

**KERALA STATE ELECTRICITY REGULATORY COMMISSION  
THIRUVANANTHAPURAM**

**Present: Shri T.M.Manoharan, Chairman  
Shri. K.Vikraman Nair, Member  
Shri. S. Venugopal, Member**

**OP No 20 / 2015**

**Petition in the matter under Regulation 6 (2) of Kerala State Electricity Regulatory Commission seeking exemption from depositing amount corresponding to the shortfall in achieving Renewable Purchase Obligation for years 2010-11, 2011-12 and 2012-13.**

**Kerala State Electricity Board Limited, - Petitioner  
Trivandrum**

**Order Dated: 16.09.2015**

**T.M. Manoharan, Chairman**

1. KSEB Ltd, the petitioner, has filed OP No. 20/2015 seeking exemption from the provisions of KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010. KSEB Ltd in the petition stated that Commission vide letter No 337/CT/2013/KSERC/229 dated 26-02-2015 has issued directions to KSEB Ltd to deposit an amount of Rs 125.00 Crores into a separate fund created as per Regulation 6 of the KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010 for purchase of solar and non-solar Renewable Energy Certificates (RECs) corresponding to its shortfall in achieving Renewable Purchase Obligation (RPO) for the years 2010-11, 2011-12, 2012-13 and 2013-14. The petition seeks exemption from depositing the said amount.
2. The prayers in the petition are as follows
  - (1) The electricity procurement from co-generation plants of M/s MP Steel and M/s Philips Carbon Black may be allowed to be accounted as part of RPO of KSEB Ltd.
  - (2) The generation from Maniyar captive small hydro power project may be accounted towards RPO of KSEB Ltd on behalf of the State of Kerala.
  - (3) By invoking the provisions of the regulation 6(2) of KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010, the

shortfall in RPO if any during the year 2012-13 due to failure of monsoon may be adjusted against the excess RPO met during the years 2010-11, 2011-12 and 2013-14 and the balance if any may be allowed to be carried forward to the subsequent years.

- (4) KSEB Ltd may be exempted from depositing an amount of Rs 125.00 Crore as penalty for non-compliance of the RPO in a separate fund as per Regulation 6 of KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010.
- (5) As stipulated under paragraph 6.4 of the National Tariff Policy, the RPO target may be re fixed considering the tardy capacity addition in Renewable Generation and its impact on retail tariff.”

### **Hearing of Petition**

3. A public hearing was conducted on 25-06-2015. In the hearing KSEB Ltd submitted the following:

- (1) The energy purchase from co generation plants M/s MP Steel and M/s Philips Carbon and Maniyar SHP may be accounted as part of the RPO of KSEB Ltd.
- (2) Necessary direction may be issued to M/s ANERT to re work the RPO obligation duly considering the energy purchase from M/s MP Steel , M/s Philips Carbon and generation from Maniyar SHP.
- (3) Adjust the RPO short fall during the year 2012-13 due to failure of monsoon. It may be adjusted against excess RPO met during the years 2010-11, 2011-12 and 2013-14 and exempt KSEB Ltd from depositing any amount into a separate fund to be created by KSEB Ltd as per Regulation 6 of the KSERC (Renewable Purchase Obligation and its compliance ) Regulations, 2010.

4. The above request were submitted by KSEB Ltd in their letter dated 27.08.2014. The Commission had, vide letter dated 26.02.2015 issued the following clarifications.

- (1) Co-generation can be considered as renewable energy , only if the co-generation uses renewable energy such as small hydro, solar, wind, biomass, bio gas etc. In the case of MP Steel and Philips Carbon Black, co- generation is not from renewable energy sources. Therefore claim of KSEB Ltd in this regard cannot be admitted.
- (2) KSEB Ltd is not purchasing any energy from Maniyar SHP. Hence the energy generated from Maniyar SHP cannot be accounted towards RPO of KSEB Ltd.
- (3) Carryover of shortfall in RPO can be permitted only if REC is not available . Hence claim of KSEB Ltd cannot be admitted.

(4) KSEB Ltd is directed to create a separate fund as per Regulation 6 of KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010 and remit an amount of Rs 125 Crores for the purchase of solar and non-solar REC.

In this petition KSEB Ltd is raising the same issues once again with more explanations with a request to consider the prayers of KSEB Ltd once again and issue orders.

5. Regarding the direction of the Commission to deposit in a separate fund, an amount of Rs 125 Crore as penalty for non-compliance of the RPO as per Regulation 6 , KSEB Ltd has further submitted the following points.

*(1) Any penalty imposed on KSEB Ltd on account of shortfall in RPO is a pass through in tariff. KSEB Ltd as the generator and power procurer for the entire consumers of the State, the liability may ultimately fall on the shoulder of entire consumers of the State.*

*(2) After accounting the co-generation from M/s M.P.Steel and M/s Philips Carbon Black and also electricity generation from Maniyar SHP , KSEB had achieved excess RPO except during 2012-13. The shortfall in RPO during the year 2012-13 is on account of the failure of monsoon and consequent reduction in generation from SHPs in the State.*

*(3) The State Government has been taking various initiatives through policy directives for the development of renewable energy generation including generation from SHPs, wind and solar power in the State. However irrespective of the various initiatives taken by the State Government , the capacity addition in generation and wind through IPP route during last few years is far behind the expectation. The wind capacity so far developed under IPP route is 32.85 MW and SHP capacity under IPP is 22MW as detailed in paragraph 44 and 45 above.*

*(4) KSEB Ltd as the generator and power procurer of the State has been procuring the entire electricity generated from renewable through IPP route at the rate approved by the Hon'ble Commission.*

*(5) Considering the slow pace of development of renewable sector through IPP route , KSEB Ltd on its own has been giving more thrust for developing SHPs at accelerated pace. So far KSEB on its own has installed SHPs with a total capacity of 103.9 MW as on 31-03-2014. Further 103 MW of SHPs are at various stages of implementation and the same is expected to Commission during the years 2015-16 and 2016-17. Further another 117 MW of SHPs are under active consideration of the KSEB Ltd for implementation. With the Commissioning of these SHPs , the non-solar RPO of the State can be met to a large extent.*

*(6) KSEB Ltd has been taking active steps for accelerating the electricity generation of Solar to a larger scale to meet the energy requirement of the State. The details are given under paragraph 58, 59 and 60 of this*

*petition. KSEB Ltd has been targeting to meet solar RPO by the year 2015-16”*

It is also stated in the petition that Commission has not considered the tardy capacity addition from renewables especially Wind and SHPs in the State despite policy initiatives of the Government. Further, a detailed study on the impact of RPO in the retail tariff is yet to be initiated by the Hon'ble Commission.

6. In the public hearing Shri.A.R Satheesh of Carborandum Universal stated that KSEB Ltd cannot claim REC of Maniyar Project for RPO obligation. Shri.Aneesh Kumar P.A of Aluva Plastic Company (P) Ltd stated that wind energy potential of more sites in the state should be studied, recorded and made available to the public. Shri.Ratheesh K.P of Sree Sakthi Paper Mills stated that arrangements shall be made so that the unsold REC in the State could be purchased directly by KSEB Ltd from generators. Shri.P.D.Nair of Viyyat Power Pvt Ltd staked his claim for REC entitlement with retrospective effect and also stated that REC of a power station belongs to the owner of the power station. Shri.P.Valsaraj of ANERT stated that carry over of shortage in RPO may be allowed to KSEB Ltd once this time provided they come up with definite plans of RE Projects for meeting RPO in future years including carry over. Shri.Shaji Sebastian of KSSIA (Ernakulam) stated that Rs.125.00 crore shall be deposited by KSEB Ltd in a separate fund and shall be utilized for creating infrastructures to evacuate power from wind projects in remote areas like Ramakkalmedu.

