CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. SM/016/2014 (Suo Motu)

Date of order: 30th December, 2014

Coram: **Shri Gireesh B Pradhan, Chairperson**
Shri M. Deena Dayalan, Member
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member

ORDER

IN THE MATTER OF

Determination of Forbearance and Floor Price for the Solar REC

A. BACKGROUND

1. The existing REC framework provides that each certificate (REC) shall represent 1 MW hour of electricity generated from renewable energy source and injected into the grid. There is a minimum and maximum price of REC within which REC transactions can be undertaken. This has been provided to avoid adverse impact of price volatility. These are called the 'floor price' and 'forbearance price'.

2. The Central Commission in consultation with the Central Agency (National Load Despatch Centre) and Forum of Regulators (FOR) from time to time provides for floor price and forbearance price separately for Solar and Non-solar Renewable Energy Certificates. The REC Regulations provide for the guiding principles for determining the forbearance and floor price for solar and non-solar Certificates. The relevant provisions are extracted as under:

*"**Regulation 9 of REC Regulations Pricing of Certificate:***

1. The price of Certificate shall be as discovered in the Power Exchange:
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 Certificates.

2. The Central Commission while determining the floor price and forbearance price shall be guided inter alia by the following principles:

a) Variation in cost of generation of different renewable energy technologies falling under solar and non-solar category, across States in the country;
b) Variation in the Pooled Cost of Purchase across States in the country;
c) Expected electricity generation from renewable energy sources including:-
i. expected renewable energy capacity under preferential tariff
ii. expected renewable energy capacity under mechanism of certificates;
d) Renewable Purchase obligation targets set by State Central Commissions"

3. Based on the above referred guiding principles, the Commission earlier came out with an Order dated 1.06.2010 in the matter of 'Determination of Forbearance and Floor Price for the REC framework' (suo motu Petition No.99/2010) and determined forbearance price and floor price for dealing in Certificates under the REC Regulations:

Table : Floor and Forbearance price

	Non Solar REC (Rs./MWh)	Solar REC (Rs./MWh)
Forbearance Price	3,900	17,000
Floor Price	1,500	12,000

4. The above determined forbearance price and floor price were valid for the control period up to 31.03.2012.

5. Subsequently, based on the guiding principles specified in Para 3, the Commission vide its suo motu Order (No.142 / 2011) dated 13.06.2011 determined the following forbearance and floor prices for the control period from 1.04.2012 to 31.03.2017:

Table :Forbearance and Floor price

	Non Solar REC (Rs./MWh)	Solar REC (Rs./MWh)
Forbearance Price	3,300	13,400
Floor Price	1,500	9,300

6. The present notified solar certificate price range is Rs. 9,300-13,400 (Rs. 9.3/kWh – Rs.13.40/kWh) for the period of 2012-2017. The solar PV tariff has come down drastically in the last three years and the latest price bids for large scale solar PV projects are around Rs. 6.50/kWh.

The CERC determined solar PV tariffs are also set at Rs 6.91/kWh and Rs.7.72/kWh with and without accelerated depreciation benefit respectively for the FY 2014-15. The Solar PV projects coming in later years (with lower costs) may get much higher profits if the market clearing price for solar RECs is dictated by the older projects. It has been suggested by many stakeholders that CERC should revise solar floor and forbearance price downwards otherwise it will result in windfall profit to the solar PV project developer and will adversely impact the retail consumers. It was also argued that higher priced solar certificate would not be sustainable for the solar sector in the long run as the obligated entities are not coming forward in the REC market to buy solar RECs due its high prices.

7. Various stakeholders had raised concern about the bankability of renewable energy project under REC mechanism because of high risk perceived by the bankers/ financial institutions. The key constraint identified by them was the lack of visibility of revenue under the REC mechanism as the floor and forbearance price band had been announced for 5 years upto 31.03.2017 and beyond which there was no clarity on the evolution of the price band. The stakeholders were aware that in all likelihood this would be revised downwards as was done once, but the magnitude of the decline was not known. They requested for clarity in this regard which was essential for investment certainty in this mechanism. From the point of view of the investors and bankers/financial institutions, the floor and forbearance price set by the Commission should be at least up to loan period i.e. 10 to 12 years to facilitate easier availability of loan for renewable energy projects under REC mechanism.

