is required to be compared with the tariff of a particular renewable technology. The table below shows comparison of net revenue realization under APPC, CGP & Open Access and PPA at tariff determined by the Commission.

State	APPC + one non Solar REC FY 2014	Captive Net Electricity Component [100% of Energy Charge – OA Charge + half non Solar REC]			Open Access Net Electricity Component [90% of Energy Charge – OA+ half non-solar REC]			State Tariff			
		Commercial	Industry	Average of Comm. & Industry	Commercial	Industry	Average of Comm. & Industry	Wind	SHP	Biomass	Cogen
<b>Andhra Pradesh</b>	4.78	7.76	4.36	6.06	6.90	3.84	5.37	4.70			
<b>Gujarat</b>	4.44	3.30	3.15	3.23	2.44	2.31	2.37	4.15			
<b>Haryana</b>	4.79	4.89	4.34	4.62	3.78	3.28	3.53	-	-	6.23	4.05
<b>HP</b>	3.67	3.33	3.33	3.33	2.72	2.72	2.72	-	3.26	-	-
<b>Karnataka</b>	4.64	5.72	3.72	4.72	4.67	2.87	3.77	4.20			
<b>Maharashtra</b>	4.95	9.14	4.56	6.85	7.75	3.63	5.69	5.81			
<b>MP</b>	4.03	4.39	3.79	4.09	3.08	2.54	2.81	5.92			-
<b>Punjab</b>	5.09	5.26	4.94	5.10	3.53	3.24	3.39	-	4.78	6.24	5.70
<b>Rajasthan</b>	4.63	5.16	3.81	4.49	4.44	3.23	3.83	5.73	-		-
<b>Tamil Nadu</b>	4.61	5.79	4.29	5.04	3.37	2.02	2.70	3.51	-		

The above table clearly shows that the realization in some of the States like Andhra Pradesh, Maharashtra, Himachal Pradesh and Tamil Nadu for Captive or Open Access route is higher than the tariff determined for major renewable energy resources in the State. In States like Gujarat and Himachal Pradesh, revenue realization under APPC plus REC is more than the renewable energy tariff determined by the Appropriate Commission. Different commercial mechanisms are available for the investors to make appropriate investment decision. Further, the Captive Generating Plants located in various States also have the Electricity Duty waiver benefit. If these benefits are considered, the revenue realization from captive generating plant would be much more than that from project selling electricity under APPC or under FiT.

#### ***Issuance of RECs to projects commissioned prior to date of notification of REC Regulations***

Several stakeholders have submitted that issuance of RECs to the projects commissioned prior to the notification of the REC Regulation should not be allowed. It is only these projects that have made windfall gains, as they had already recovered their costs and REC

come to be additional source of revenue for them. As on 16.12.2014, there are 4,645 MW of RE projects registered under the REC mechanism. Out of this, around 1,489 MW of RE projects have been commissioned prior to the date of notification of REC Regulations. Considering the estimated CUF of relevant technology, around 75.3 Lakh RECs are issued to such RE generators in a single year. These projects have not considered revenue realization from sale of REC while calculating financial viability for such projects.

	<b>MW</b>	<b>CUF</b>	<b>Expected RECs</b>
Wind	422	23%	8,50,246
Cogen	599	70%	36,73,068
Biomass	380	80%	26,63,040
SHP	88	45%	3,46,896
<b>Total</b>	<b>1,489</b>		<b>75,33,250</b>

It is true that the market has been flooded with RECs issued to these projects which in turn has dampened climate for new investment in the market. Since this issue is beyond the scope of current draft amendment regulations, the Commission has decided to deal with this issue separately.

#### ***Issue of concessional charges for RE generator selling through OA***

Currently, the self-consumption of RE generator is eligible for issuance of REC provided that such projects are not availing concessional transmission/wheeling charges & losses and banking facility benefit. However the RE generators selling electricity through Open Access, availing the above concessional benefit are eligible for issuance of REC. The Commission is of the view that such conditions should also be applicable to RE generators selling electricity through Open Access. The option of surrendering the concessional benefits, for becoming eligible for REC, can be provided to RE generators selling through Open Access. Since this issue is beyond the scope of current draft amendment regulations, the Commission has decided to deal with this issue separately.

#### ***REC multiplier for CGP***

Several stakeholders have commented on the proposal of the Commission to the concept of multiplier for REC projects based on captive consumption or open access route. The comments vary depending upon the interests the stakeholders represent. There are, however, prevailing views that the captive consumption from a CGP is already adequately compensated in terms of saving on the tariff because of less procurement of power from the distribution companies. Generally, the CGPs are either commercial or industrial consumers and as such, save equivalent to the applicable tariff for such consumer categories. When

compared to the sale rate for electricity component at APPC, this compensation is already on the higher side. This makes a case for reviewing the provision relating to eligibility of CGP for REC. In fact, it was on this count that the concept of reduced multiplier was proposed by the Commission for CGP. However, given the various dimensions brought out by the stakeholders and with due regard to the fact that the CGPs are already adequately compensated for the electricity component, the Commission is of the view that the CGPs be disallowed from participating in the REC Scheme.