## **Analysis**

7. While considering the claims and prayers of the petitioner it would be worthwhile to examine the renewable energy policy and regulations in Kerala in order to appreciate their objectives and principles and to apply them to the present case. A fairly elaborate account of the renewable energy policy and regulations in Kerala is given in the following paragraphs.
8. Harnessing of renewable energy sources is an essential component of the strategies accepted and adopted all over the world, to combat the problems relating to global warming and climate change. It is inevitable to adopt such strategies and to implement plans to ensure sustainable development and inter-generational equity in using natural resources, which are essential for maintaining the environment congenial to continued existence of mankind and other life forms on earth. Our nation has also adopted policies and action plans in tune with the global strategies for conservation of the nature and natural resources. National Action Plan for Climate Change (NAPCC), which was announced by the Prime Minister on 30.06.2008, envisages at several action plans and projects to minimize the deleterious effects of global warming and climate change. One of such action plan is to accelerate harnessing of

renewable energy with a view to reducing consumption of coal and other fossil fuels for generation of electricity. NAPCC had set the target for generation of electricity from renewable sources, at 5% of the total consumption of electricity in the country for the financial year 2009-10. It was also stipulated that the said target will be increased by one percent every year, for next 10 years so that the share of renewable energy would reach 15% by 2020.

9. Indian legal system relating to renewable energy has also been formulated to strengthen the strategies and to accelerate implementation of the action plans for achieving the national imperatives relating to sustainable development, conservation of nature and natural resources and energy security for all citizens of the nation.
10. The Electricity Act, 2003, has necessary provisions to promote renewable energy. One of the important functions of State Electricity Regulatory Commission is to promote co-generation and generation of electricity from renewable sources. Clause (e) of sub-regulation (1) of Section 86 of the Act is quoted hereunder.

*86. (1) The State Commission shall discharge the following functions, namely: -*

*(a) .....*

*(b) ....*

*(c) ...*

*(d) ....*

*(e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence;*

11. Further clauses (h) and (i) of Section 61 of the Act, which authorize the Commission to specify the terms and conditions for determination of tariff, state as follows

*61. The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-*

*(a) .....*

*(b) .....*

*(c) .....*

*(d) .....*

- (e) .....
- (f) .....
- (g) .....
- (h) *the promotion of co-generation and generation of electricity from renewable sources of energy;*
- (i) *the National Electricity Policy and tariff policy:*

Section 66 of the Act stipulates that the appropriate Commission shall endeavour to promote the development of a market (including trading) in power.

12. The Tariff Policy issued by Government of India under Section 3 of the Act vide notification No. 23/2/2005 –R&R dated 06.01.2006 has also necessary provisions to promote renewable energy. Relevant provisions in Tariff Policy, 2006 are quoted hereunder. Clause 6.4 of Tariff Policy is quoted hereunder.

*Clause 6.4 of Tariff Policy No 23/2/2005-R&R (Vol III) dated 6<sup>th</sup> January, 2006 resolves*

*"Non-Conventional sources of energy generation including Co-generation:*

*(1) Pursuant to provisions of section 86(1)(e) of the Act, the appropriate commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by April 1, 2006.*

*It will take some time before non-conventional technologies can compete with conventional sources in terms of cost of electricity. Therefore procurement by distribution companies shall be done at preferential tariffs determined by the Appropriate Commission.*

*(2) Such procurement by Distribution Licensees for future requirements shall be done, as far as possible, through competitive bidding process under Section 63 of the Act within suppliers offering energy from same type of non-conventional sources. In the long – term, these technologies would need to compete with other sources in terms of full costs.*

*(3) The Central Commission should lay down guidelines within three months for pricing non-firm power, especially from non-conventional sources, to be followed in cases where such procurement is not through competitive bidding".*

13. As per the provisions of the Electricity Act, 2003 and of the Tariff Policy, the Commission has to specify,

- (i) Percentage of renewable energy sources to be generated or purchased by Licensees

- (ii) The maximum tariff that can be allowed for purchase of the renewable energy generated from different categories of renewable energy sources.
- (iii) The norms and methodology for determination of tariff.

The Commission has also to approve the purchase of renewable energy under bid process as per Section 63 of the Act. Further the Commission has to assess the impact of procurement of renewable energy on the tariff payable by the consumers.

14. As early as in 2002, Government of Kerala in Science, Technology and Environment Department had, as per G.O (MS) 16/2002/STED dated 03.04.2002, issued a Renewable Energy Policy. This policy was issued with a view to promoting and accelerating the generation and consumption of renewable energy, in the circumstances which prevailed in the State in those days. Clauses 1.2, 1.3 and 1.4 of the said policy are quoted hereunder for elucidating the objects and reasons of such policy.

*1.2 The conventional sources of energy in Kerala are fuel wood, petroleum products and electricity. Till recently Kerala has been depending solely on hydro-power for electricity, availability of which is limited due to lack of technically favourable sites and unfavourable ecological impacts. Nuclear power and fossil fuel-fired thermal stations are the other conventional sources. Owing to widespread popular opposition, because of high population density and fragile ecology, nuclear stations could not be installed in Kerala. The only other alternative was fossil-fuelled thermal stations like Brahmapuram or Kayamkulam.*

*1.3 It is widely accepted that fossil fuels are limited, that its price will go on increasing, that they do not offer a long term solution, that they contribute to global warming and that alternative sources are to be identified.*

*1.4 To cater to ever-increasing demand of power, Government of Kerala has decided to give encouragement to power generation from Non-conventional Energy Sources. It is proposed to generate energy from municipal waste, agro waste, industrial waste, sewage and other biomass, small hydel units, solar photo voltaic, wind, tide, wave, geothermal etc. These technologies are environment friendly. The use of Municipal Solid Waste for power generation, besides generating power, will eliminate the problem of pollution and disposal of urban waste. Private investment will be attracted in all these sectors.*

15. Clause 3 of the Policy states the objectives of the policy. Clause 4.1 of the policy, which specifies the role of local self-government institutions, states as follows

*4.1 Water flowing in stream, wind blowing over the land and waves smashing on the shores, belong to the whole community and*

*not to the "owner" of the land. The Local Self-Governments shall be equipped to develop these resources on behalf of the community.*

16. As per clause 4.3, the Agency for Non-conventional Energy and Rural Technology (ANERT) has been designated as the State Nodal Agency. The policy does also contains provisions on the following,-
- (i) Grid interfacing (clause 4.5)
  - (ii) Tariff (clause (4.6)
  - (iii) Banking of Renewable Energy (clause 4.7)
  - (iv) Wheeling (clause 4.8)
  - (v) Evacuation (clause 4.9)
  - (vi) Settlement of accounts on monthly basis (clause 4.10)
  - (vii) Power Purchase Agreement (clause 4.11)
  - (viii) Security package to Renewable Energy Generators (clause 4.12)
  - (ix) Mandatory use of Energy Conservation devices (clause 4.15)
17. As per the above clauses, preferential price was fixed for renewable energy. KSEB Ltd had to undertake augmentation of sub-stations and transmission line required for evacuation of renewable energy. Facility for banking renewable energy was given and surplus energy after captive consumption was offered at average selling rate to KSEB Ltd. Uniform concessional wheeling charge at a rate of 5% of energy fed into the grid, including transmission loss was also given to renewable energy generators. The said policy also contained provisions for mandatory renewable energy based captive power plants for large industrial units with contract demand of and above 2000 kVA. This provision is in fact a mandatory renewable generation obligation. Clause 4.18 of the policy deals with green pricing and it states that choice of green pricing is given to interested consumers, who choose to pay extra for the energy generated from renewable energy sources (green energy).
18. After the enactment of Electricity Act, 2003, and issuance of regulations relating to renewable energy thereunder, those provisions in the Renewable Energy Policy, 2002, which are repugnant to or inconsistent with the statutory provisions in Electricity Act, 2003, and the rules and regulations issued thereunder, have become inoperative. But the other provisions are still valid and operative.
19. It can be seen from the provisions relating to renewable energy in Electricity Act, 2003, and in the Tariff Policy that the Parliament had only expressed he Legislative intentions and the Central Government had only expressed the broad guiding principles for the promotion of renewable energy. In tune with the statutory provision and policy guidelines, the CERC and the SERCs have formulated and issued a large number of regulations relating to renewable energy. These regulations, in general, provide for determination of preferential tariff, renewable energy purchase obligation, mandatory open access, banking and wheeling and such other promotional measures. Several amendments have



also been issued to such regulations with a view to incentivizing the generation of renewable energy and preventing the misuse of such incentives. All such regulations issued by CERC and SERCs along with the statutory provisions and the policy guidelines, provide a stable legal system for efficient development and use of renewable energy. It is worthwhile to examine the evolution of renewable energy regulations in the State.