8. Considering the above, the Commission vide its Suo-Motu Order dated 30.9.2014 (Petition No.SM/016/2014) invited comments / suggestions/ objections of the stakeholders (vide public notice No.L-1/12/2010-CERC dated 30.09.2014) on the following proposal pertaining to forbearance price and floor price for the Solar REC by 30.10.2014.

i. Solar REC Floor price for the Solar projects commissioned on and after 1.4.2014: Rs. 3500/ Certificate
ii. Solar REC Forbearance price for the Solar projects commissioned on and after 1.4.2014: Rs. 5800/ Certificate

iii. Solar projects that sell 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, shall be issued Certificates, for one Megawatt hour of electricity injected into the grid, considering following Vintage Multiplier (VM) :

Year of Commissioning	**Multiplier**
2013	1.47
2014	1.19
2015	1.00

iv. Solar projects that sell the electricity generated to any other licensee or to an open access consumer at a mutually agreed price, shall be issued Certificates for one Megawatt hour of electricity injected into the grid, considering following Vintage Multiplier (VM) :

Year of Commissioning	**Multiplier**
2013	0.74
2014	0.60
2015	0.50

v. Solar projects which are CGP shall be issued Certificates for self consumption of one Megawatt hour electricity generated and self consumed. considering following Vintage Multiplier (VM) :

Year of Commissioning	**Multiplier**
2013	0.74
2014	0.60
2015	0.50

vi. The Vintage multiplier based on the above shall be provided for a period of 12 years, from the year of commissioning.

vii. The proposed Vintage Multipliers are derived based on the formulation as provided in the Regulation 7 of the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy

Generation) (Third Amendment) Regulations, 2014. This will be reviewed every year and on such review the revised multiplier shall apply for projects commissioned in the respective years.

9. In response to above 87 stakeholders submitted their comments/suggestions/objections. The list of such stakeholders is attached as **Annexure-1**

10. A Public Hearing was held on 10.11.2014 before taking a final decision regarding the Forbearance and Floor Price for the Solar REC framework. 24 participants presented their comments/suggestions/objections during the Public Hearing. The list of such participant is attached as **Annexure-2.**

B. CONSIDERATION OF VIEWS OF THE STAKEHOLDERS AND ANALYSIS & FINDINGS OF THE COMMISSION ON IMPORTANT ISSUES

The Commission considered the comments of the stakeholders, views of the participants in the public hearing on the proposed floor and forbearance prices. Analysis of the important issues and findings on the Commission thereon are discussed in subsequent paragraphs

1. Solar Floor and Forbearance price

1.1 **Commission's Proposal:**

1.1.1 Solar REC Floor price for the Solar projects commissioned on and after 1.4.2014: Rs.3500/Certificate

1.1.2 Solar REC Forbearance price for the Solar projects commissioned on and after 1.4.2014: Rs. 5800 / Certificate

1.2 **Comments received**

1.2.1 The proposed reduction in floor price of solar RECs is a welcome step. **(Dinesh Patel)**

1.2.2 New Floor price of Solar REC should be Rs. 3.60/kWh as net rate is coming to Rs. 3.58/kWh. REC is not getting sold so even 0.02 paise per unit will be a big impact.**(Hindustan Platinum Private Limited, Ujass Energy)**

1.2.3 It is not clear how the minimum project viability requirement price of Rs. 5.50/ kWhr has been determined. If it has been based on the solar tariff under the NSM Phase II Batch I, then it may please be noted that this scheme was supported by 30% of VGF support to developers. So Rs. 5.50 does not reflect the right price.**(WELSPUN)**

