



## ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

11-4-660, 4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004.

Commission Proceedings No. 08/2017, dated 31-03-2017

Sub:- APERC Renewable Power Purchase Obligation (Compliance by Purchase of Renewable Energy/Renewable Energy Certificates) Regulations-2017  
- For the years from 2017-18 to 2021-22 - Reg.

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A draft Regulation on the above subject was placed on the web site of the Commission seeking views / objections / suggestions of the stakeholders and a public hearing was conducted on 17-12-2016 in the court hall of Andhra Pradesh Electricity Regulatory Commission, Hyderabad.

The Commission, having regard to the objections and suggestions received from various stakeholders as per the list annexed, identified the following key issues and arrived at reasoned conclusions and consequently approved the Renewable Power Purchase Obligation (Compliance by Purchase of Renewable Energy/Renewable Energy Certificates) Regulations-2017, for the years from 2017-18 to 2021-22.

1. **Renewable Power Purchase Obligation (RPPO) Percentages:**

**Objections / Suggestions:**

- a. The level of 9.5% for FY2017-18 to 12.5% for the FY2021-2022 for non solar sources appears to be high and may not be achievable prima-facie, even after exclusion of hydro power consumption. Though wind power may help to some extent, the low density zones involve risk of higher tariff.
- b. The existing 5% RPO (4.75% non-solar and 0.25% solar) may be continued for few more years considering the present difficult market conditions instead of high percentage RPO proposed.
- c. Present market conditions being bad, competition from China and inability to use low cost open access power (due to high cross subsidy charge) are making the power intensive industries moving towards non-viability. Thus, adding additional cost by increasing the RPO which is 19 times on Solar and 2 times on Non-solar (the additional cost on account of this being 0.23 paise per unit) is not welcome and the same is requested to be kept at present level.

- d. An order may be passed on optimum penetration of RE power by considering grid security, balancing resources, cost of balancing and cost implications on consumers.
- e. Fulfilling RPO as specified in the draft, with a back log of RPO of around 14.40% + backlog of 2016-17 is difficult. The proposal for increasing the RPPO targets results in purchase of RECs which leads to increase in Retail tariff and ultimately burdens the consumers. Other State Governments like Punjab, Madhya Pradesh, Goa and other Union Territories fixed the RPO targets below 7% by 2021-22. Accordingly, RPO targets for APEPDCL are as proposed below keeping in view a) the capacities for which PPAs are already entered into; b) Non-solar projects not coming up in near future; c) No expansion seen in existing Non-solar projects etc.

	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22
Solar	3.00%	3.50%	4.00%	4.50%	5.00%
Non- solar	2.00%	2.00%	2.00%	2.00%	2.00%
Total	5.00%	5.50%	6.00%	6.50%	7.00%

- f. The proposed RPO from 14.25% to 25.25% during the period from 2017-22 is on high side, and may de-stabilize the grid and cause APSPDCL to bear financial burden, catalyze to increase the retail tariff, burdening the consumer and resulting in unrest. Due to increase in tariff the commercial and industrial growth rates may come down, ultimately affecting the economy of the State. RPO targets for APSPDCL are as proposed below:

	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22
Solar	0.50%	0.75%	1.00%	1.25%	1.50%
Non - solar	5.50%	6.25%	7.00%	7.75%	8.50%
Total	6.00%	7.00%	8.00%	9.00%	10.00%

- g. APDISCOMs have to meet the deficit RPPO of the years FY2012-13 to FY2016-17 in addition to the targets from FY2017-18. In case of non-fulfilment of above RPPO, purchase of RECs results in burden on the financially strained APDISCOMs which will lead to increase in Retail tariff and ultimately burden on the end consumers. Further, MNRE is likely to revise the targets fixed as it was under wide consultations with the States. The targets will be set in line with the Regulations since few States cannot meet the solar targets. Also, the RPO fixed by the States of Punjab & Madhya Pradesh is less than 8%. RPO proposals may be revised as below duly considering the

technicality of system & financial position of APDISCOMs post-bifurcation of the State. Accordingly, APPCC suggested the following RPO.

Year	17-18	18-19	19-20	20-21	21-22
Non-Solar	6%	7%	8%	9%	10%
Solar	3%	4%	5%	6%	7%
Total	9%	11%	13%	15%	17%