It would be pertinent to mention that the CGPs were extended the benefit of REC at the initial stage of introduction of REC framework. The argument extended was that they are also substituting the conventional power. Another reason why the CGPs were brought under REC fold was to create liquidity in the REC market at its infancy. Even today, it remains a fact that a CGP based on renewable sources does substitute conventional power, but the Commission cannot ignore the fact that they are already being compensated for such substitution. The compensation becomes all the more remunerative with increasing tariff for consumer categories like commercial and industrial.

It also remains a fact that the huge inventory in the REC market today is contributed largely by the CGPs. Around 50 % of the total number of projects accredited/registered under the REC framework belongs to CGP, and a good majority of them are CGPs set up prior to the introduction of the REC framework. Even in cases where some CGPs have been set up after the introduction of REC Scheme, it is highly unlikely that such projects would have got financing based on the revenue from REC sale. The Commission is, therefore, of the view that withdrawing the benefit of REC to the CGP would not amount to any reversal of policy or regulation having the impact on the investment already made by the investors. In view of the above observations, the Commission intends to review the provision regarding eligibility of CGP for REC. However, as this proposal was not floated for public comments as part of the present regulatory dispensation, the Commission directs the staff to come out with a fresh proposal in this regard. Till such time, the present proposal of the Commission for introducing multiplier (0.5 REC for 1 MWh of electricity generated) for CGP is kept abeyance.

#### ***REC multiplier for REC projects based on Open Access***

There was another proposal by the Commission seeking to introduce multiplier for REC projects selling electricity component through open access route. This was also based on the argument that such projects are already recovering adequate revenue by sale of electricity component through open access route.

Several comments have been received from stakeholders in this context. It has been argued that several projects selling electricity component through open access route have been set up after the introduction of REC framework. Such investment, especially those made in

the solar segment have got financing based on the projected revenue stream on account of electricity sale as well as REC sale. Tinkering with the present dispensation of 1 REC for 1 MWh would not only make such projects unviable but would also send a wrong signal for future investment.

Another aspect which has come to the fore is that reduction in the REC credit or for that matter withdrawal of REC benefit to such projects based on open access route would virtually leave only one choice for an investor, i.e., the option of selling electricity component only through APPC route. Some stakeholders have already expressed apprehensions about ‘big brother’ attitude of the distribution companies and their reluctance to pay for the electricity purchase to the RE generators. They have, therefore, argued that any attempt at restricting the choice of the investors in terms of investment would not only be violative of law but also be counter-productive to investment.

As regards the compensation to such projects selling electricity through open access route, it may vary depending upon the nature of RE technology and the consumer tariff prevailing in a particular State. For instance, a firm RE generation like co-generation or bio-mass based generation might be in a better position to sell electricity component through the open access route whereas an infirm RE generation like wind or solar may not be able to do so on a longer time horizon. At the same time, the consumer tariff prevailing in a State is also critical to determination of revenue for such projects because such projects generally would like to sell the electricity component to an industrial or a commercial consumer through open access route. As such, in a State where commercial and industrial tariffs are on the higher side, such RE projects might earn adequate revenue. However, it is generally understood that any contract for sale of electricity component through open access route might not generally be on a long term basis and would also be subject to the market fluctuations and involve risks and returns of varying nature. This was one aspect which was noted by the Commission even at the time the REC framework was introduced.

The Commission believes that not many projects are likely to come up on a long term basis based on contract for sale of electricity component through open access route. Also, with due regard to the fact that the revenue/compensation by sale of electricity component might vary based on technology, consumer tariff prevailing in a State, it is felt that the existing provision relating to eligibility of such projects for REC be allowed to continue for the moment. As such, the Commission has decided to keep in abeyance the proposal of multiplier for RE projects based on open access route.

## **6. Issue of REC to eligible Solar generation plant: Vintage Multiplier**

- 6.1** The Commission proposed amendment to Regulation 7 of the Principal Regulations as under:

*The following new clauses shall be added under Regulation 7 of the Principal Regulations as under:*

*(10) The Commission shall determine through separate order , the quantum of Certificate to be issued to the eligible entities being the solar generating company, for one Megawatt hour of electricity generated from the renewable energy source and injected into the grid or deemed to be injected (in case of self consumption by eligible CGP) into the grid, with due regard to the conditions stipulated in clauses (7), (8) and (9) of this Regulation and after considering vintage of such projects with reference to the year of their commissioning as per the following formula*

*Vintage Multiplier= Maximum difference [Minimum Requirement in Base Year– APPC of Current Year (State wise)] / Maximum Difference [Min Requirement in Current Year– APPC of Current Year (State wise)]*

*(11)Vintage multiplier shall be provided for a period of 12 years, from the year of commissioning.”*

### **6.2 Comments received**

- 6.2.1** Since the Solar power project costs have considerably reduced in the past few years, we agree with the CERC's approach to bring Vintage Multiplier to reflect the changing market scenario. (**RSM GC Advisory**)
- 6.2.2** The Base Year definition should be revised to mean the financial year of registration /intent of filing RE project under REC scheme with State Nodal Agency. (**Kshitij Synergy Corp. Pvt. Ltd**)
- 6.2.3** Multiplier formula should be VBM= Base year Floor price/ New floor price. This VBM should be applicable from date of issuance of first REC till 2017 for projects commissioned till the amendment of the Regulations and after 2017 Commission can provide single REC. While taking investment decision we have assumed Rs. 9300/REC till 2017 and same has been communicated to our bankers also. It is suggested that following formula should be used: VBM: (FiT of base year –APPC of current year)/ (min. Requirement of current year –APPX of current year) (**Hindustan Platinum Private Limited**)