1.2.4 The highest difference as per the actual FITs spelt out by the states comes to Rs. 8.58/ kWhr and as such this should be taken as the forbearance price. As per the proposed amendments, a distribution licensee has also been made eligible to trade in RECs subject to their procurement of RE in excess of their RPO requirements. As of now, distribution licensees have been procuring solar power either under Section 62 or 63 of EA, 2003 – mostly through the latter route. The fact of the matter is that nowhere have the prices gone down to the levels as proposed by CERC for the REC price band. So, if the licensees are procuring power at a higher price band, it makes no commercial sense for them to trade in the REC market at a lower price band of Rs. 3.50 – Rs. 5.80/ kWh. **(WELSPUN)**

1.2.5 It is suggested that prevailing floor and forbearance prices of REC be continued for a defined period as any change in the REC prices would lead to reduction in the REC revenue envisaged by the project developers. **(Kshitij Synergy Corp Pvt. Ltd.)**

1.2.6 To maintain existing floor price for old unsold REC with a cut off date for future months **(Omega Renk Bearings Pvt. Ltd)**

1.2.7 The Vintage Multiplier should be increased to make the REC at par with existing floor price for unsold REC with a cut off date for future months. **(Omega Renk Bearings Pvt. Ltd)**

1.2.8 The new price range of solar REC (Rs. 3,500 – 5,800 per certificate) shall be made applicable to all the Solar RECs getting commissioned from this financial year. However this shall achieve the desired objective of the Commission but shall tantamount to introducing two products in REC market one being at lower cost for meeting RPO than other. In effect, this shall result the old RECs (high priced) to remain unsold thus making older projects unviable. **(IPPAI)**

1.2.9 The min viability figure of 5.5 Rs/kWh used for calculation in working of the order for Determination of solar REC floor price for FY 2015 should be substituted with Rs. 7.00/kWh as even in SECI bids INR 5.5/kWh required viability gap funding. **(CVK Solar Enterprises)**

1.2.10 Floor price not to be changed from Rs 9300 per REC till March, 2017. **(UJAAS Energy Ltd)** if it gets changed then VBM should be such that it does not affect the financials. **(Omega Renk Bearings Pvt. Ltd) , (Indra Vidhya Power) (Surya Shakti Enterprises) (KRBL Limited)**

1.2.11 Floor price not to be changed from Rs 9300 per REC till March, 2017 **(Shriji Polymers (India) Limited), (Systematic Enterprises Pvt. Ltd)**

1.2.12 As per calculations net rate is Rs. 3.58 and order thus should be for Rs. 3.60 as against Rs. 3.50 only. **(Gupta sons) (Hindustan Platinum Pvt. Ltd.)**

1.2.13 It would be prudent to use the competitively discovered prices in recent times, which are roughly INR 6.5/kWh. The FiT (with AD) is INR 6.92/kWh which is closer to the discovered price. Using INR 6.5/kWh results in a forbearance price of Rs. 4.6/kWh (i.e. 6.5-1.92). A lower proportionate minimum viability requirement of INR 4.95/kWh results in a floor price of Rs. 3.03/kWh (i.e. 4.95-1.92). **(Prayas Energy Group)**

1.2.14 Slashing of floor price from Rs. 9300 to Rs. 3500 would make it difficult for older projects to recover costs as about a clearance ratio of 90% will now be required for a seller to recover the same amount as earlier with a clearance ratio of 50% **(Power Exchange India Limited)**

1.2.15 Normative return on equity (ROE) as considered by the CERC i.e. 20% per annum for the first 10 years must be considered as a project viability parameter in determination of the floor price. **(Association of Power Producers)**

1.2.16 A small hike up to Rs 4000 with VM is requested along with enforcement of RPOs. **(Shri Giriraj Energy Pvt. Ltd.)**

1.2.17 The Floor price should be computed with return included i.e. at the levelised tariff for 25 years, say Rs. 7.72/unit for FY 15. Forbearance price may be determined by fixing a limit of suitable additional incentive say 10% above floor price. **(Hindustan Power)**

1.2.18 Reduction of REC price is incentive to defaulting obligated entity. **(Ujaas Energy)**

1.2.19 As there are many projects under construction phase, we request CERC to consider cut-off date as 31st March 2015 for implementation of new regulation. **(Enrich Energy Private Limited)** Aspect of increasing difference between CSP and PV price differential needs to be addressed. **(Prayas Energy Group)**

1.3 Analysis and decision

The Commission has reviewed the comments received from various stakeholders. A number of stakeholders have requested clarification on the solar tariff reference taken and the framework adopted for determining the floor and forbearance price.