- h. The annual incremental target trajectory for Non-solar and Solar be stipulated at 1.25% (presently 0.75%) and 1.5% (presently 2%) p.a. as only around 10% of the estimated wind potential of 14500 MW is harnessed till date.
- i. Proposed RPO trajectory doesn't include FY2016-17 as per MoP directive dated 22-07-2016 and proposed non-solar RPO has still missed the levels in the NAPCC and hence the same are to be revised upwards.
- j. The total increase in the percentage of NCE during the proposed five-year period from 5% in 2016-17 to 25.25% in 2021-22 works out to a hike of 505%. Such an increase in a span of just five years in a power system that has been developed over a period of more than six decades looks abnormal and hasty.
- k. The fact that MoP's notification is confined to a period of three years only indicates that it wants to adopt a gradual approach, without fixing such percentages for a longer period.
- l. Imposition of higher RPO percentage would lead to disastrous consequences in terms of backing down of a very huge quantum of installed capacity with resultant imposition of dual burden of paying fixed costs for such backing down of relatively cheaper thermal power on one hand and purchasing costlier NCE, on the other.
- m. The data about availability of various fuel sources for generation, purchase and supply of non-solar NCE under RPO to fulfil the obligation of 10.25% by 2018-19 and 12.50% by 2021-22 and the impact on retail tariffs when purchase of NCE increases from 5% to 25.25% over the proposed period of five years shall be ascertained, notwithstanding the fact that the National Tariff Policy envisages that the appropriate Commission shall take into account "availability of such resources and its impact on retail tariffs".
- n. It would be prudent if the proposals and decisions under RPPO are considered up to 2018-19 only in line with MoP directions. The decisions on RPO should ensure to the consumers "the benefit of the advanced

technology in generation of power from different sources resulting in cheaper electricity” and it calls for a cautious and gradual approach.

- o. The generic tariffs determined by the Commission or CERC or discovered through bidding, for different kinds of NCE are higher at present. Commission to propose purchase of lesser percentage of NCE, with marginal increase for the entire proposed period.
- p. Unless the Commission reduces the proposed hike in percentages of NCE to keep the same within a single digit overall for the proposed period, larger consumer interest cannot be protected.
- q. With gradual technological advancement, when costs of generation for different kinds of renewable energy become competitive, probably, there will be no need for continuing the arrangement of RPPO at all. Hence, a gradual and cautious approach in fixing percentages of NCE under RPO for encouraging generation and consumption of NCE, especially of solar and wind energy, is all the more imperative.
- r. If targets are fixed and permissions are given to set up projects and add installed capacities in the power sector irrespective of realistic demand growth, it will lead to disastrous consequences in many ways.
- s. As per the MoP order, it is left to the discretion of State ERCs to decide the percentage under RPPO, taking all relevant factors into consideration. As such fixation of RPPO may be considered keeping in view the fact that the Discoms have already exceeded the minimum percentage fixed by the Commission under RPPO, that they have substantial surplus power and are unable to sell the same, that opportunities are, and will be, available for purchasing power, including NCE, at relatively cheaper prices through real competitive bidding gradually, open market, power exchanges, inter-state exchanges, including from the utilities of the Gol, and unscheduled interchange, energy conservation measures, that the country and other States, too, are heading for a position of surplus power, etc., for meeting requirements of power in tune with demand growth and the need for maintaining a fair balance of short-term, medium-term and long term purchases and purchases on day-to-day and weekly basis from power exchanges and traders and scheduling of hydel power for meeting peak demand - for meeting overall demand for power under fluctuating curves, daily, weekly and seasonal.
- t. The percentage of RPO for the proposed period may be confined to single digit only because the percentage of RE available for 2017-18 as projected

by the Discoms is already in two digits. Increasing the percentage of RE to two digits nearer to or more than that would tantamount to putting the seal for the commitments already made.

- u. Determining the percentage of RE under RPO for the proposed period in single digit would provide some leverage by leaving no scope for the Discoms for entering into fresh PPAs for purchasing high cost RE and imposing avoidable additional burdens on their consumers of power.
- v. In order to take in to account the availability of renewable energy sources in the State and its impact on retail tariffs as stipulated in the National Tariff Policy, the DISCOMs shall be directed to assess the availability of different renewable sources of energy within their areas, since allowing more capacity than bearing capacity of the renewable resources would lead to adverse impact on environment as well as the power tariffs which is already evident in AP in the case of biomass based renewable energy plants.
- w. It has to be examined whether the proposed State plans for adding 1,500 MW of solar power and 1,000 MW of wind power would be sufficient to achieve the target of 14.25% by 2017-18, otherwise needs to be revised. The proposed Solar RPPO of 12.75% by the year 2022 against 8% specified in the National Tariff Policy may burden the consumers. To be on safe side it may be good to have conservative figure and strive to surpass it.
- x. While it has become difficult to achieve the existing RPO target, increasing it by 5 times raises many doubts. Not just AP, many States are resorting to backing down of RE units like wind and solar in the name of grid safety / management, the real reason is its impact of electricity tariff. This also demands a re-examination of RE tariffs, particularly related to wind, biomass and waste to energy.
- y. The Discoms will have to buy high cost wind power generated under PPAs, backing down relatively cheaper thermal power, because the NCE units, including wind power units, are treated as must-run plants under RPO. Fluctuations in generation of wind power, whether on lower or higher side are inherently problematic not only for grid management but also for the DISCOMs and their consumers of Power.
- z. The need to promote renewable sources of energy in the context of climate change shall not burden ordinary consumers and it shall not be used as tool by unscrupulous investors to corner undue benefits and higher profits.