- 6.2.4** VBM should be equal to (FIT of Base Year-APPC of Current Year)/(Min Requirement of Current Year- APPC of Current Year). (**Deepak Industries Limited**) (**Hindustan Platinum Pvt. Ltd.**)
- 6.2.5** VBM should be equal to Base Year Floor Price / New Floor Price. (**Gupta Sons**) (**Hindustan Platinum Pvt. Ltd.**) (**UJAAS Energy Limited**) (**Windsor Exports**)
- 6.2.6** Besides Solar there should be a concept of VBM in non solar REC (IL&FS Energy)
- 6.2.7** VBM should be calculated using a simple formula as follows:  $VBM = (\text{Base year floor price}) / (\text{New floor price})$ . (**Ujaas**), (**Gupta Sons**), (**Hindustan Platinum Pvt. Ltd**), (**Windsor Exports**)
- 6.2.8** Interest cost to be factored in VBM – Solar power generator is not able to sell REC mainly because of poor enforcement, resulted in building up of REC inventory and involvement of Working capital. (**Ujaas**)
- 6.2.9** VBM should be introduced in such a way that the income from REC till March 2017 should not be changed, so more number to RECs to be allotted to fetch the same income in absolute terms. (**Suryashakti**), (**Flow Devices Systems**)
- 6.2.10** Multiplier should be worked out for interest lost on revenue due to delay in revenue from REC due to no penalty for RPO to obligated entity.
- 6.2.11** Alternatively the following formula should be used for computing VBM :  $VBM = (\text{FIT of base year} - \text{APPC of current year}) / (\text{min requirement of current year} - \text{APPC of current year})$
- 6.2.12** Multiplying factor for Non Solar RECs and vintage multiplier for solar RECs need to be applied for the State Discoms also for issuance of RECs for the power procured by the Discom over and above the “RPO targets. (**Rana Sugar**)
- 6.2.13** If floor price of present REC is reduced to Rs 3500 per REC from Rs 9300 per REC, the VM may be kept at  $9300/3500 = 2.65$  till 2016-17 for the projects commissioned before the date of revised order. (**KRBL**), (**Friends Salt Works**), (**Syatick Enterprises**), (**R.H Prasad & Co.**), (**Tuhina Enterprises**), (**Eastman**), (**Enrich**), (**CVK Solar**), (**Kshitij Synergy**)
- 6.2.14** 1-5 MW PV solar generator under REC mechanism : 2.66 times proposed REC (**Sai Saburi Urja**)
- 6.2.15** Above 5 MW solar generator under REC mechanism : 1.88 times proposed REC (**Sai Saburi Urja**)
- 6.2.16** Multiplier should be calculated as follows:  $VBM = (\text{FIT of base year} - \text{APPC of current year}) / (\text{min requirement of current year} - \text{APPC of current year})$  (**Deepak Industries**).
- 6.2.17** Vintage Multiplier should be prescribed for projects commissioned during 2012 also – (**Rudraksh Energy**)
- 6.2.18** The Vintage multiplier for solar certificates need to be based on year wise CAPEX of RE projects – (**IL&FS**)
- 6.2.19** VM should also be introduced for Non Solar RECs - (**IL&FS**)

- 6.2.20** VM is not justified and should be scrapped – (**Bhilangana Hydro Power**), (**Kanoria Chemicals**),(**BMD Pvt Ltd**), (**RE connect**)
- 6.2.21** VBM be applied based on the purchase of PV modules and not on the basis of commissioning.
- 6.2.22**In case of bigger sized/mega solar projects, there is possibility of different commissioning dates. In case such projects decide to come under REC mechanism, it is not clear as to which commissioning date should be considered or probably the project should be bifurcated, to be registered under REC mechanism as separate projects on the basis of the commissioning dates. (**Power System operation**)
- 6.2.23**Since the Commission has proposed to provide VM for 12 years (equivalent to loan repayment period), in the definition of “Minimum requirement” levelised tariff may be qualified as levelised tariff for 12 years .This is based on the principle that not only the minimum requirement of repayment but also other items of annual costs considered for it need to be protected in the same manner. Presently in computation of this minimum requirement while Hon’ble Commission has levelised repayment for 12 years only, the other components of tariff have been levelised for 25 years, which is inconsistent with the concept of minimum requirement for first 12 years. For correctness all the components need to be levelised for 12 years only. This comment may kindly be seen with the comment on computation of floor and forbearance price given in subsequent paragraphs.  
– (**Hindustan Power**)
- 6.2.24**Choice should be given to the existing Solar PV generators whether a multiplier as proposed in the draft amendment regulation i.e. for project commissioned in FY 2012 -13 : 1.49 for 12 years or VBM of 2.6 till FY 2016 – 17 and no support for remaining period.- (**Solar Power Society**).
- 6.2.25**If REC does not get sold for three months those should be given multiplier to recover interest at the rate of 16%. (**Gupta Sons**)(**Hindustan Platinum Pvt. Ltd.**) (**KRBL Limited**),(**Ujaas Energy Limited**) (**Windsor Exports**)
- 6.2.26**It is requested to work out REC multiplier for interest lost on revenue due to delay in revenue from REC due to no-penalty for RPO to obligated entity. (**Shriji Polymers (India) Limited**)
- 6.2.27**Introduction of VBM for RE projects selling electricity at mutually agreed price through bilateral contracts/third party sale/open access may be allowed only after prudence check of the cost recovered by them at the rate at which the RE generator has been selling electricity. (**KSEBL**)
- 6.2.28**KSEBL feels that there is no need for application of vintage multiplier to REC issued to captive users. (**KSEBL**)
- 6.2.29**Be giving a VBM one solar REC would have less than 1 MWH of generation
- 6.2.30**CERC must prescribe a methodology for compliance in MUs when Vintage Multiplier is applied.