The framework adopted for computation of floor and forbearance price is unchanged from the earlier REC orders issued by the Commission. Accordingly, the solar Forbearance price has been derived based on the highest difference between the Commission determined Solar PV tariff (FIT) and the APPC across states for the year 2014-15. The highest difference has been rounded off to arrive at the forbearance price of Rs. 5800/MWh.

The solar Floor price has been calculated based on the project viability approach. The project viability approach covers the cost required to meet viability parameters including O&M, interest, principal repayment etc. The highest difference between the minimum requirement for project viability of solar PV and respective states' APPC of previous year (2014-15) has been considered as floor price. The highest difference has been rounded off to arrive at the floor price of Rs. 3500/MWh.It is also suggested by stakeholders that as there are many projects under construction phase, cut-off date of 31st March 2015 can be considered for implementation. The Commission hereby decides to adopt the date of notification of this Order as the cut-off date for applicability of the new solar floor and forbearance price.

The Commission decided to retain the proposed amendment in the final Order. The following forbearance price and floor price are prescribed for dealing in Solar Certificates under the REC Regulations:

	Solar REC (INR/ MWh)
Forbearance Price	5800
Floor Price	3500

The above stated forbearance and floor prices shall remain valid for the control period upto financial year 2016-17 from the date of notification of this Order.

2. Vintage Multipliers for Solar projects that sell the electricity generated to the distribution licensee of the area of the eligible entity

Commission's Proposal:

• **Year of Commissioning**	**Multiplier**
2013	1.47
2014	1.19
2015	1.00

2.1 **Comments Received**

2.1.1 REC based solar power projects contribute approx.19.50% of total installations in India. The investments made for these projects were considering the project viability based on revenue realization from REC sale in the price band of INR 9,300-13,400 per REC. The project Capex per MW during 2011-12, 2012-13 & 2013-14 were approx. Rs 14Cr, Rs 10Cr &Rs 8Cr. respectively. Hence, reducing REC prices will have severe adverse effect on project viability for projects already commissioned in REC route and thus compelling the commissioned Solar projects to become NPA. This point may be recorded by Commission. With suggested REC Floor & Forbearance Price, the viability of existing projects will be endangered and thus we suggest Vintage Multiplying factor need to be revised to minimum 2.66 for project already commissioned till date in order to ensure REC revenue realization considered at the time of investment. **(Enrich Energy Private Limited, Hindustan Power)**

2.1.2 An investor who invested in the project in FY 2012-13 and holds RECs will see the value of its RECs decline from Rs 9,300 to Rs 5,145 per REC. This is a whopping 45% decline in value. The impact on investors in solar projects of the new regulations will be a net loss of 45% of value of RECs. This will make the projects unviable. While the effort to correct the dysfunctional market is commendable, the net result of the draft regulations is that the existing solar investors will have to take a huge loss. This will create significant problems for existing investors, as they will struggle to meet their debt repayments, let alone get any return on their equity. It will also be a huge deterrent to future investment in the solar sector. Our analysis suggest that based on the current holding of REC, this will result in an approximate loss of Rs 1 crore/ MW.

2.1.3 We appreciate the need for a vintage based multiplier in the REC mechanism due to significant change in the capital cost of solar projects. However, in the case of solar projects that the entire investment in the project was made in the year of commissioning, and hence is locked-in. Thus, expecting old projects to be assessed at current rates, and thereby taking a significant loss is unjustified.