- aa. The very policy approaches of the Governments in “encouraging” renewable power and several orders given by regulators at different levels led to, and continue to lead to, imposition of unjustified burdens on the consumers of power.
- bb. Commission to exercise its discretion and legitimate authority to ensure orderly development of power sector in terms of procurement of power required by the Discoms prudently to ensure competitive tariffs to their consumers, even while encouraging generation and consumption of renewable energy.
- cc. The average demand on AP grid (as per the load forecasts) for 2017-18 is about 6700 MW. Accommodating NCE capacity to the extent of 2000 MW is only possible considering load variation to that extent which is normally achieved by backing down of thermal and hydel generation. The wind and Solar installed capacities in AP as on date are 2000 MW and 1000 MW respectively and addition of another 3000 MW is anticipated in both the sectors consequently increase the NCE capacity to about 6000 MW, which cannot be absorbed by the grid and will lead to more grid violations, grid indiscipline and a threat to the security & stability of the system.
- dd. Considering the highly volatile nature of NCE (which varies from Zero to max. capacity during a day) and the inter-state under/over drawals being permitted only up to 250 MW as per Indian Electricity Grid Code (IEGC), it is practical to limit the NCE injection to a maximum of 2000 MW.
- ee. Backing down of thermal plants (involving ramp up/down cost implications in the form of fixed and increased variable costs) to enable purchase of NCE (Solar and Wind) energy is causing additional burden on the consumers apart from huge penalties in case of deviations in drawals from the CGS share or central grid. Hence, RPPO obligation may be reduced and scope may be given for selling power with green component to other States which are in need of green component.
- ff. The expected average demand being very less compared to peak demand during the period FY2017-18 to FY2021-22, if penetration of RE generation is allowed to meet the draft RPPO levels, there may be a situation requiring complete shutdown of conventional generation, rejection of CGS share and even shutting down of RE generators themselves.
- gg. There will be adverse impact on the retail tariff & consequent burden on the consumers if the proposed percentages of the RPP obligation are implemented. This will be against the spirit of the guidelines issued by MOP,

GOI, which suggested taking into account the availability of RE resources and impact on retail tariffs while fixing RPPOs.

**Commission's View:**

As can be seen from the above there are varied responses, namely the obligated entities and representatives of the consumer advocacy groups generally asking for reduced RPPO percentages or at least maintaining the status-quo; and the promoters of renewable energy projects generally asking for either retaining the same levels as proposed in the draft and some even felt that the proposed non-solar RPPO is still less than the levels in the NAPCC and the proposed trajectory does not include FY2016-17. The State Agency i.e. SLDC suggested that the Order to be passed by the Commission should be by taking optimum penetration of RE power by considering grid security, balancing resources, cost of balancing and cost implications on consumers. Some others have also brought to the notice of the Commission the ill effects of fixing unreasonably higher RPPO such as backing down of existing generating stations and paying the fixed charges in order to off-take the power from renewable sources which enjoy must-run status and also the consequential burden on end consumers through increased retail tariff and the slow down of economy etc. The obligated entities other than the DISCOMs have also requested for maintaining the existing levels of RPPO (4.75% for Non-solar and 0.25% for Solar) for few more years considering the present difficult market conditions and competition from China etc. Coming to the DISCOMs, they have proposed certain levels of RPPO to be fixed in their respect as already brought out supra.

Coming to the RPPO targets suggested by APEPDCL, while they provided yearly increment of 0.5% from the base figure of 3.0% (for FY2017-18) in respect of solar, they maintained an RPPO of 2% across the entire horizon for Non-solar. It is to mention here that the entire projections are based on their present level of harnessing of renewable energy and the future potential either tied up by way of PPAs or otherwise. It appears that EPDCL have totally lost sight of the fact that RPPO need not necessarily be fulfilled only in energy terms but also by way of purchasing certificates and purchase of renewable power from other distribution licensees in the State of Andhra Pradesh (as provided in the draft regulation), it appears that their proposals need not be countenanced.

Coming to the RPPO targets suggested by APSPDCL, while they provided yearly increment of 0.25% with base figure of 0.5% (for FY2017-18) in respect of Solar, they adopted an increment of 0.75% with base figure of 5.5%

in respect of Non-solar. All said and done, whether it is APSPDCL or APEPDCL, all are asynchronous with the National Tariff Policy or NAPCC stipulations. Although we are conscious of the consequences of higher percentages of RPPO as raised by various parties, it is also necessary to some extent to go inline with the National Policy mandates.

From that point of view, we are inclined to accept the proposals of APPCC which are little better than the projections of the DISCOMs and are rather conservative compared to the National targets. Thus a balance can be struck between the State specific issues and the National requirements. The draft is accordingly modified.