### **6.3 Analysis and Decision**

The Commission has analyzed the inputs of different stakeholders on the concept of Vintage multiplier.

Renewable energy certificate pricing framework is based on the basic difference of FIT and APPC. For determination of the floor price, difference between minimum project viability requirements and APPC has been relied on.

The vintage multiplier shall be currently applicable for solar RECs because solar FIT has witnessed declining trajectory over the last four years. The vintage multiplier shall not apply on the RECs issued to distribution licensees.

A number of stakeholders have indicated that the approach proposed by the Commission does not result in the revenue recovery in line with the currently applicable floor price. Most of the stakeholders submitted that while taking investment decision they have assumed Rs. 9300/REC till 2017 and same has been communicated to the bankers also. Many stakeholders have submitted that the Multiplier formula for solar projects already commissioned should be a ratio of current floor price and new floor price.

It was submitted that this vintage multiplier should be made applicable from date of issuance of first REC till 31/3/2017 for projects registered till the amendment of the Regulations. And from 1/4/2017, single REC may be given which will be traded at whatever prevailing floor price at that point of time.

The Commission has noted the comments, and appreciates the concerns in terms of the likely impact on revenue recovery for the projects registered under the REC mechanism. The key objective of introduction of vintage multiplier is to adequately compensate the already registered projects, keeping in mind the changing REC price. The Commission agrees that the revenue recovery through vintage multiplier should be adequate to match the existing solar floor price applicable (Rs. 9300/REC) for solar power projects. Considering the above, the Commission has decided to amend the proposed amendment in the final Regulations to that extent as under:

*New clauses(7) and (8) shall be added under Regulation 7 of the Principal Regulations as under:*

*“(7) The Commission shall determine through a separate order, the quantum of Certificate to be issued to the eligible entities being the solar generating companies registered under REC framework prior to 1st January 2015 , for one Megawatt hour of*

*electricity generated and injected into the grid or deemed to be injected (in case of self consumption by eligible CGP) into the grid as per the following formula:*

*Vintage Multiplier=Floor Price of Base Year / Current Year Floor Price*

*Where,*

*i . “Base year” means the year 2012-13 being the year in which the floor price was determined for solar REC for a period of five years”*

*(8) The vintage multiplier as specified in clause (7) of this regulation shall be provided to the solar generating companies registered under REC framework prior 1st January 2015 and shall be applicable for the period from 1st January 2015 upto 31st March 2017, after which such projects shall be eligible for one REC for one megawatt hour of electricity generated.”*

## 7. Validity of Certificates

### 7.1 The Commission proposed amendment to Regulation 10 of the Principal Regulations as under:

*The following proviso shall be added after second proviso to Clause (1) of Regulation 10 of the Principal Regulations as under:*

*“Provided that the validity of Certificates, which are likely to expire in the next one year from the notification of this amendment, shall be increased by another three hundred and sixty five days.”*

### 7.2 Comments Received

**7.2.1** We request Hon CERC to extend the validity of life of RECs from present 2 years' time to the time they are redeemed on the power exchange. (**Enrich Energy Private Limited**)

**7.2.2** We support the Commission proposal on validity period of REC. (**Reliance Infrastructure Limited, Orient Green Power Company Limited**)

**7.2.3** We wish to submit that the total 1,10,04,046 RECs are available in the market whereas only 74,381 RECs were sold in the trading session in October, 2014. In such a scenario

where there is no opportunity to redeem the REC, any restriction or expiry on validity of REC is illogical and unfair for the RE generator. We suggest that the Hon'ble Commission should remove any restriction on the validity of REC until the current inventory of the REC gets cleared. (**Wind Independent Power Producers Association, Continuum Wind Energy (India) Pvt. Ltd.**)