20. KSERC has issued the following regulations to promote and accelerate the development of projects to harness electricity from renewable energy sources and co-generation plants.

- (1) KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) Regulations, 2006 (Notification No.1/1/KSERC-2006/XV dated 24.06.2006)
- (2) KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) (First Amendment) Regulations, 2008 (Notification No.KSERC/III/Regulation/2008 dated 18.11.2008)
- (3) KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) (Second Amendment) Regulations, 2010 (Notification No.1163/CT/2010/KSERC dated 22.11.2010)
- (4) The KSERC (Power Procurement from Co-generation Plants by Distribution Licensees) Regulations, 2008 (Notification No. KSERC/III/Regulations dated 19.11.2008)
- (5) KSERC (Power Procurement from Solar Plant by Distribution Licensees) Regulation, 2008 (Notification No. KSERC/III/Regulation dated 01.01.2009)
- (6) KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010 (Notification No.1517/CT/2010/KSERC dated 03.11.2010)
- (7) KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) Regulations, 2013 (Notification No. 442/CT/2012/KSERC dated 01.01.2013)
- (8) KSERC (Grid Interactive Distributed Solar Energy Systems), Regulations, 2014 (Notification No. 2096/KSERC/CT/2014 dated 10.06.2014).

21. As per the provisions of KSERC (Power Purchase from Renewable Energy by Distribution Licensees) Regulations, 2006 and its amendments, the distribution licensees were made obligated entities and their Renewable Energy Purchase Obligation (RPO) was fixed at 5% of the total consumption during that year. A source wise break up of renewable energy was also specified as follows;

- (1) From SHP – 2%
- (2) From Wind Energy – 2%
- (3) From other renewable energy – 1%

22. Priority in purchase of renewable energy was fixed based on the date of commercial operation of the renewable energy plant. The regulation also provided for mandatory open access to transmission or distribution system for the renewable energy generators. Regulation 5 authorizes the Commission to determine preferential price for each category of renewable energy in

accordance with the guidelines stipulated therein. The said regulation is quoted hereunder.

**5. Determination of Tariff for electricity from Renewable sources:-**

*(1) The Commission shall determine the tariff for purchase of electricity from renewable sources by a Buyer. Provided that, the PPAs approved by the Commission prior to the notification of these regulations shall continue to apply for such period as mentioned in those PPAs.*

*(2) The Commission shall determine the tariff separately for each category of renewable source mentioned in clause 2(f).*

*(3) The Commission shall as far as possible be guided by the principles and methodologies, if any, specified by the CERC, National Electricity Policy and Tariff policy, while deciding the terms and conditions of tariff for renewable sources of energy.*

*(4) While determining the tariff, the Commission may, to the extent possible consider to permit an allowance based on technology, fuel, market risk, environmental benefits and social contribution etc., of each type of renewable source.*

Annexures I & II specified the methodology and norms for fixation of preferential tariff for the electricity generated from the Small Hydro Projects (SHP) and Wind Energy Generators (WEG).

23. The KSERC (Power Purchase from Solar Plant by Distribution Licensees) Regulation, 2008, specifies various measures to encourage the development of grid quality solar power, such as mandatory open access to transmission and distribution systems of licensees, norms and methodology for determination of preferential tariff for solar energy and such other matters relating to harnessing of solar energy. Sub-regulation 5 (2) specifies as follows,-

*“5 (2) Commission shall, as far as possible, be guided by the principles and methodologies if any specified by the CERC, National Electricity Policy and Tariff Policy while deciding the terms and conditions of tariff for solar power plants.”*

24. The KSERC (Power Purchase from Co-generation Plants by Distribution Licensees) Regulations, 2008 contains provisions relating to fixation of preferential tariff, open access and such other matters, which are more or less similar to the provisions in The KSERC (Power Purchase from Solar Plant by Distribution Licensees) Regulation, 2008.

25. The KSERC (Renewable Purchase Obligation and its Compliance) Regulation, 2010 specifies provisions relating to Renewable Energy Purchase Obligation (RPO) and its compliance. This regulation defines obligated entity as a distribution licensee or a captive generator or an open access consumer. Considering the special circumstances and the problems relating to harnessing

of renewable energy in the State, the Commission had decided to revise the renewable energy purchase obligation of the obligated entities which was fixed at 5% as per the provisions in KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) Regulations, 2006. As per the provisions in KSERC (Renewable Purchase Obligation and its Compliance) Regulation, 2010, the overall renewable purchase obligation of an obligated entity is fixed at 3% of its annual consumption. This regulation specifically provides for a solar renewable purchase obligation, which is fixed at 0.25% out of the overall renewable purchase obligation of 3%. It was also specified that the renewable purchase obligation will increase by 0.3% every year (10% of the base RPO of 3%), till the renewable purchase obligation reaches 10% of the total consumption. It has also been provided that while computing renewable purchase obligation of any obligated entity, the purchase of renewable energy being made by the obligated entity, should also be included. Regulation 4 deals with Renewable Energy Certificate (REC), which should be purchased by the obligated entities, to make-up the shortage in the quantum of purchase of renewable energy to meet the specified renewable purchase obligation. Regulation 4 is quoted hereunder.

*“4. Certificates under the regulations of the Central Commission.-*

*(1) Subject to the terms and conditions in these regulations the Certificates issued under the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issue of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 shall be the valid instruments for the discharge of the mandatory obligations set out in these Regulations for the obligated entity to purchase electricity from renewable energy sources.*

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

*(2) Subject to such direction as the Commission may give from time to time, the obligated entity shall act consistent with the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issue of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 notified by the Central Commission in regard to the procurement of the certificate for fulfillment of the Renewable Purchase Obligation under these regulations.*

*(3) The Certificate purchased by the obligated entities from the power exchange in terms of the regulation of the Central Commission mentioned in clause (1) of the Regulation shall be deposited by the*

*obligated entities to the Commission in accordance with the detailed procedure issued by the Central Agency.*

26. Regulation 5 provides for designation of State Agency for accreditation and recommending the renewable energy projects for registration and to undertake functions under these regulations. Regulation 6 which deals with effect of defaults is quoted hereunder.

**6. Effect of default.**-(1) *If the obligated entities does not fulfill the renewable purchase obligation as provided in these regulations during any year and also does not purchase the certificates, the Commission may direct the obligated entity to deposit into a separate fund, to be created and maintained by such obligated entity, such amount as the Commission may determine on the basis of the shortfall in units of RPO and the forbearance price decided by the Central Commission:*

*Provided that the fund so created shall be utilised, as may be directed by the Commission, for purchase of the certificates:*

*Provided further that the Commission may empower an officer of the State Agency to procure from the Power Exchange the required number of certificates to the extent of the shortfall in the fulfillment of the obligations, out of the amount in the fund:*

*Provided also that the distribution licensee shall be in breach of its licence condition if it fails to deposit the amount directed by the Commission within 15 days of the communication of the direction.*

(2) *Where any obligated entity failed to comply with the obligation to purchase the required percentage of power from renewable energy sources or the renewable energy certificates, it shall also be liable for penalty as may be decided by the Commission under Section 142 of the Act:*

*Provided that in case of genuine difficulty in complying with the renewable purchase obligation because of non-availability of certificates, the obligated entity can approach the Commission for carry forward of compliance requirement to the next year:*

*Provided that where the Commission has consented to the carry forward of compliance requirement, the provision of clause (1) of the Regulation or the provision of section 142 of the Act shall not be invoked.*

27. The KSERC (Power Purchase from Renewable Energy by Distribution Licensees) Regulations, 2013, specified the renewable purchase obligation of distribution licensees for 2010-11 onwards. In tune with the provisions in the KSERC (Renewable Purchase Obligation and its Compliance) Regulation, 2010, the overall renewable purchase obligation of a distribution licensee for 2010-11, is fixed at 3% of the total consumption of electricity, within its area of licence (as

per regulation 3 of the 2013 regulations). It has been further specified that, out of the overall renewable purchase obligation of 3% of the total consumption, 0.25% shall be from solar energy sources. It is also specified that the renewable purchase obligation will increase by 10% of the overall renewable purchase obligation of 3% of the total consumption, till it reached 10%. This regulation does also provide for mandatory open access and specifies methodology and norms for fixation of preferential tariff subject to the guidelines in sub-regulation 5 (3), 5 (4) which are quoted hereunder.