2. **Both DISCOMs to be treated as one control area:**

**Suggestion:**

The RPO obligation may be applied by considering the two Discoms APSPDCL and APEPDCL as one control area, as APEPDCL has no Wind Power, leading APEPDCL to bear the RPO burden.

**Commission's View:**

Section 86 (1) (e) of Electricity Act, 2003, inter-alia, stipulates that "...specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee". Thus unequivocally the obligation has to be on each distribution licensee only and as such, applying RPPO by considering the two DISCOMs as one control area cannot be accepted.

3. **Exclusion of Hydro:**

**Objections / Suggestions:**

- a. As per the Electricity Act, 2003, total energy consumption includes hydro. A government order dt. 22.07.2016 excluding consumption met from hydro electric sources cannot supersede the Act. Amend the draft accordingly.
- b. The exclusion of energy consumption from hydro energy sources should solely be for determination of the "Solar RPO' quantum as clause 6.4(1)(i) of the National Tariff Policy 2016 dated 28.01.2016 pertains to solar RPO target and not Non-solar RPO.
- c. There is no justification in not considering hydel power plants (only mini hydel plants are defined as renewable sources) as sources of renewable energy as there is no discrimination based on the levels of installed capacities of non-hydel NCE units. The matter being under consultation, as and when MOP, Gol, notifies that all hydro power projects should be treated

as sources of renewable energy, the existing installed capacity of 1721 MW of hydro power projects of AP Genco would enhance the percentage of NCE power being purchased by the Discoms substantially. Commission shall take this aspect into account while fixing percentages for yearly purchase of NCE by the Discoms.

d. Hydel power should also be treated as RE for the purpose of RPPO.

**Commission's View:**

For the purpose of addressing the above issue, the provision in the Electricity Act, 2003 is extracted as hereunder: Section 86 (1) (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 distribution licensee."

Against the above provisions, the National Tariff Policy (NTP), 2016 dated 28.01.2016 at Clause 6.4 (1) (i) stated that within the percentage so made applicable, to start with, the SERCs shall also reserve a minimum percentage for purchase of solar energy from the date of notification of this policy which shall be such that it reaches 8% of total consumption of energy excluding hydro power by March, 2022 or as notified by the Central Government from time to time.

Subsequently, vide order dated 22.07.2016, MoP, Gol, pursuant to the above provisions of the NTP, while notifying long term growth trajectory of renewable purchase obligations for non-solar as well as solar, for 3 years from 2016-17 to 2018-19, qualified by stating that the obligation will be on total consumption of electricity by an obligated entity excluding consumption met from hydro sources of power.

It is brought to our notice saying that the above provisions of NTP are inconsistent with the provisions of the EA, 2003 and if at all the provision of exclusion of consumption met from hydro sources of power is to be accepted, the same shall be made applicable only in respect of solar RPPO as done in the policy and not to non-solar RPPO. Another point that was brought to our notice is that entire hydel power shall be treated as RE for the purpose of RPPO.

It is a settled point that any policy stipulations that emanate from the very Act cannot be expected to be in contradiction to the provisions of the Act, but are to be in furtherance of the spirit of the Act. The primary import of Section 86(1) (e) is to promote renewables and there is no gainsaying that Hydel

Power (irrespective of the capacity) is renewable. The important fact that appears to have been recognized in the provisions of revised NTP is that Electricity from hydro sources of power are renewable in nature and therefore the same need to be promoted. A step in this direction, appears to be allowing the percentage of renewables to be purchased being on the total consumption excluding hydro power. On the other hand, if the total hydro is treated as renewable power and be allowed to be accounted against the RPPO obligation, there won't be any room for promoting renewables like Wind and Solar etc. From this point of view, the stand taken by the MoP appears to be in line with the larger objective of promoting Solar, Wind and other new and renewable sources of energy and hence is in order and we are inclined to agree with the same. However, since Mini Hydel sources of power is recognized as renewable energy sources under regulation 2(m), the obligation will be on total consumption of electricity by an obligated entity, excluding consumption met from hydro sources of power other than Mini Hydel sources of power; the draft is modified accordingly.

4. **Renewable Energy Certificates (RECs):**

**Objections / Suggestions:**

- a. Compliance through purchase of RECs should be resorted to by DISCOMs only for marginal shortfall.
- b. The consumers have already been saddled with RE of higher tariffs for longer periods, with the kind of PPAs the Discoms had with private developers. The arrangement of RECs shall be dispensed with totally or else, the cost of RECs not be allowed, in case the Discoms are forced to purchase the same, as pass through to be collected from their consumers under true up or in any other form.
- c. Proposed Regulation as an instrument to implement REC is not warranted. REC mechanism is meant to facilitate States like Delhi and licensees covering urban areas like Mumbai to meet their obligations under RPPO. This mechanism is not meant for a State like Andhra Pradesh which has abundant RE sources. In fact it may adversely affect harnessing of RE Sources in AP.
- d. As the provision for the so-called RECs is recommendatory or voluntary only, the same should be dispensed with.