- 7.2.4** RECs are expiring for no fault of project developers. It is suggested to extend the validity of RECs at least for next 2 years as there are no signs of any improvement in the demand of RECs. (**National Engineering Industries Ltd.**)
- 7.2.5** We support the Commission for increasing the validity of certificates and request to take stringent action for enforcement of RPO. (**Indian Biomass Power Association**)
- 7.2.6** Extension of Validity of REC which was issued on 30-10-2012 on account of limited demand of REC and delay in issuance of REC as they have captive bagasse based cogeneration plant. (**Urjankur Shree Datta Power Company Limited**)
- 7.2.7** It is requested to provide for validity of 730 days on REC issued to DISCOMs for procuring power in excess. (**Gujarat Urja Vikas Nigam Limited**)
- 7.2.8** There should be no cap for REC validity till the time REC market revives (**IL&FS Energy**)
- 7.2.9** It is requested that the validity be increased to 3 years for all the certificates. (**Green Infra Limited**)
- 7.2.10** Due consideration is required for RECs already expired or likely to expire till the time the amendments are notified. (**Power System Operation Corporation Limited**)
- 7.2.11** The validity period should be extended only as a short term measure to save the REC from lapsing and in the meantime suitable steps shall be taken for enforcing the obligated entities for meeting their renewable purchase obligation. (**Simran Wind Power projects Limited**)
- 7.2.12** Validity should be increased from 730 days to 1095 days. (**PHD Chamber**)

### **7.3 Analysis and Decision**

The Commission has noted the concerns regarding expiry of RECs due to weak demand caused largely by non-compliance of RPO. As already stated, RPO setting and enforcement of RPO compliance do not fall within the jurisdiction of this Commission. However, with due regard to the present state of REC market segment and with a view to restoring the confidence of investors in the REC framework, the Commission has decided to extend the validity of REC for a period of three years that is for one thousand and ninety five days from the date of issue. For the RECs which expired in current financial year and the RECs issued till the date of effect of these Third REC Amendment Regulations, the validity period is being extended for three years (that is for one thousand and ninety five days from the date of issue of REC) or upto 31st March 2017, whichever is later.

Accordingly, the following amendment has been made in the final regulations:

*The first and second provisos to Clause (1) of Regulation 10 of the Principal Regulations shall be substituted by the following:-*

*"Provided that the Certificate issued under these Regulations shall remain valid for one thousand and ninety five days from the date of issuance:*

*Provided that the RECs which expired in financial year 2014-15 and the RECs issued till the date of effect of these Third REC Amendment Regulations, shall remain valid for one thousand and ninety five days from the date of issuance or upto 31st March 2017, whichever is later.*

*Provided that the Certificate issued to an eligible entity for the electricity generated at a time when such entity fulfilled the eligibility criteria for accreditation, shall remain valid for the said period of one thousand and ninety five days, even if accreditation of such entity is revoked at a later date."*

## 8. Other Comments

### 8.1 RPO compliance

- i. RPO Compliance should be made quarterly and the RECs remaining unsold for three months should be given higher multiplier to recover interest @ 16% and same is to be charged to obligated entities. (**Hindustan Platinum Private Limited**)
- ii. We appreciate the efforts undertaken by the Hon'ble Commission in addressing concerns related to the REC mechanism. However, we would like the Commission to address the primary concern regarding non-compliance of RPO targets by most of the DISCOMs resulting in low demand for REC.
- iii. So far, 27 out of a total of 29 SERCs have formulated RPOs. However, despite the regulations being in place for a few years now, very few obligated entities have actually fulfilled their RPOs. (**Hero Future Energies Ltd.**)
- iv. The regulations governing RPO assign the task of monitoring and verification of RPO fulfillment by the obligated entities to a designated State agency (one in each State). In most cases, SNAs find it difficult to carry out their duties specified in the regulations because the institutional capacity is inadequate. Also, no mechanism for monitoring compliance has been formulated at the national level; the job has been left to SERCs. In the absence of any standard monitoring and verification guidelines, different SERCs have adopted vastly varying approaches. We request the Commission to develop a standard

RPO monitoring and verification guidelines which can subsequently be followed by SERC. (**Hero Future Energies Ltd.**)

- v. Section 86 (1)(e) of EA 2003 deals with specification of RPOs for obligated entities, and Section 142 with punishment for non-compliance. However, the applicability of Section 142 in the case of non-compliance is beset with some confusion. Very few SERCs have issued orders related to compliance with RPOs, and even those that have done so have allowed the RPO to be carried forward to subsequent years. We request the Hon'ble Commission to issue directions to SERC to strictly enforce RPO targets in line with powers vested upon it under Regulation 14 of the CERC REC Regulations. (**Hero Future Energies Ltd.**)
- vi. It is proposed that suitable enforcement mechanism for RPO compliance be made by SERC's, so that the project developers who setup and commission power plants under REC mechanism become sustainable. (**Kshitij Synergy Corp. Pvt. Ltd.**)
- vii. CERC should actively pursue all possible modes to push for enforcement- including a. Pushing SERCs through Forum of Regulators b. Writing Central and State Ministries and authorities etc. (**RSM GC Advisory, PHD Chamber**)
- viii. There is a severe need for overhauling the penalty mechanism for RPO enforcement. Therefore, the enforcement should be such that personal guarantees should be sought from the Discom heads instead of forbearance price for compliance of obligation as was done by Uttarakhand Electricity Regulatory Commission. This would entail better compliance of the obligations. (**Bilangana Hydro Power Limited**)
- ix. Compliance reporting should be monthly. (**Indra Vidhya Power, PHD Chamber**)
- x. Compliance reporting should be quarterly. (**Gupta Sons(KRBL Limited)** (**Windsor Exports**) (**Rana Sugars**) (**REC Stakeholder's Forum**)
- xi. State Discoms need to be mandated to procure RECs for shortfall in relevant year itself and SERCs should be debarred to allow carry forward of shortfall in RPO. (**KRBL Limited**) (**Manikaran Power Limited**) (**Nahar industrial Enterprises Ltd**)
- xii. Need for RPO Enforcement. (**Prayas Energy Group**) (**INOX Wind Limited**) (**RSM GC Advisory**) (**Power Exchange India Limited**) (**RPG Power Trading Company Limited**, **Vikram Tea**)
- xiii. RPO Should be made mandatory. (**Raghav Charyulu, TV**) (**Rana Sugars Limited**)
- xiv. It should be mandatory on RPO obligatory to deposit floor/forbearance price as per market trend monthly (**Sai Saburi Urja Pvt. Ltd.**)
- xv. It should be mandated for all SERCs to have RPO in line with National target (**India Wind Power Association**)
- xvi. REC should be enforced by the way of penalty. (**REC Stakeholder's Forum**)
- xvii. Need for creation of long term RPO trajectory in line with NAPCC (**REC Stakeholder's Forum**)
- xviii. National Level RPO targets should be specified and enforced (**UP sugar mills Cogen**)