*(3) The Commission shall as far as possible be guided by the principles and methodologies, if any, specified by the CERC, National Electricity Policy and Tariff policy, while deciding the terms and conditions of tariff for renewable sources of energy.*

*(4) While determining the tariff, the Commission may, to the extent possible consider to permit an allowance based on technology, fuel, market risk, environmental benefits and social contribution etc., of each type of renewable source. The Commission shall also consider appropriate operational and financial parameters.*

28. The KSERC (Grid Interactive Distributed Solar Energy Systems) Regulations, 2014 was notified mainly for promoting grid interactive solar energy generation in view of the fact that the off-grid solar systems with storage battery are prohibitively costly. The Government of India, the Government of Kerala and the Agency for Non-conventional Energy and Rural Technology (ANERT) have been promoting off-grid roof top solar systems by providing capital subsidy. But the energy from such off-grid systems is costlier mainly due to the high cost of storage battery. There were serious public concerns over the fact that the storage batteries would have only a life of four to five years and therefore the cost of such batteries would be recurring expenditure. The management of scrap batteries would also be a problem if its number increases inordinately. Therefore it was felt that a regulation to promote grid interactive solar systems would be a welcome step. These regulations were applicable to solar energy systems of and above one kWp and up to and including one MWp. Mandatory open access has been provided to the solar energy generators at LT and HT level (regulation 5 and 6). Banking facility has been made available to the eligible consumers as per regulation 7. Provisions for net metering and solar meter have been included in regulations 9 and 10. As per regulation 12 the eligible consumer is given the right to wheel the excess energy generated in one premises for his use in another premises. Solar energy is exempted from banking charges and cross subsidy surcharges.
29. All the regulations issued for promoting renewable energy have to be implemented in the right spirit by the licensees as well as by the generators. Unless the implementation is monitored and appropriate follow up action taken, the regulations may not yield the desired results. In this context, the provisions in KSERC (Renewable Purchase Obligation and its Compliance) Regulation,

2010, assume more importance. Regulation 4 of the said regulations deals with renewable energy certificates for meeting the RPO as provided in the CERC Regulations. It would only be appropriate to examine the genesis and philosophy of the regulations issued by CERC, relating to Renewable Energy Certificates. Paragraphs 1.1 and 1.2 of the Explanatory Memorandum of CERC Regulations on Recognition and Issuance of Renewable Energy Certificate for Renewable Energy generation will throw light on the evolution of Renewable Energy Certificate Mechanism. These paragraphs are quoted hereunder.

*1.1 India is gifted with abundant potential of Renewable Energy, which includes wind energy, biomass, small hydro, solar etc. Over the last few years India has experienced significant development in the Renewable Energy (RE) Sector. This development is precipitated by the effective national and state level policies. At present India has reached to an installed capacity of 14,914 MW (upto 31.July.2009) which is about 8.5% of the total capacity.*

*1.2 However, it should be noted that, in terms of actual generation from the Renewable energy Sources the share is estimated to be 3.5% of the total generation. The installed capacity of renewable energy sources in India is dominated by wind, constituting around 70% of the total RE installed capacity and the contribution of solar is very low. Though India has a huge potential in renewable energy, the gap between its gross renewable energy potential and the cumulative installed capacity is still huge. Also the distribution of these renewable sources is not uniform across the country. Some states are rich in terms of renewable potential while some others have very little potential to explore. These challenges restrict holistic development of renewable energy potential and demand suitable mitigating mechanism.*

30. The Forum of Regulators (FOR), constituted under Section 166 (2) of the Act for harmonization, coordination and ensuring uniformity of approach amongst Regulatory Commissions across the country, in its report on “Policies on Renewables” had also made the following recommendations.

- *Mechanism for inter-state transaction of RE sources is necessary for recognising procurement of RE from one state to other state for compliance of Renewable Purchase obligations.*
- *A suitable mechanism like Renewable Energy Certificate (REC) is necessary to promote RE sources on the scale envisaged in the National Action Plan on Climate Change.*

31. The CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010, (hereinafter referred to as REC Regulations, 2010) introduced Renewable Energy Certificates (REC) as a market based instrument to promote renewable energy and facilitate renewable purchase obligations. The renewable energy produced by the generators has two components namely, an electricity

component and an environmental benefit component. This environmental benefit component is called the REC component. The renewable energy generators have the option to sell the above components jointly or separately. The renewable energy is comparatively costlier when compared to the electricity generated by conventional methods. Therefore the Electricity Regulatory Commissions fix a preferential tariff for the renewable energy, which is inclusive of both electricity component and environmental benefit component. As per the provisions in the Electricity Act, 2003, the Commissions have fixed renewable energy purchase obligation (RPO) to all the distribution licensees. In view of the high cost of renewable energy, the distribution licensees will be tempted to restrict the purchase of renewable energy just enough to meet their RPO. Therefore the renewable resource rich states will not be in a position to harness renewable energy to their full potential, for want of purchasers for the renewable energy at higher cost. Further cost of renewable energy from different sources would also be different. With a view to overcoming this problem the renewable energy generators are given option to sell the electricity component and REC component separately. It is to facilitate the separate sale of REC component of renewable energy, the REC scheme has been introduced by the CERC taking into consideration the report furnished by the Forum of Regulators. The salient features of the REC framework which are explained in the 'Statement of objects and Reasons' to the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010, are quoted hereunder.

- *Renewable Energy Certificate (REC) mechanism is a market based instrument to promote renewable energy and facilitate renewable purchase obligations (RPO).*
- *REC mechanism is aimed at addressing the mismatch between availability of RE resources in state and the requirement of the obligated entities to meet the renewable purchase obligation (RPO).*
- *Cost of electricity generation from renewable energy sources is classified as cost of electricity generation equivalent to conventional energy sources and the cost for environmental attributes.*
- *REC will be issued to the RE generators for 1 MWh of electricity injected into the grid from renewable energy sources.*
- *REC would be issued to RE generators only.*
- *REC could be purchased by the obligated entities to meet their RPO under section 86 (1) (e) of the Act. Purchase of REC would be deemed as purchase of RE for RPO compliance.*
- *Grid connected RE Technologies with minimum capacity of 250 KW and approved by MNRE would be eligible under this scheme.*
- *RE generations with existing PPAs are not eligible for REC mechanism.*
- *SERC to recognize REC as valid instrument for RPO compliance.*

- *SERC would define open access consumers, captive consumers as obligated entities along with distribution companies.*
- *SERC to designate State agency for accreditation for RPO compliance and REC mechanism at State level.*
- *CERC to designate Central Agency for registration, repository, and other functions for implementation of REC framework at national level.*
- *Only accredited project can register for REC at Central Agency.*
- *Central Agency would issue REC to RE generators for specified quantity of electricity injected into the grid.*
- *REC would be exchanged only in the CERC approved power exchanges.*
- *Price of electricity component of RE generation would be equivalent to the weighted average power purchase cost of the discom including short term power purchase but excluding renewable power purchase.*
- *REC would be exchanged within the forbearance price and floor price. This forbearance and floor price would be determined by CERC in consultation with Central agency and FOR from time to time.*
- *In case of default SERC may direct obligated entity to deposit into a separate fund to purchase the shortfall of REC at forbearance price.*
- *However, in case of genuine difficulty in complying with the renewable purchase obligation because of non-availability of certificates, the obligated entity can approach the Commission for carry forward of compliance requirement to the next year.*

32. Sub-regulation (1) of Regulation 5 of the REC Regulations, 2010, which specifies the eligibility criteria for RE generators to participate in the REC mechanism, is quoted hereunder.