**Commission's View:**

The mechanism of Renewable Energy Certificates (RECs) was originally introduced from the stand point of nation as a whole, in promoting the Renewable Energy (RE). The underlying principle is that while the renewable

energy rich States can meet their RPPO in energy terms, the States that do not have renewable energy resources can at least contribute by purchasing the RECs from the RE generators set up in RE rich States. This scheme, while protecting the RE rich States from being saddled with the entire burden of renewables, also gives an opportunity to others for contributing to the renewables even when there are no renewable energy sources in their geographical area. Coming to the State of Andhra Pradesh, the RE resources are not equally distributed between the major obligated entities i.e. APEPDCL and APSPDCL. As such, there is a need and necessity to continue the REC scheme even in the State of Andhra Pradesh. As far as the State of AP is concerned, continuation of REC mechanism need not be seen as necessarily and adversely affecting the DISCOMs in as much as the present draft provides for purchase of RE power from other licensees in the State. Another point to be noted in this context is that with the inter-state sale of RE Power becoming reality in near future with the waiver of transmission charges and losses, there is also another alternative to RECs.

5. **State Agency:**

**Objections / Suggestions:**

NREDCAP should have been the natural choice for State Agency. If Commission desires to nominate from statutory entities only, it is desirable to nominate the IPC wing of STU.

**Commission's View:**

In Regulation 1 of 2012, APSLDC was designated as the State Agency and since then the same is continuing to discharge its responsibilities. Neither the Commission noticed any deficiency in their function nor did it receive any complaints on its function from any quarters as on today. As such Commission feels it to be appropriate and just to continue the APSLDC as State Agency in this Regulation also.

However, there is also a provision in the regulation to the effect that if the Commission is satisfied that the State Agency is not able to discharge its functions satisfactorily, it may designate any other agency to function as State Agency as it considers appropriate. That being the case, there is no need to make any corrections on this account at this stage.

6. **Accreditation:**

**Suggestions:**

- a. As per CERC fourth amendment dated 28-03-2016 (REC Regulations 2010), CPPs commissioned between 29-10-2010 and 31-03-2016 are eligible for RECs. Clause 6.2 of the draft may be modified suitably.
- b. The content of the CERC order dated 20-09-2016 has to be taken into cognizance under clause 6.1 in the final Regulations, to avoid rejection of accreditation applications by State Agency.

**Commission's View:**

As regards the views expressed above, there is no need to individually address the above issues as we have come to a conclusion that the clauses dealing with eligibility and registration of certificates as at Clause 6 of the draft are to be deleted by modifying the clause to the effect that CERC REC (Terms and conditions for recognition and issuance of Renewable Energy Certificate for renewable energy generation) Regulations, 2010 dated 14.01.2010 as amended from time to time shall be applicable. However, any provision appearing under the said clause and falling under the jurisdiction of the State Commission shall survive. The draft regulation is corrected accordingly.

7. **Other Categories also to be treated as fulfillment of RPPO:**

**Suggestions:**

- a. Solar/renewable power generated under net-metering shall be considered as part of RPO of the DISCOM.
- b. Discoms may be allowed to offset their RPO for the energy purchased from solar rooftops, since the applicable tariff as per AP Solar Power Policy, 2015 shall be equal to the average cost to serve of the Discom, as determined by APERC every year.
- c. Discoms may be allowed to offset their RPO by the unutilized banked energy deemed to be purchased by Discoms from wind/solar/mini-hydel power projects under open access Regulations, irrespective of the cost of such purchase. As per the CERC REC Regulations, there is no provision for the RE generators to receive RECs for the unutilized banked energy sold to Discoms.
- d. Under clause 3.1, the tariff at which power is to be purchased from Renewable Energy Sources should also include "any other tariff approved by the Commission or through short term purchases".

- e. Clauses 6.1 (a) and 6.1 (b) shall be appended with “...or through short term purchases; or through solar rooftop projects; or through banked energy; or any other tariff approved by commission” as APDISCOMs also entered PPAs with various NCE developers at mutually agreed price and the same were approved by APERC for meeting the RPO.
- f. The methodology for off-setting the RPO ratio towards wind and solar energies from hybrid power plants may be suggested as they are envisaged in the near future.

**Commission’s View:**

Discoms have requested that purchases made from renewable sources of energy at mutually agreed rates, purchases made from solar roof-top projects (net or gross metering) at average Cost to Serve and unutilized banked energy deemed to have been purchased by Discoms from wind/solar/mini-hydel power projects under Open Access Regulations (at 100% or 50% of pooled cost, as the case may be) may be off-set against the RPPO.

Against the above request the draft regulation provides for meeting their RPPO requirement through energy purchases at a tariff determined under section 62 or adopted under section 63 of the Act only.