- xix. Purchase of REC should be equal to RPO and unsold REC should be settled against earlier default (**UP sugar mills Cogen**)
- xx. REC should be allowed to be adjusted bilaterally with the group companies but adopting the mechanism of regional accounts and the nodal agency. (**UP sugar mills Cogen**)

## **8.2 Low APPC Tariff**

Very Low financial viability due to current APPC tariff and proposed Floor price of REC @ CERC determined Capex of Solar Project in the State of HP (Rs 2.17) and MP (Rs 2.53) there will be no viability. (**Enrich Energy Private Limited**)

## **8.3 Bilateral trade of REC**

- i. It is suggested to allow a mechanism /arrangement of bilateral trade of RECs between distribution licensee/obligated entities and generator. This will provide long term certainty to the generator and distribution licensee/obligated entities and also certainty to lenders in financing REC based renewable energy projects. (**Torrent power, IREF**)
- ii. It is suggested that bilateral contracting of RECs should be operationalized in addition to exchange based trade. This will help renewable energy investors to contact their RECs on mutually agreed price to obligated entities. Similar mechanism is already placed for captive RE project, but even group companies are not allowed the benefit of redeeming RECs bilaterally. (**RSM GC Advisory**)
- iii. Bilateral Trading should be allowed within floor and forbearance prices. (**Association of Power Traders**)
- iv. Regulations may enable Multiple trading of RECs (**IREF**)
- v. REC Market maker that will act as buyer or seller of last resort may be introduced (**IREF**)

## **8.4 Interest loss due to delay in issuance of RECs**

Due to procedural delay in issuance of REC by Discom, SLDC, NLDC, and IEX, there is almost 4 months' loss of revenue to the solar power generator. It is suggested to add up interest loss of about 4% (1% per month) in the final value of RECs which may turn out to be about Rs. 0.40. (**Royal Electricals**)

## **8.5 Prohibitive metering requirement**

The CERC should lay down a guideline for metering requirement as some States are laying very stringent requirement for metering at every captive feeders and auxiliary

feeders. It is suggested that CERC should also waive off the requirement of metering at auxiliary consumption points and allow for deduction of standard auxiliary consumption percentage as decided by CERC from time to time in its RE Tariff Orders. (**RSM GC Advisory**)

## **8.6 Floor and Forbearance price for Non-Solar REC**

Floor and Forbearance price for Non-Solar REC are kept unchanged unlike change proposed for Solar REC. It is submitted that there is a lot of financial stress on the distribution licensee as the same is evident from the Regulatory assets created by Discoms which are yet to be recovered. It is therefore likely that Non-Solar REC price may be acting as a deterrent to purchase the same. It is suggested that CERC may consider reducing the price of Non-solar REC by applying the multiplier factor to the price rather than to the issuance of REC for non-APPC based REC projects. It is also submitted that to protect the APPC based REC project, the Commission may apply multiplying factor of “two” for issuance of REC to such entities. It is likely that by reducing the Non-solar REC Price, purchase cost of Non-Solar RECs would reduce for Discom thereby stimulating demand for purchase of Non-solar RECs. This will also reduce the burden on consumers. (**Reliance Infrastructure Limited**)

## **8.7 Sale of RECs**

- i. Power Traders who have valid Power trading License should be allowed to trade RECs. Discom could also be allowed to call for traders for purchase of RECs on Swiss Challenge method. This would bring more dynamics to the purchase /sale of RECs. (**Reliance Infrastructure Limited**)
- ii. Number of trading per month should be increased. (**Indra Vidhya Power**) (**Surya Shakti Enterprises**), (**Systematic Enterprises Pvt. Ltd**)
- iii. Only 2 MW REC should be allowed per person per year for REC. (**Indra Vidhya Power**), (**Ujaas Energy Limited**)
- iv. Only 1 or 2 MW REC should be allowed per person per year for REC (**Surya Shakti Enterprises**)
- v. REC scheme should be made similar to European Emission Trading Mechanism where CERs are traded upfront to meet the obligatory emission reduction targets. (**Urja Gyan Foundation**)
- vi. It is not desirable to have different APPC for States as it would lead to inefficient utilization of resources and higher tariff for consumer with higher APPC States will attract more RE. Projects in RE rich States enjoy high forbearance calculated based on projects in RE poor States, this aspect must be looked into carefully. (**Prayas Energy Group**)