***“5. Eligibility and Registration for Certificates:***

*(1) A generating company engaged in generation of electricity from renewable energy sources shall be eligible to apply for registration for issuance of and dealing in Certificates if it fulfills the following conditions:*

*a. it has obtained accreditation from the State Agency;*

*b. it does not have any power purchase agreement for the capacity related to such generation to sell electricity at a preferential tariff determined by the Appropriate Commission; and*

*c. it sells the electricity generated either (i) to the distribution licensee of the area in which the eligible entity is located, at a price not exceeding the pooled cost of power purchase of such distribution licensee, or (ii) to any other licensee or to an open*



*access consumer at a mutually agreed price, or through power exchange at market determined price.”*

Regarding the eligibility criteria for the RE generators to participate in the REC mechanism, the CERC, vide the paragraph 3.5.2 of the Statement of Object and Reasons to the REC Regulations, 2010, has clarified as follows.

“3.5.2 The Commission has considered the comments. The Commission would like to clarify that the regulations provide for issuance of REC only to renewable energy (RE) generators. The REC mechanism seeks to promote additional investment in the RE projects and is meant to provide to RE generators an alternative mode for recovery of their costs. The issuance of REC to obligated entities may result in forcing the RE developers to engage in PPAs only with the local utility which in turn may affect new investment in renewable energy sources. Regarding eligibility criteria for CPPs, the Commission would like to clarify that if a captive RE power project meets the eligibility criteria, sale of electricity from such project over and above the captive consumption will qualify for RECs. As regards the eligibility for existing RE generators tied up under long term PPAs, the Commission would like to underscore that the regulation cannot make any provision which directly or indirectly encourages breach of existing contracts.”.

33. In the detailed procedure submitted by National Load Despatch Centre (the Central Agency) and approved by the CERC also it has been stated as follows,-

*2.1. This procedure shall be applicable to all the generating companies including Captive Power Producer (CPP) based on renewable energy sources (herein after called Generating Company/eligible entity) engaged in generation of electricity from renewable energy sources such as small hydro, wind, solar including its integration with combined cycle, biomass, bio fuel cogeneration, urban or municipal waste and such other sources as recognised or approved by Ministry of New and Renewable Energy for their Renewable Energy Power Projects subject to fulfilment of eligibility conditions for participating in REC mechanism on or after April 1, 2010 in accordance with the provisions stipulated under the CERC REC Regulations.*

34. Thus the REC scheme came into existence on 01.04.2010 and it is applicable only to

(1) RE generators recognised or approved by Ministry of New and Renewable Energy, subject to fulfilment of eligibility conditions for participating in REC mechanism in accordance with the provisions stipulated under the REC Regulations, 2010 and

(2) The RE generators functioning before 01.04.2010 will be eligible for the benefits under REC mechanism only if they have not entered into long term power purchase agreement.

35. Subsequent to the notification of the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010, concerns were raised from various

quarters that the renewable generators having an existing PPA with distribution utilities for sale of electricity at preferential (cost plus) tariff might attempt to breach the existing contracts with the sole objective of making profits through REC mechanism. Further, apprehensions were also raised regarding the eligibility of captive generators based on renewable energy for participating in REC mechanism. To address these issues, Central Commission vide notice No. L-1/12/2010-CERC Dated: 29th September, 2010 issued CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (First Amendment) Regulations, 2010 wherein the objective of CERC regarding the validity of existing PPAs and eligibility of REC have been defined. In the statement of objects and reasons to the said regulation, the CERC has observed as follows,-

*“The Commission has carefully considered these comments and decided that REC mechanism should not encourage breach of existing contract. In fact, various deterrents have been provided in the amendment of dissuade perverse incentive to breach and dishonour the existing contract. The existing contract entered into with mutual consent by two parties at a point of time based on the prevailing terms and conditions should be honoured unless both the parties mutually agree to terminate the contract. The main objective of REC mechanism is to encourage new capacities addition.”*

36. The CERC in its endeavor to strengthen the REC framework and to address some of the design issues and to remove ambiguities which were affecting its implementation, issued the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Second Amendment) Regulations, 2010 vide notification no.L-1/12/2010/CERC dated 10-7-2013. The following issues were addressed in the Second Amendments.

- Renewable energy contracted through competitive bidding;
- Self-consumption by a seasonal RE generator;
- Self-consumption by a renewable energy based captive generating plant (CGP)
- and by a renewable energy generator other than a CGP;

37. In the explanatory memorandum to the draft CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Second Amendment) Regulations, 2010, CERC has analysed the issues relating to the eligibility criteria of renewable energy contracted through competitive bidding, for the benefits under REC mechanism. The relevant portions are quoted hereunder,-

***“2.0 Issue regarding treatment of PPA entered through competitive bidding and not through cost plus tariff determined by the regulators***

*2.1 REC Regulations at present do not allow issuance of Certificates to a renewable energy generator selling power at preferential tariffs. The term “preferential Tariff” has been defined in the REC Regulations as “the tariff fixed by the Appropriate Commission for sale of energy, from a generating station using renewable energy sources, to a distribution licensee”. This definition is stated to leave out the tariff adopted by the Appropriate Commission under section 63 of the Act. Consequently, this is stated to cause ambiguity in treatment of a renewable energy generator selling power through tariff based competitive bidding at a tariff adopted by the appropriate Commission under section 63 of the Act. The Commission is of the view that any investor while participating under competitive bidding quotes tariff after considering all costs as well as risks involved during the life time of the operation of renewable energy generation project, and offers the green energy in its totality and not the electricity component and green attribute separately. Moreover, the distribution utility procures such renewable energy under competitive bidding for fulfillment of its renewable purchase obligation. Thus, such renewable energy generators (selected through competitive bidding under section 63 of the Act) cannot be given REC credit, as this would amount to double counting of the green attributes. Accordingly, it is proposed to clarify through suitable amendment in Regulation 5(1) (b) of the REC Regulations and substitute the definition of preferential tariff by the definition of tariff as “tariff determined under section 62 or adopted under section 63 of the Act by the Appropriate Commission”. The proposed amendments are as under:*

*Amendment of Regulation 2 of Principal Regulations:*

*Sub-clause (k) of clause (1) of Regulation 2 of the Principal Regulations shall be deleted.*

*Sub-clause (b) of clause (1) of Regulation 5 of Principal Regulations shall be substituted as under:*

*“(b) it does not have any power purchase agreement for the capacity related to*

*such generation to sell electricity at a tariff determined under section 62 or adopted under section 63 of the Act by the Appropriate Commission:”*

38. Accordingly, the CERC has amended Regulation 5 of the REC Regulations, 2010 vide CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Second

Amendment) Regulations, 2010. The amendments introduced as per the said regulations are quoted hereunder,-

*“(1) Sub-clause (b) of clause (1) of Regulation 5 of the Principal Regulations shall be substituted as under:*

*“(b) it does not have any power purchase agreement for the capacity related to such generation to sell electricity, with the obligated entity for the purpose of meeting its renewable purchase obligation, at a tariff determined under section 62 or adopted under section 63 of the Act by the Appropriate Commission:*

*Provided that in case of renewable energy sources based co-generation plants, the connected load capacity as assessed or sanctioned by the concerned distribution licensee, shall be considered as the capacity for captive consumption for the purpose of issue of certificates, irrespective of the capacity of such plants covered under the power purchase agreement.”*

*(2) In sub-clause (c) of clause (1) of Regulation 5 of the Principal Regulations, the words "at price not exceeding the pooled cost of the power purchase of such distribution licensee" shall be substituted with the words "at the pooled cost of power purchase of such distribution licensee as determined by the Appropriate Commission".*

*(3) The provisos under sub-clause (c) of clause (1) of Regulation 5 shall be substituted as under:*

*“Provided that such a generating company having entered into a power purchase agreement for sale of electricity, with the obligated entity for the purpose of meeting its renewable purchase obligation, at a tariff determined under section 62 or adopted under section 63 of the Act by the Appropriate Commission shall not, in case of pre-mature termination of the agreement, be eligible for participating in the Renewable Energy Certificate (REC) scheme for a period of three years from the date of termination of such agreement or till the scheduled date of expiry of power purchase agreement whichever is earlier ,if any order or ruling is found to have been passed by an Appropriate Commission or a competent court against the generating company for material breach of the terms and conditions of the said power purchase agreement:*