2.1.4 This also goes against the principles of promissory estopple, as investors were promised an REC rate of Rs. 9,300/MWH till March 2017. At the minimum, a multiplier of 2.66 should be given to projects from FY 12-13 so that the values of a MWH of energy generated for them remain at Rs. 9,300/MWH. Similarly the multiplier for other years should also be adjusted. This may apply only to projects commissioned prior to the amendment. Further, it is proposed that a multiplier will be applied to solar projects that sell power under OA or are set up as CPPs. As suggested above, this is neither supported by data provided by the Commission, nor in keeping with basic economic fundamentals. Such a multiplier will reduce the REC component in a project significantly. The minimum price is almost the same as the floor price for Non-solar projects. This is unjustified looking at the capital costs of solar projects and the fact that OA projects inherently bear 'market risks' (something that APPC projects do not). Such a low price will discourage investment strongly. Our suggestion is that such a price multiplier is not justified and therefore should be scrapped. **(Bhilangana Hydro Power Limited)**

2.1.5 It is requested to change the year of commissioning from calendar years to Financial Years.**(CVK Solar Enterprises)**

2.1.6 It is suggested to change multipliers for all projects commissioned up to 31.12.2014 to 9.30/3.50 = 2.66 till FY 17. **(RH Prasad and Company (P) Ltd) (Friends Salt works and Allied Industries),(Tuhina Enterprises), (Eastman International). (REConnect Energy Solutions Limited) (BMD Private Limited)** Post FY 17 it is suggested that Multiplying factors be changed to 2.25 & 1.75 till FY 20 and 1.75 & 1.50 for period between FY 20 to FY 27, respectively. **(CVK Solar Enterprises)**

2.1.7 There should be two categories of Solar REC issuance for third party sale commissioned during 2013. a) 1-5 MW PV solar generators with vintage multiplier 2.66; b) Above 5 MW PV solar generators under REC mechanism: 1.88 times. **(Sai Saburi Urja Pvt. Ltd.)**

2.1.8 Clarity of the eventuality that in case older solar projects get registered under REC mechanism during the control period in future and their treatment may be provided **(Power System Operation Corporation Limited)**

2.1.9 Clarity on treatment of unsold RECs in the inventory. **(Power System Operation Corporation Limited)**

2.1.10 Clarity on dealing with solar thermal project which may be registered in future may be provided.**(Power System Operation Corporation Limited)**

2.1.11 For treatment for registration of Large/Mega project with different commissioning dates, clarity on commissioning date to be considered or bifurcation of projected as separate projects on basis of commissioning dates. **(Power System Operation Corporation Limited)**

2.1.12 It is proposed that vintage multiplier may be based on solar module procurement period, as against commissioning period, as fall in module prices was the main cause of fall in project cost **(Kanoria Chemicals and Industries Limited)**

2.1.13 VBM for projects commissioned in 2012-13 should be 3.4 till 2017. **(Gupta Sons)**

2.1.14 Provide VBM of 2.87 for projects commissioned in 2011 and 2.63 for projects commissioned in 2012. **(Guj Urja Vikas).**

2.1.15 VM of 3.43 , 3.13, 2.64 for projects commissioned during FY 2009-10 , FY 2010-11 and FY 2011-12 respectively. **(Reliance)**

2.1.16 For the new projects, minimum requirement levelised tariff may be qualified as levelised tariff for 12 years. Minimum requirement definition may include interest on working capital.Some provision for continuation of VBM after 12 years may also be provided **(Hindustan power)**

2.1.17 There should be a corresponding increase in SPO of all licensees or a downward adjustment in value of REC so that requirement of electricity generation through solar RE does not go down.

2.1.18 Operating cost of IEX and PXIL is not considered **(Vikram Tea)**

2.1.19 VBM for projects commissioned in 2012 should be defined. **(Ujaas Energy Limited)**

2.1.20 VBM for projects commissioned in 2011 and 2012 should be defined. For 2011 it should be 2.87 and for 2012 it should be 2.63.**(Gujrat Urja Vikas Nigam Limited)**

2.2 Analysis and Decision

The approach proposed for Vintage multiplier considers providing multiplier to Solar PV projects by analyzing the difference between the minimum project viability requirement and change in APPC from the year of project commissioning to the current year. The minimum project viability requirement of the project based on the year of commissioning is proposed to be maintained while keeping in mind the variation in APPC over the years.

The Commission has analyzed the inputs of different stakeholders on the concept of Vintage multiplier. 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 Vintage multiplier formula for solar projects already commissioned should be a ratio of current floor price and new floor price.