- vii. REC pricing should be based on difference between FITs and price of new capacity addition. If APPC is used it should be fixed without escalation since the same is used for determination of REC price bands. (**Prayas Energy Group**)
- viii. Need for additional data and data transparency (**Prayas Energy Group**)
- ix. RECs should not be allowed for Distributed PV projects (inch Solar rooftop) (**Prayas Energy Group**)
- x. Need for clarity with regard to future REC pricing, and due consideration for Solar, Non-Solar grid parity. (**Prayas Energy Group**)
- xi. Trading of REC should be allowed (**UJAAS Energy Private Limited**)
- xii. Off grid RE generation projects without cap on minimum capacity should be eligible for registration for RECs (**TATA Power Company Limited**)
- xiii. Simplification of Accreditation and Registration for small capacity off grid projects. (**TATA Power Company Limited**)
- xiv. Redefining the denomination of REC for smaller plants from MW to KW. (**TATA Power Company Limited**)
- xv. There need clarity on REC mechanism should be for life of plant adopted by CERC. (**Green Infra Limited**)
- xvi. It is requested that suitable provision should be incorporated in the REC regulation through which off take of RECs should be ensured. (**CLP India**)
- xvii. Bilateral Trading of RECs should be allowed (**RSM GC advisory**)
- xviii. Proposed amendment to the REC regulations will entail revision of detailed procedures and changes in software and testing in the REC web application. (**Power System Operation Corporation Limited**)
- xix. Para 6 (iii) of the draft order wherein only power sold in the Day- Ahead Market at Power Exchange may also be included in para 6(iii) of the draft order in line with the proposed draft regulation 7(7). (**IEX**)
- xx. Necessary order may be issued specifying continuation of floor and forbearance for 10-20 years in principle, but values to be fixed periodically as per the amended pricing methodology. (**IREF**)
- xxi. SERCs should follow APPC definition as specified by CERC (REC Stakeholder's Forum)
- xxii. Appropriate provision for directing SERCs to allow pass through of REC purchase cost in ARR/Quarterly FPPPA (**REC Stakeholder's Forum**)

## **8.8 Analysis and Decision**

### **8.8.1 Issue of APPC definition**

The REC pricing framework is based on the difference between the feed-in tariff applicable for RE power project and APPC price. The Commission as part of REC regulations has provided for a definition of APPC as under:

*'Pooled Cost of 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 energy suppliers long-term and short-term, but excluding those based on renewable energy sources, as the case may be.*

The approach for determination of APPC falls within the purview of the Appropriate Commission. The objective of providing the definition for APPC as part of the REC Regulations is to follow uniform approach for computing APPC across States. Adoption of uniform approach for computing APPC will assist in true reflection of the power procurement prices in the State, which will further assist RE based power projects to become competitive with other sources of power generation.

It has been pointed by a number of stakeholders (like REC Stakeholder Forum) that select Appropriate Commissions have already adopted different approach vis-à-vis the approach indicated in the REC regulation issued by the Commission. The variation in the approach for calculation of APPC results in enhancing the regulatory risk of higher revenue dependence on the REC sale without reflecting the actual increase in the APPC price witnessed across the States. It is expected that developers/investors would have accounted for any increase in the APPC price while making the investment decision in REC based RE power project.

In this regard, it is expected that a uniform definition, as indicated under REC regulations, should be adopted by all SERCs/JERCs to eliminate any form of regulatory risk linked with adoption of differential approach for APPC determination. This shall assist in the long term development of the REC market.

### **8.8.2 Certification by the Appropriate Commission after accreditation**

The RE projects seeking participation in the REC market are required to undertake accreditation of the RE project at the State level. The State Agencies, as may be designated by Appropriate Commission, acts as agency for accreditation and recommending the renewable energy projects for registration. The permission is granted by the State Agency in the form of accreditation certificate. The accreditation certificate issued by the State Agency is directly submitted to the Central Agency.

In order to further strengthen the process of accreditation at the State level, the Commission feels it would be desirable to require RE generators to obtain approval certificate from the Appropriate Commission after obtaining the accreditation from the State Agency. This is, however, beyond the scope of present regulatory dispensation and may be taken up in

future through suitable amendments in the regulations and/or detailed procedure of the Central Agency.

### **8.8.3 Other Comments**

The above suggestions received from the stakeholders are outside the scope of the present exercise to amend the REC Regulations. Hence these suggestions have not been considered by the Commission at this stage.