However, Commission is of the view that not only the transactions as sought to be offset against the RPPO as per the request of AP Discoms (except for solar-roof top- net metering) but also all such other transactions for which the generator does not claim RECs can be allowed to be offset against the RPPO of Discoms. The primary concern of the Commission on this is that there shall not be double accounting for the same energy. Coming to the treatment of the quantum of electricity generated by a consumer from the roof top solar PV system under the net metering arrangement, the same can be used towards meeting the Solar RPPO of the distribution licensee, if such consumer is not obligated entity. This is because of the fact that, the Discom is meeting RPPO on behalf of such consumer, the generation from the Solar Roof-top System installed by such consumer can be considered towards the obligation of Discom, as there is no separate obligation on such consumer.

If the consumer is an obligated entity, the quantum of electricity consumed by the eligible consumer from the Roof-Top Solar PV system under the net-metering arrangement shall qualify towards his compliance of Solar RPPO. Draft is modified accordingly. On the issue of methodology for off-setting the RPO ratio towards wind and solar energies from hybrid power plants, the issue will

be taken up after commissioning of such plants and upon request through a petition(s) from concerned stakeholder(s).

8. **Monitoring of Compliance, Consequences of Default & Penalty Mechanism:**

**Objections / Suggestions:**

- a. Provision in line with the CERC REC Procedures dt.5.11.2015 may be incorporated for enabling SLDC to independently verify the RECs purchased by obligated entities from power exchanges through REC Registry website, and to consider the same for fulfillment of RPPO of buying entities, even if the buyer has failed to deposit the hard copies of such RECs with SLDC.
- b. Web based monitoring of RPO compliance may be introduced, within 3 months from the date of notification, assigning the State Agency for identifying and preparing a list of all obligated entities (including CPP/OA users) along with status of their Solar and Non-solar RPO compliance.
- c. A time bound responsibility in the consequences of default may be included in line with Rajasthan Electricity Regulatory Commission (RERC), to make the process transparent and smooth.
- d. Penalty under clauses 7.1 and 7.2 of draft regulation shall be considered as higher of (i) Floor price of REC-Solar, Non-solar (ii) Price in the Market i.e. IEX (iii) Price equal to disaster relief CESS and (iv) Any other determined by APERC.
- e. Firm penalties on the obligated entities failing to fulfil their respective RPO should be instituted. It shall be at forbearance price without any relaxation. Section 142 of the Act shall be over and above the penalty.
- f. The consumers / generators who have not fulfilled the RPO shall not be allowed for open access.

**Commission's View:**

The broad suggestions made as above are towards modification of monitoring of compliance, consequences of default & penalty mechanism. The present provisions in the draft regulation are taken from Regulation 1 of 2012 which operated for the periods from FY2012-13 to FY2016-17 i.e. a longer tenure of 5 years. Commission did not find any difficulty in implementing the present provisions during their operation under in the earlier Regulation. It may be apt to note here that the obligated entities in the State of Andhra Pradesh are more responsible in as much as they have been approaching the State Agency or the Commission either in showing enthusiasm to comply with the regulations or

otherwise. That apart, any penalty that can be imposed on anyone for that matter for any default cannot be made automatic in as much as the same would be contrary to the principles of natural justice and jurisprudence where opportunity is given to explain their position before penalties can be levied on defaulting parties. What may be applicable for a particular State need not be emulated in other States, without taking note of the similarities or differences of each State. As such, Commission feels it comfortable to retain the existing provisions as it is. Coming to the request of enabling SLDC to independently verify the RECs purchased by obligated entities from power exchanges through REC Registry website, and to consider the same for fulfillment of RPPO of buying entities, even if the buyer has failed to deposit the hard copies of such RECs with SLDC, the same appears to be reasonable and hence is accepted. The draft is corrected accordingly. On the issue of not allowing the consumers / generators who have not fulfilled the RPPO, for open access, we feel that there is no correlation between the two in terms of the provisions of the Electricity Act, 2003 and each is an independent activity and is to be treated accordingly.

9. **Utilization of Fund:**

**Suggestions:**

The fund created as consequence of default should only be utilised by way of procurement of RECs and thereafter for incorporating telemetry features to facilitate effective implementation of the Forecasting and Scheduling mechanism.

**Commission's View:**

The draft regulation already provides for utilization of fund for procurement of RECs or as may be directed by the Commission. In addition to the above, the objector is requesting the fund to be used for incorporating telemetry features for effective implementation of Forecasting and scheduling mechanism. Commission feels that any amount accrued in the fund due to default in not complying with the Regulation should be used for promotion of renewables or as may be directed by the Commission. As such the provisions in the draft are in order. The Forecasting and scheduling mechanism is not essentially towards promotion of renewables but to bring grid discipline.

10. **Obligated Entities:**

**Suggestions:**

RPO shall also be extended to the conventional generation to the extent of auxiliary consumption.