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 provided the following formulation in the Third REC Amendment Regulations:

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

(7) The Commission shall determine through separate order, the quantum of Certificate to be issued to the eligible entities being solar generating companies registered under REC framework prior to the date of effect of these Third REC Amendment Regulations, 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 to the date of effect of these Third REC Amendment Regulations, for the period upto 31st March, 2017 after which such projects shall be eligible for one REC for one megawatt hour of electricity generated unless and until provided otherwise."

Based on the above and the principles adopted under the REC regulations, the Vintage Multiplier shall be as stated in the table below:

Vintage Multiplier – Solar	2.66

The above vintage multiplier shall be provided to the solar generating companies registered under REC framework prior to the date of effect of the Third REC Amendment Regulations, for the period upto 31st March, 2017 after which such projects shall be eligible for one REC for one megawatt hour of electricity generated. In other words, the solar generating companies registered under REC framework prior to the date of effect of the Third REC Amendment Regulations would be eligible for 2.66 REC for one megawatt hour of electricity generated and injected into the grid and this dispensation would be available to such projects for the period upto 31st March, 2017, after which the said projects would be eligible for one REC for one megawatt hour of electricity generated.

3. Vintage Multipliers for Solar projects that sell the electricity generated to any other distribution licensee, or to an open access consumer at a mutually agreed price

Commission's Proposal:

Year of Commissioning	Multiplier
2013	0.74
2014	0.60
2015	0.50

3.1 **Comments Received**

3.1.1 It is suggested to prescribe Multiplier for project commissioned in the year 2012. **(Rudraksh Energy)**

3.1.2 It is requested to change the year of commissioning from calendar years to financial years**.** **(CVK Solar Enterprises)**

3.1.3 We request CERC to consider the operating cost of IEX & PXIL which are annexed herewith for your reference while determining the vintage multiplier and set guidelines for revision in statutory charges of IEX / PXIL. **(Enrich Energy Private Limited)**

3.1.4 Considering the existing Floor price of Rs. 9300/MWh, the vintage multiplier works out to be 2.60. **(Kshitj Synergy Corporation Pvt. Ltd.)**

3.1.5 CERC may retain the denomination of RECs for Non-APPC projects same as that of APPC based projects. **(IREF)**

3.1.6 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 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)**

3.2 **Analysis and Decision**

The Commission has received a number of comments from stakeholders in this context. Some of the stakeholders who commented on the proposal of multiplier for REC projects based on open access route, argued that several such projects 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 this proposal would not only make such projects unviable but would also send a wrong signal for future 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.

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. As such, the Commission has decided to keep in abeyance, the proposal of separate multiplier for RE projects based on open access route.

4. Vintage Multipliers for self-consumption by Solar projects which are CGP

Commission's Proposal:

Year of Commissioning	Multiplier
2013	0.74
2014	0.60
2015	0.50

4.1 **Comments Received**

4.1.1 In case of solar projects that the entire investment in the project was made in the year of commission, and hence locked-in. Thus, expecting old projects to be assessed at current rates and thereby taking a significant loss is unjustified. This also goes against the principles of promissory estoppels as investors were promised and Rs. 9,300/ MWh till March 2017. At the minimum, a multiplier of 2.66 should be given to projects from FY 2012-13 so that the value of a MWH of energy generated for them remains at Rs. 9,300. Similarly, multiplier for other years should also be adjusted. Multiplier proposed for OA and CGP is neither supported by data provided by the Commission nor in keeping with basic economic fundamentals. Such a multiplier will reduce the REC component in a project significantly. OA projects inherently bear "market risk" (something that APPCC project do not). Such a low price will reduce the REC component in a project significantly. **(BMD Pvt. Ltd., Vikram Tea)**