*Provided further that a Captive Generating Plant (CGP) based on renewable energy sources shall be eligible for the entire energy generated from such plant for self consumption for participating in the REC scheme subject to the condition that such CGP has not availed or does not propose to avail any benefit in the form of concessional/promotional transmission or wheeling charges and/or banking facility benefit:*

*Provided also that if such a CGP forgoes on its own, the benefits of concessional transmission or wheeling charges and/or banking facility benefit, it shall become eligible for participating in the REC scheme only after a period of three years has elapsed from the date of forgoing such benefits:*

*Provided also that the above mentioned condition for CGP for participating in the REC scheme shall not apply if the benefits given to such CGP in the form of concessional transmission or wheeling charges and/or banking facility benefit are withdrawn by the concerned State Electricity Regulatory Commission and/or the State Government:*

*Provided also that any renewable energy generating plant not fulfilling the conditions of CGP as prescribed in the Electricity Rules, 2005 and availing the concessional benefits in the form of transmission or wheeling charges and/or the banking facility benefit shall be required to forego such benefits for the purpose of availing renewable energy certificate for self-consumption of energy generated:*

*Provided also that if any dispute arises as to whether a CGP or any other renewable energy generator has availed such concessional/promotional benefits, the same shall be referred to the Appropriate Commission for decision.*

**Explanation:-** *For the purpose of this Regulation, the expression 'banking facility benefit' shall mean only such banking facility whereby the CGP or any other renewable energy generator gets the benefit of utilizing the banked energy at any time (including peak hours) even when it has injected into grid during off-peak hours."*

*(4) A new sub-clause shall be added under clause (1) of Regulation 5 of the Principal Regulations as under:*

*"(d) It does not sell electricity generated from the plant, either directly or through trader, to an obligated entity for compliance of the renewable purchase obligation by such entity."*

39. Thus the second amendment clearly specifies that, the investor while participating under competitive bidding quotes tariff after considering all costs as well as risks involved during the life time of the operation of renewable energy generation project, and offers the green energy in its totality and, not the electricity component and green attribute separately. Hence they are not eligible for REC mechanism. The legal position evolved after the second amendment of the REC Regulations, 2010 is as summarized below,-

- (i) After the enactment of REC mechanism, the Distribution utilities can bid under section-63 of the EA-2003 for procuring electricity from RE generator.

- (ii) While participating in the bidding process, the generator bids the tariff duly considering all costs as well as risks involved in the project.
- (iii) Before the enactment of the REC regulation in 2010, there was no mechanism to separate the electricity component and the REC component. Hence the generator must have quoted the tariff considering the entire cost of the project and such tariff is inclusive of electricity component and REC component.
- (iv) The distribution licensees which have been purchasing the electricity from the RE generator at the rate derived through the bidding process, have been paying for the REC component also to the RE generator.
- (v) Since the cost of purchase is pass through in tariff, the amount paid as cost of renewable energy by the distribution licensees ultimately falls on the consumers of the State.
- (vi) If REC is allowed to the RE generator who participated in the bidding process before the enactment of the REC regulation, 2010 there will be double recovery of the 'REC component' i.e., from (1) The distribution licensees and (2) through REC mechanism and both will ultimately be passed on to the electricity consumers.
- (vii) Considering the above, CERC has clarified that, the RE generator supplying power to the distribution licensees at the tariff adopted under Section 63 of the Electricity Act-2003 is not eligible to participate in REC scheme.

40. The CERC has thereafter issued the third amendment to the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 which included the 'Distribution licensees' also eligible for participating under the REC mechanism who 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. This clearly states that a distribution licensee procuring RE under section 62 or section 63 can account such power under its RPO. Consequently accounting the generation from such RE under the RPO of the distribution licensee will not make the RE generator eligible for REC mechanism as per the CERC(Terms and conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010. The relevant provisions in the regulations are quoted hereunder,-

*"1. Amendment of Regulation 5 of Principal Regulations:*

*"1. 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 fulfills 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.”*

41. From the provisions of the CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and its amendments, it can be found that,

- (1) Renewable Energy Certificate (REC) mechanism is a market based instrument to promote renewable energy and facilitate renewable purchase obligations (RPO).
- (2) RE generators will have two options i) either to sell the renewable energy at preferential tariff or ii) to sell electricity generation and environmental attributes associated with RE generations separately.
- (3) The environmental attributes can be exchanged in the form of Renewable Energy Certificates (REC).
- (4) RE generations with existing PPAs are not eligible for REC mechanism.
- (5) The RE generators recognised or approved by Ministry of New and Renewable Energy for their Renewable Energy Power Projects are eligible for REC mechanism in accordance with the provisions stipulated under the REC Regulations, 2010 and its amendments only on or after 01.04.2010, subject to the fulfilment of the eligibility conditions for participating in REC mechanism as specified in the regulations.

- (6) Only those RE generators which have not entered into long term power purchase agreement will be eligible for the benefits under REC scheme.
- (7) REC Regulations, 2010 and its amendments do not contain any provision, which directly or indirectly encourages breach of existing power purchase agreements. The power purchase agreements entered into between RE generators and distribution companies before the issuance of REC regulations by the CERC, were with mutual consent of both the parties based on the terms and conditions prevailing at the time of execution of agreement and such agreement have to be honoured unless both the parties mutually agrees to terminate the power purchase agreements.
- (8) In the case of premature termination of power purchase agreement by way of generators default, the RE generator is not eligible to participate in the REC scheme for a period of three years from the date of termination of such agreement.
- (9) Any investor while participating under competitive bidding quotes tariff after considering all costs as well as risks involved during the life time of the operation of renewable energy generation project, and offers the renewable energy at a tariff considering all costs and risks of the project and not the electricity component and REC component separately. Moreover, the distribution licensee procures such renewable energy under competitive bidding for fulfilment of its renewable purchase obligation. Thus, such renewable energy generators, selected through competitive bidding under section 63 of the Act, cannot be given any benefit under REC scheme, as this would amount to double counting of the environmental attributes.
- (10) RE generators, who have not entered into power purchase agreements before 01.04.2010 and who have not entered into power purchase agreements at preferential tariff fixed by the Commission, are allowed to sell the electricity components separately and avail the environmental attributes through REC scheme.
- (11) The distribution licensees are also eligible for REC, if it had procured renewable energy in the previous year, at a tariff determined under Section 62 or adopted under Section 63 of the Act, in excess of the RPO as specified by the appropriate Commission.
- (12) A distribution licensee procuring renewable energy at the tariff fixed under Section 62 or approved under Section 63 can account such power towards its RPO, since the distribution licensee is paying the cost of REC component also to the RE generator and such RE generators are not eligible to claim any benefit under the REC scheme in respect of the renewable energy so sold to the distribution licensee.

42. From the scheme for development and consumption of renewable energy in the Country, as laid down in the Electricity Act, 2003, and the regulations made thereunder, it can easily be found that the whole process has to be conceived in a global perspective and implemented in a national perspective. It is well known that renewable energy is comparatively costlier. Naturally, the failure of the



distribution licensee or any obligated entity to comply with its RPO obligation may give it some immediate short term financial benefit, by way of reduced average cost of power purchase and consequent reduced tariff to the consumers. But in the long term perspective, such an approach will be highly detrimental to the national interest, sustainable development processes, welfare of society and to the conservation of nature and natural resources. Taking these aspects into consideration, the distribution licensee and other obligated entities, the RE generators as well as the consumers should cooperate to promote the generation and consumption of renewable energy. 'Think globally and act locally' – the famous axiom for the conservation of nature and natural resources, is squarely applicable in the case of implementation of the legal provisions relating to renewable energy as well.