**Commission's View:**

The RPPO is primarily intended to be levied on various categories of end users of electricity in order to encourage investments in generation of renewable energy. Auxiliary consumption in a conventional generation plant (for that matter in any generating plant including RE generators) is basically used for the generation of electricity itself and hence cannot be treated as a separate item by itself but only as a supporting item to further generation. Accordingly, the request of the objector does not merit consideration.

11. **Procurement and Sale of RE Power:**

**Objections / Suggestions:**

- a. Discoms may be allowed to sell the excess RE power over and above the RPPO.
- b. The situation of availability of substantial surplus power (in the event of projections of demand growth and requirements of power turned out to be inflated) will be much more serious when such surplus power cannot be sold to others by the Discoms due to its higher tariffs, especially of NCE.
- c. As already AP state has more than 15% surplus electricity it has to be examined how much space is available to accommodate renewable energy. Accordingly, capacity addition of conventional power plants also needs to be reviewed.
- d. It should be made clear to the Discoms that they should seek prior consent of the Commission, if they want to procure RE exceeding the minimum percentage fixed by it under RPO. As and when the Discoms seek prior consent of the Commission to enter into PPAs with RE units, exceeding the minimum percentage under RPO decided by the Commission, the latter should take a holistic view and adopt a cautious and gradual approach to ensure that the same is in larger interest of consumers, before taking its decision, preferably, after holding a public hearing on such proposals of the Discoms.
- e. The expected gas supply by ONGC by July 2017 to the Gas based IPPs with whom APDISCOMs have long-term PPAs (690 MW AP Share) will aggravate the ill effects of prevailing power surplus situation in the State. Even, the final cost of Solar & Wind after accounting for taxes payable, evacuation, backing down of thermal plants and technical losses works out to Rs. 8.70 per unit. Paying such high price is not justified when much cheaper power is available. Purchase of additional power will result in more revenue losses.

- f. If spinning reserve is maintained for managing Grid stability for accommodating the RE power, the cost of generation goes-up due to higher oil consumption in thermal plants. Distributed Generation can be ideal which reduces the transmission losses and needs less infrastructure cost as can be seen in the cases of recent addition of 593 MW of Solar at different parts of AP which has come up without any additional expenditure towards transmission and the losses are also less.

**Commission's View:**

The present regulation deals with the minimum percentage of RPPO to be complied with by the obligated entities and other incidental and ancillary aspects. That being the case, the above issues are beyond the present regulation and hence need not be dealt with hereunder.

12. **RPPO on consumers availing power from 3<sup>rd</sup> party generators:**

**Clarification:**

Provision (under clause 3.2) may be added clarifying whether consumers availing power from 3rd party generators under Power Wheeling and Purchase Agreement (PWPA)s are required to meet RPO on such power consumption or not.

**Commission's View:**

On this issue, Commission has taken a decision and communicated the same as in the letter dated 17.07.2014. The rationale and the decision is as follows. Clause 7.2 of OA Regulation (2 of 2005) states that, the existing users other than the DISCOMs, may continue to avail themselves of the wheeling facility as per the existing agreements for the period specified in those agreements to the extent they are not inconsistent with the Act and this Regulation (2 of 2005). In view of the above, consumers availing power through existing power wheeling and purchase agreements (PWPAs) cannot be considered as obligated entities to the extent of their consumption from such wheeling agreements.

13. **Self retention of RECs:**

**Clarification:**

- a. Whether the application for self-retention of RECs by the captive generators can be made for the fulfillment of RPO of previous years.
- b. Whether a solar captive generating plant can be allowed to self-retain the solar RECs for offsetting the non-solar RPO of their consumption unit. If allowed, whether the number of solar RECs retained shall be equal to the

number of non-solar RECs required to be purchased for fulfillment of non-solar RPO.

**Commission's View:**

The Central Commission has allowed self-retention of RECs by Captive Generating Plants towards fulfillment of RPPO of their consumption unit subject to verification by concerned State Agency. However, the Central Commission does not say anything about self-retention of RECs by the Captive Generators for fulfillment of RPO of previous years. The issue is set at rest accordingly.

The issue is whether solar RECs can be retained for fulfillment of non-solar RPO of Captive generators and whether the number of solar RECs retained shall be equal to the number of non-solar RECs. As on today the price of solar RECs is higher than that of non-solar RECs. That being the case, till such time the price of Solar RECs is higher than that of Non-Solar RECs, if a captive generator wants to fulfill their non-solar RPO through self retention of solar RECs, the same can be permitted. Any stakeholder, can approach the Commission for review of Regulation on this aspect, once the price of Solar RECs becomes less than the price of Non-Solar RECs. On the other issue, since the obligation is to be primarily met in terms of energy, the number of solar RECs retained shall be equal to the number of Non-solar RECs.

14. **Carry forward of RPPO:**

**Suggestions:**

Provision may be given to Open Access & Captive Consumers (under clauses 3.2 and 3.3) for purchasing RECs to fulfill the balance RPO of 2012-13 to 2016-17 in line with the provision given to Discoms vide Commission's order dated 28.05.2016 in R.P.No.19 of 2015.