4.1.2 The Order does not specify the vintage multiplier for Solar REC to be issued to Distribution Licensee. It is suggested to specify the Vintage multiplier to be applied for Solar RECs if solar power is purchased at preferential tariff period prior to FY 2012-13. We are purchasing solar power at Rs. 17.91/unit. Rinfra-D pursuant to approval of the State Commission, as per proposed amendment will be eligible to trade RECs, but no Vintage Multiplier is proposed for the plants commissioned during the period FY 2009-10 to FY 2011-12. Based on the formula proposed by the Commission, it is suggested to specify vintage multiplier of 3.43, 3.13, 2.64 for FY 2009-10, FY2010-11 and FY2011-12. **(Reliance Infrastructure Limited)**

4.1.3 At proposed half certificate for self consumption of One Megawatt-Hour electricity from RE sources and revised REC prices, CGP based solar projects become unviable. It is suggested that multiplier be changed to 1.0 for Solar CGP replacing utility power and 1.2 for Solar CGP replacing thermal generation for ensuring viability. **(Hindalco Industries Limited)**

4.1.4 It is requested to change the year of commissioning from calendar years to Financial Years. **(CVK Solar Enterprises)**

4.1.5 In view of wheeling & transmission losses, non banking of units and non-use of solar units on holidays it is suggested that solar developers get similar number of REC on sale to Discom /third party **(CVK Solar Enterprises)**

4.1.6 Multiplier for OA and CGP is not justified and should not applicable **(REConnect Energy Solutions Limited)**

4.1.7 Multiplier for OA and CGP will result in losses to OA/CGP based RE projects and should be scrapped **(BMD Private Limited)**

4.1.8 There is no financial viability due to current state APPC tariff and proposed floor price of REC at CERC determined Capex of Solar Project **(Vikram Tea)**

4.2 Analysis and Decision

Several stakeholders have commented on the proposal for introduction of multiplier for REC projects based on captive consumption or open access route. The comments vary depending upon the stakeholder's interest.

It also remains a fact that there is a huge inventory of REC in the market today, contributed largely by the CGPs. Around 50% of the total number of projects accredited/registered under the REC framework belong 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 scheme

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 being kept in abeyance.

5. Other Comments

5.1 Comments Received

5.1.1 RPO enforcement

We suggest that CERC should make RPO compliance mandatory and impose penalty for non-compliance, which will enhance the REC trade further we request Hon CERC not to allow waiver or carry forward of Solar RPO compliance to any utilities by SERC's till Solar REC inventory is available. **(Enrich Energy Private Limited)**

5.1.2 Quarterly RPO Fulfillment & other Comments

5.1.2.1 In addition to mandatory RPO compliance, we suggest that the RPO compliance be imposed quarterly instead of annually, in order to ensure more redemption of RECs throughout the year. This will help to maintain an even revenue flow cycle to the invertors throughout the year. **(Enrich Energy Private Limited)**

5.1.2.2 CERC calculations do not capture solar radiation variance across states. **(Ujaas Energy Limited)**

5.1.2.3 Definition of minimum requirement to include Return on equity as a parameter so as to calculate Right Floor price. **(Association of Power Producers)**

5.1.2.4 In case the CERC feels that the generator will earn extra profits because of higher forbearance price, the CERC may direct that the floor price including RoE be paid to the developer and the remaining amount be added to the fund which may later be used to clear the excess REC inventory in the market. **(Association of Power Producers)**

5.1.2.5 It is suggested that CERC should mandate obligated entity to meet prior year RPOs through proportionately higher number of REC purchase. CERC should also advise SERCs to incorporate the same in their RPO regulations. **(Dinesh K. Patel)**

5.1.2.6 RECs to have infinite or at least 5 years shelf life. Multiplier for carrying cost of RECs.**(Hindustan Power)**

5.1.2.7 It is suggested that like many states have made Renewal of Open Access permission conditional for compliance of RPO, similarly CERC should also follow this lead and make compliance of RPO mandatory for interstate Open Access renewal. **(Dinesh K. Patel)**

5.2 **Analysis and Decision**

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

(A.S. Bakshi)	(A. K. Singhal)	(M. Deena Dayalan)	(Gireesh B Pradhan)
Member	Member	Member	Chairperson

Annexure 1

Name of stakeholders who have 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 the Commission

S.N	Name	Organization
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 Griraj 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