43. The Hon'ble Supreme Court and the Hon'ble Appellate Tribunal for Electricity (APTEL) have recently pronounced very important judgments in this regard. The Hon'ble Supreme Court has, in its judgment dated 13.05.2015 in Civil Appeal No.4417 of 2015 filed by M/s Hindustan Zinc Ltd, observed as follows

*“The coal dominates thermal power generation which results in greenhouse gases resulting in global warming. The said facts were brought to our notice that the same would certainly justify the case of Rajasthan Electricity Regulatory Commission in framing the impugned regulations to achieve the object of the Act and the Constitution by imposing renewable energy obligation on captive genscos.”*

The Hon'ble Supreme Court has further observed that the renewable energy regulations have been enacted in order to effectuate the object of promotion of generation of electricity from renewable sources of energy as against the polluting sources of energy which principle is enshrined in the Act, the National Electricity Policy, 2005 and the Tariff Policy, 2006. The provisions requiring purchase of minimum percentage of energy from renewable sources of energy have been framed with an object of fulfilling the Constitutional mandate with a view to protect environment and prevent pollution in the area by utilizing renewable energy sources as much as possible in larger interest. The Hon'ble Supreme Court has further held as follows

*“Article 51A(g) of the Constitution of India cast a fundamental duty on the citizen to protect and improve the natural environment. Considering the global warming, mandate of Articles 21 and 51A(g) of the Constitution, provisions for the Act of 2003, the National Electricity Policy of 2005 and the Tariff Policy of 2006 is in the larger public interest, Regulations have been framed by RERC imposing obligation upon captive power plants and open access consumers to purchase electricity from renewable sources. The RE obligation imposed upon captive power plants and open consumers through impugned Regulation cannot in any manner be said to be restrictive or violative*

*of the fundamental rights conferred on the appellants under Articles 14 and 19(1)(g) of the Constitution of India.”*

44. In the order dated 20.04.2015 in OP No 1 of 2013, Hon'ble APTEL has given the following directions

“

- (iv) The State Commission shall give directions regarding carry forward /review in RPO and consequential order for default of distribution licensee/ other obligated entities as per RPO Regulations. If the Regulations recognize REC mechanism as a valid instrument to fulfill the RPO, the carry forward /review should be allowed strictly as per provisions of the regulations keeping in view of availability of REC. In this regard the findings of this Tribunal in Appeal No 258 of 2013 and 21 of 2014 may be referred to which have been given with regard to RE Regulations of Gujarat Commission but the principles would apply in rem. In case of default in fulfilling of RPO by obligated entity , the penal provision as provided in the Regulations should be exercised.*
- (v) The State Commissions are bound by their own Regulations and they must act strictly in terms of their Regulations.*
- (vi) The provisions in Regulations like power to relax and power to remove difficulty should be exercised judiciously under the exceptional circumstances, as per law and should not be used routinely in defeat of the object and purpose of the Regulations.”*

Further in the order dated 16-04-2015 in Appeal No 258 of 2013, Hon'ble APTEL has directed that:

*“(vi) Under 5th proviso to Regulation 9, if the Commission is convinced that the obligated entity has faced genuine difficulty in meeting the RPO due to non-availability of power from renewable sources or the REC it may allow carry forward the compliance requirement to the next year. However, before exercising power order Regulation 9, the State Commission has to satisfy itself that there was difficulty in meeting the RPO from purchase of REC. Therefore non availability of REC is a pre-condition for carry forward under Regulation 9.”*

45. The entire scheme relating to the development of renewable energy have to be appreciated and implemented in view of the facts, circumstances and legal frame work explained above. The prayers of the petitioner are examined accordingly.

46. The first request of the petitioner is to allow it to account the energy procurement from co-generation plants of M/s M.P Steel and M/s Philips

Carbon Black towards the RPO of KSERC. The following two issues have to be examined in this regard.

- (1) Whether or not electricity generated from co-generation process is eligible to be considered equivalent to renewable energy, while assessing RPO.
  - (2) What is the quantum of electricity generated by co-generation process by each of these plants?
47. As per clause (e) of sub-section (1) of Section 86 of the Electricity Act, 2003, appropriate commission shall promote co-generation and renewable energy. As per letter dated 26-02-2015, the Commission had indicated that co-generation could be considered as renewable energy only if the co-generation uses the sources such as small hydro, wind, biomass, biogas etc. The REC Regulation 2010, as amended by its second amendment does also speak only about “renewable energy source based on co-generation plants” in the proviso to sub clause (b) of clause (i) of Regulation 5. KSEB Limited has pointed out various decision of Hon’ble APTEL and Hon’ble SERCs (in Para 50 of the petition) wherein co-generation has been treated similar to generation of renewable energy. In the case of a co-generation process, electricity is generated without any additional fuel, using the heat energy which otherwise would have been released to atmosphere, contributing to global warming. Therefore co-generation has an element of environmental benefit, apart from being cheaper since it does not require fuel. Taking into consideration, the above facts and order of Hon’ble APTEL and other SERCs, it is decided to treat the electricity generated by co-generation process, equivalent to renewable energy for the purpose of meeting the RPO. Therefore if the petitioner generates or purchases electricity generated from co-generation process, it can be accounted towards the RPO of the petitioner, subject to conditions specified in the RPO and its compliance Regulations 2010 issued by this Commission, read with REC Regulations 2010 issued by the CERC and its amendments. As per decision of the Hon’ble Appellate Tribunal for Electricity in the order dated 26.04.2010 in appeal No.57/2009 it has been decided that the co-generation and the generation of electricity from renewable sources have to be promoted as per clause (e) of sub-section (1) of Section 86 of the Act. The Hon’ble Appellate Tribunal for Electricity has observed that, if co-generation has to be from renewable energy sources, there need not be any separate mention about co-generation and generation of electricity from renewable sources in clause (e) of sub-section (1) of Section 86 of the Electricity Act, 2003. This necessarily means that co-generation, irrespective of the sources has to be encouraged and supported.
48. The next issue to be examined is whether or not M/s M.P. Steel and M/s Philips Carbon Black generate electricity by co-generation process. In the

case of M/s M.P. Steel, out of its total installed capacity of 10 MW, only 6 MW is earmarked for co-generation and balance 4 MW is coal-based. Therefore, co-generation can be there, only when there is steel production. Electricity generated by co-generation process only can be treated as equivalent to renewable energy and the electricity generated using coal cannot be treated as renewable energy, since it does not have any environmental benefit. Further, the electricity generated from co-generation process can be accounted towards RPO of the petitioner only if,-

- i) the petitioner has a PPA to purchase the electricity from co-generation process, at the tariff fixed by the Commission under Section 62 or approved by the Commission under Section 63 of the Electricity Act, 2003;
- ii) M/s M.P. Steel has actually produced electricity by co-generation process and the petitioner has actually purchased as per the PPA; and
- iii) M/s M.P. Steel has not used the electricity from co-generation process for its captive consumption.

49. It has to be specifically noted that, renewable energy generated by independent renewable energy generators cannot be accounted towards RPO of a distribution licensee, unless it is purchased by the distribution licensee at the preferential tariff fixed under Section 62 of the Act. The same logic applies to the generation and purchase of electricity, if any, purchased from M/s Philips Carbon Black also. In the absence of supporting data and documents, it is not possible to assess the quantum of electricity generated by co-generation process, quantum of such electricity consumed by them and the quantity of electricity purchased by KSEB Ltd, out of the electricity generated using co-generation process. Therefore, the first prayer of the petitioner cannot be granted.

50. The second request of the petitioner is to account the generation from the Maniyar Captive Generation Power Project towards the RPO of KSEB Limited. In the case of Maniyar Small Hydro Project, the entire electricity generated from the said project is renewable energy as per the definition given by MNRE and the regulation relating to renewable energy. M/s Carborandum Universal, which owns the Maniyar SHP, is a captive consumer. As per definition a captive consumer is also an obligated entity with RPO. As per the proviso under Sub Clause (c) of Clause (i) of regulation 5 of the REC Regulation, 2010, as amended by the Second Amendment , captive generating plants based on renewable energy sources shall be eligible for the entire energy generated from such plant for self-consumption for participating in REC Scheme, subject to the conditions specified therein. M/s Carborandum Universal has also objected to the prayer of the petitioner. Therefore, the second prayer of the petitioner cannot be allowed.