**A. S. Bakshi**  
Member

**A. K. Singhal**  
Member

**M. Deena Dayalan**  
Member

**Gireesh B Pradhan**  
Chairman

## **Annexure I**

### **Name of stakeholders who submitted written comments**

#### **S.NO    Name**

- 1    UJAAS Energy Ltd.
- 2    Suryashakti Enterprises
- 3    Shriji Polymers (India) Ltd.
- 4    Indian Sugar Mills Association
- 5    Gupta Sons
- 6    Urja Gyan Foundation
- 7    Hindustan Platinum Pvt. Ltd
- 8    KRBL Ltd.
- 9    Indra Vidhya Power
- 10   Deepak Industries Ltd.
- 11   Friends Salt Works & Allied Industries
- 12   Systematic Enterprises Private Ltd.
- 13   Flow Devices Systems
- 14   Navin Bansal & Lucky Aggarwal (Student, TERI)
- 15   RH Prasad & Company Private Ltd.
- 16   Tamilnadu Newsprint & Paper Ltd.
- 17   CVK Solar Enterprises
- 18   UP Sugar Mills Cogen Association
- 19   Hindalco Industries Ltd.
- 20   Urjankur Shree Dutta Power Company Ltd.
- 21   Omega Renk Bearings Private Ltd.
- 22   Prayas, Pune.
- 23   Tuhina Enterprises
- 24   Kanoria Chemicals and Industries Ltd.
- 25   Windsor Exports
- 26   Eastman International
- 27   Tata Power Company Ltd.
- 28   Gujarat Urja Vikas Nigam Ltd.
- 29   Torrent Power
- 30   Raghav Charyulu, TV
- 31   Rana Sugars Limited
- 32   IL&FS Energy Development Company Ltd.
- 33   Green Infra Limited

- 34 Indian Wind Turbine Manufacturers Association
- 35 Mytrah energy India Ltd.
- 36 ITC Limited.
- 37 Inox Renewables
- 38 Power System Operation Corporation Ltd.
- 39 Solar Power Society
- 40 UP Sugar Mills Cogen Association
- 41 Ginni Global Private Ltd.
- 42 CLP Wind Farms India Limited
- 43 Inox Wind Limited
- 44 Renewable Energy Stakeholders Forum
- 45 Indian Wind Power Association
- 46 Manikaran Power Limited
- 47 REConnect Energy Solutions
- 48 Sai Saburi Urja Pvt. Ltd.
- 49 Simran Wind Project Ltd
- 50 Indian Biomass Power Association
- 51 Shree Renuka Sugars Ltd.
- 52 Kshitij Synergy Corp Pvt Ltd.
- 53 Reliance Infrastructure Ltd.
- 54 National Engineering Industries Ltd
- 55 India Wind Energy Association
- 56 Rudraksh Energy, Jaipur
- 57 RSM GC Advisory
- 58 Royal Electrical
- 59 Bhilangana Hydro Power Ltd.
- 60 Orient Green Power Company Ltd.
- 61 Continuum Wind Energy(India) Pvt. Ltd.
- 62 Himachal Small Hydro Power Association
- 63 Hero Future Energies
- 64 Tamil Nadu Generation And Distribution Corporation Ltd
- 65 BMD Pvt. Ltd.
- 66 Enrich Energy Pvt. Ltd.
- 67 Punjab Energy Development Agency
- 68 Independent Power Producers Association of India
- 69 Wind Independent Power Producers Association
- 70 Essar Power Ltd.
- 71 Power Exchange India Limited
- 72 Nahar Industrial Enterprises Ltd.
- 73 RPG Trading Power Limited

- 74 Association of Power Producers
- 75 Welspun
- 76 Dinesh K. Patel, Ahmedabad
- 77 ReNew Power
  
- 78 Himachal Pradesh Electricity Regulatory Commission
- 79 Kerala State Electricity Board Limited
- 80 Shri Giriraj Energy Pvt. Ltd.
- 81 Hindustan Power
- 82 Vikram Tea
- 83 Association of Power Traders
- 84 PHD Chamber of Commerce and Industry
- 85 Indian Renewable Energy Federation
- 86 Suma Shilp Limited
- 87 Apeiron Renewable Energy Pvt. Ltd.

**Annexure-2****List of Stakeholder's who presented their comments before Commission**

S.N	Name	Organisation
1	K.R. Srenivas	IWPA
2	Anurag Mundra	Ujaas Energy
3	R.K Srivastava	IEEMA
4	Anand Darikar	Enrich
5	Mahesh Vipradas	Indian Wind Energy
6	Minaxi Garg	POSOCO
7	Vaibhav Nuwal	REConnect Energy
8	Ashish Srivastava	REC Stakeholders Forum
9	P.G.V Jivanarayana	Tata Power Trading
10	Mr. Sarda	Flow Devices Systems
11	Mr. N.A Patel	GUVNL, Gujarat
12	Mr. Sanjay Sen	U.P Sugar Mills Cogen Association
13	Mr. Sanjay Sen	Green Energy Association
14	Mr. Maulik	Kshitij Synergy
15	Sanjiv Kumar Bansal	R.H Prasad
16	Sandeep Hasunkar	Urjankur Shree Datta Power
17	Karun Modi	Jai Mangal Infra power
18	Sushil Saharia	Shir Giriraj Energy
19	Rahul Gupta	Rays Power
20	Hari Mohan Parekh	Sshri Giriraj Energy
21	Uday Kamat	Yash Agro Energy
22	Gaurav Maheswari	IEV
23	P.P Gupta	Simran Wind Farm
24	Mr. Rakesh	Continuum Energy