51. The third, fourth and fifth prayers of the petitioner can be examined jointly. The fifth prayer of the petitioner should be examined first since it has got implications on the third and fourth prayers. The fifth request is to revise and reduce the RPO of the petitioner. It can already be seen from the scheme of law, explained in earlier paragraphs that the target of RPO, as fixed in the NAPCC is much higher than the RPO fixed by the Commission as per KSERC (RPO & Its Compliance) Regulations, 2010. In fact, while fixing the RPO at 3% of the total consumption, as per the KSERC (RPO & Its Compliance) Regulation, 2010, the Commission had already reduced the RPO which was earlier fixed at 5% of the total consumption as per KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) Regulations, 2006. In the Third Amendment to the REC Regulations, 2010, issued by CERC, in the proviso to the new clause (1A) it has been specified as follows,-

*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.*

52. All these regulations are seen quoted by the petitioner in its petition as well as in the subsequent submissions. It appears that the petition is conveniently closing its eyes towards such regulations, while submitting its prayers. Therefore the fifth prayer cannot be allowed since it is against the statutory provisions and the policy directives of the Central Government. The policies of the State Government are also in favour of developing more and more renewable energy.
53. In view of the non-compliance of RPO by KSEB Ltd, during the years 2010-11, 2011-12 and 2012-13, the Commission has directed KSEB Ltd to deposit Rs.125 Crore in a separate fund. The petitioner has, deliberately or otherwise, made an attempt to present such direction as a penalty. Such a direction has been given as per regulation 6 of KSERC (Renewable Purchase Obligation and its Compliance) Regulations, 2010, which has been quoted earlier. This amount has to be used for purchase of REC, as specified in regulation 6 of the above Regulations. The said fund can be used only for fulfilling the obligation of KSEB Ltd to purchase renewable energy. Hence it can easily be found that the said direction does not amount to any penalty. The Hon'ble Supreme Court in its judgment dated 13.05.2015 in Civil Appeal No. 4417 of 2015 filed by M/s Hindustan Zinc Ltd has, with reference to the similar regulations issued by Rajasthan Electricity Regulatory Commission, observed as follows,-

*“With reference to the above said rival legal contentions urged by the parties we are of the view that in terms of impugned regulation 9 of the*

*Regulations, if it made a default in fulfilling RE obligation then, obligated entity has to deposit renewable purchase obligation charge, as determined by the RERC and such amount will be put in a separate fund created and maintained for the said purpose by the obligated entity. This fund shall be utilized partly for (a) purchase of certificates through State agency and (b) for development of transmission and sub-transmission infrastructure for evacuation from generating stations based on renewable energy sources. The deposit of the RPO charge is compensatory in nature. Sections 142 and 147 of the Act of 2003 provide the statutory backup for penal consequences for contravention of the impugned regulations framed under Section 181 read with Section 86 (1) (e) of the Act of 2003. The penalty imposed by the impugned regulations is not in nature of 'tax' but to achieve the object and intendment of the Act of 2003. The penalty imposed by the impugned regulations upon captive generating companies who do not comply with the requirements as provided under regulation 9 of the impugned regulations of 2010 are not in nature of tax, but it is a 'surcharge' levied under Section 39 (2) of the Act, but an alternative mode of enforcement of regulation upon them for ensuring its compliance to achieve the loadable object of the Act, in case the obligated entity makes default in fulfilling the renewable purchase obligation as provided under regulation 9 of the impugned regulations 2010."*

54. The petitioner has cited several actions taken by Government and KSEB Limited for developing renewable energy. These actions include issuance of policies, invitation of tenders, preparation of detailed project report etc. But such actions will not generate renewable energy, unless such policies are translated into achievements of physical targets set in such policies, projects and orders. Further, as per the existing provisions in KSERC (Renewable Purchase Obligations and Its Compliance) Regulations, 2010 and KSERC (Power Procurement from Renewable Energy Sources by Distribution Licensees) Regulations, 2013, the RPO has already reached 4.5% of the total consumption in the area of license of KSEB Limited. This will continue to increase at a rate of 0.3% every year.
55. KSEB Limited has pointed several past orders of various SERCs granting temporary exemptions or postponement of RPO to the distribution licensees under their jurisdiction. The net result is that the RPO & REC mechanism got paralyzed. There have been no buyers of RECs. It has been reported that more than one crore RECs have accumulated with renewable energy generators. The Hon'ble APTEL and the Government of India have shown serious concern over this state of affairs. Both Government of India and Hon'ble APTEL have indicated that SERCs should ensure compliance of RPO by obligated entities, either purchase of renewable energy or by purchase of REC. It is not enough that Regulations are formulated and issued by SERCs

and CERC. Such regulations will not be of any use, if they are not implemented. Therefore SERCs have to play a very vital role in ensuring compliance of RPO obliged entities. Hence the third prayer of the petitioner cannot be allowed as the provisions in the Kerala State Electricity Regulatory Commission (Renewable Purchase Obligation and Its Compliance) Regulations, 2010, allow for such adjustment and carry forward only in the case of genuine difficulty in complying with the renewable purchase obligation due to the non-availability of RECs. This is strictly in tune with the orders issued by the Hon'ble Supreme Court and the Hon'ble APTEL. The fourth prayer of the petitioner also cannot be allowed in view of the above legal provisions and the order of the Hon'ble Supreme Court and the Hon'ble APTEL.

56. The statement showing the shortfall in units of RPO and the amounts to be deposited into separate fund by KSEB Ltd for the period from 2010-11 to 2013-14 is given below,-

Particulars	2010-11	2011-12	2012-13	2013-14	Total
Non-solar Deficit (MU)	Nil	26.94	135.05	38.00	200
Forbearance price (Rs / Unit)	-	3.90	3.30	3.30	-
Amount to be remitted (Rs. crore)	Nil	10.51	44.57	12.54	68
Solar deficit (MU)	Nil	Nil	Nil	42.58	43
Forbearance price (Rs. / Unit)	-	-	-	13.40	-
Amount to be remitted (Rs. crore)	Nil	Nil	Nil	57.06	57

The amount to be remitted by KSEB for non-achievement of non-solar RPO is Rs.68 crore and that non-achievement of solar RPO is Rs.57 crore making a total of Rs.125 crore. For calculating the above amounts the forbearance prices as per the order dated 01.06.2010 and 23.08.2011 of CERC have been adopted.

57. The petitioner may, depending upon the conditions in REC market, be able to purchase non-solar REC and solar REC at the rates lower than the forbearance prices. In view of the financial problems express by the petitioner, the Commission decides to give one more chance to the petitioner to purchase REC. It is for the petitioner to make necessary enquiries, assess the financial commitments and take appropriate decision as to whether REC should be purchased or the amount of Rs.125 crore as ordered by the Commission should be deposited into a separate fund.

### **Order of the Commission**

58. The Commission hereby issues the following orders with regard to the prayers of the petitioner,-

- (1) The electricity generated from the partial cogeneration plant of M/s MP Steel, Kanjikode and the plant of M/s Philips Carbon Black, cannot be allowed to be accounted towards the RPO of KSEB Ltd.
- (2) The electricity generated from Maniyar SHP cannot be accounted towards the RPO of KSEB Ltd since it is not purchasing any energy from Maniyar SHP.
- (3) KSEB Ltd cannot be exempted from its RPO as per the regulations and therefore the shortfall in RPO of KSEB Ltd during the years 2010-11, 2011-12 and 2012-13 cannot be permitted to be carried over to the subsequent years and hence prayer of KSEB Ltd in this regard is declined.
- (4) KSEB Ltd is granted one more chance to purchase the non-solar and solar renewable energy certificates for the deficit in non-solar RPO and in solar RPO for the years 2010-11, 2011-12 and 2012-13 as assessed in para 56 of this order and report compliance on or before 31.10.2015. Or else KSEB Ltd shall deposit the amount of Rs.125 crore in a separate fund, on account of its non-compliance of RPO during the years 2010-11, 2011-12 and 2012-13. It is also clarified that depositing such amount is not by way of penalty and it is only compensatory in nature as clarified by the Hon'ble Supreme Court.
- (5) RPO target fixed as per the existing regulations cannot be reduced and re-fixed.

KSEB Ltd is directed to report compliance of the above orders either by purchase of REC or by depositing the amount of Rs.125 crore in a separate fund. The amount in the fund shall be placed at the disposal of the ANERT for purchase of REC. The petition is dismissed and it is ordered accordingly.

Sd/-  
**S. Venugopal**  
Member

Sd/-  
**K.Vikraman Nair**  
Member

Sd/-  
**T.M.Manoharan**  
Chairman

**Approved for Issue**

Sd/-  
**Santhosh Kumar. K.B**  
SECRETARY