**Commission's View:**

Granting the request as above or otherwise can be considered only upon filing of a petition by the aggrieved party / parties.

15. **RPPO fulfillment from WHR Plant generation:**

**Suggestions:**

To incorporate in Section 3 (sub-section 3.3) of the draft that the consumption of energy from waste heat recovery power plant as a cogeneration unit shall also be treated as fulfilment of the Renewable Power Purchase Obligation (RPPO).

**Commission's View:**

The issue of exempting the power generated from co-generation process through waste heat recovery electricity from RPPO was examined by us and an order was passed on 6.8.2016 in O.P.No: 7 of 2016 to the effect that such plants are exempted from RPPO. The said order has attained finality not having been challenged. As such the same position rules the field. Accordingly clause 3.3 is modified.

16. **Categorization under Waste to Energy Projects:**

**Suggestions:**

Specifically mention that Waste to Energy projects implies MSW (Municipal Solid Waste) & RDF (Refuse Derived Fuel).

**Commission's View:**

The definition on Renewable Energy Sources is exhaustive and covers Municipal Waste also. No further specification is needed.

17. **Mandating Synchronization for RE Captive plants:**

**Suggestions:**

A new provision (under clause 3.3) may be added, mandating synchronization of renewable captive generating plants (to enable the concerned licensees to ascertain the generation and captive consumption), if the captive consumer intends to utilize such captive consumption for the purpose of offsetting their RPPO.

**Commission's View:**

It may not be fair to mandate synchronization of renewable captive plant to the grid. However, to enable the concerned licensees to ascertain the generation and captive consumption, Commission directs that such plants shall install meters of appropriate class of accuracy for Measurement of gross generation, Auxiliary consumption & Captive Consumption, at appropriate locations duly sealed by the concerned licensees. The concerned licensees shall take monthly readings for all such meters for the purpose of accounting the energy towards RPPO of the captive plant. Draft is modified accordingly.

18. **Accreditation of DISCOMs:**

**Suggestions:**

An additional provision may be included in clause 6.3 of draft regulation as, "Provided it has obtained a certification from the Appropriate Commission,

towards procurement of Renewable Energy as provided in sub-clause (a) of this regulation” in line with the Cl.2.1.1A.b of CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) (Third Amendment) Regulations 2014 dt.30.12.2014.

**Commission’s View:**

As regards the views expressed above, there is no need to individually address the above issues as the Commission has come to a conclusion that the clauses dealing with eligibility and registration of certificates as at Clause 6 of the draft are to be deleted by modifying the clause to the effect that CERC REC (Terms and conditions for recognition and issuance of Renewable Energy Certificate for renewable energy generation) Regulations, 2010 dated 14.01.2010 as amended from time to time shall be applicable. However any provision appearing under the said clause and falling under the jurisdiction of the State Commission shall survive. The draft regulation is corrected accordingly.

19. **RECs for DISCOMs:**

**Suggestions:**

Clause 6.3 (a) shall be appended with...“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 or any other tariff approved by APERC, in excess of the renewable power purchase obligation as specified by the Commission.

**Commission’s View:**

The eligibility issues for obtaining accreditation from the State Agency are matters to be decided by CERC and hence no changes may be made by this Commission and hence the request cannot be granted.

20. **Adopt Competitive bidding:**

**Objections / Suggestions:**

- a. The system of determining generic tariffs for different kinds of NCE and allowing the Discoms to enter into long-term PPAs based on such tariffs through the notorious route of MoUs shall be dispensed with and rather it shall be made mandatory for the Discoms to select developers of NCE units for purchase of power based on lowest possible tariffs discovered through real competitive bidding tariffs for different kinds of NCE for achieving one of the objectives of the new national tariff policy to “ensure availability of electricity to consumers at reasonable and competitive tariffs.”

b. Competitive bidding, which has yielded lowest solar tariffs of Rs.3.63 recently, shall be taken up for wind power also instead of MOU route, as per the National Tariff Policy.

**Commission's View:**

The suggestions are well taken and will be considered on merits while dealing with the relevant Regulation.

21. **Prohibition of coal usage in RE Plants:**

**Objections / Suggestions:**

Coal usage in biomass, bagasse co-generation, waste to energy and such other RE plants shall be totally prohibited. It defeats the very purpose of promoting them as RE plants.

**Commission's View:**

The suggestion is well taken. Appropriate authority to take action on the same.

22. **Alternatives for meeting RPO target:**

**Suggestions:**

The RPO target can be achieved not only by increasing RE generation capacity but also by bringing down the need to create additional generation capacity and even further by reducing total power consumption. Improving energy efficiency and energy conservation shall also become important part of achieving the required RPO. Creating awareness among consumers, particularly the agricultural consumers is very important.

**Commission's View:**

The suggestion is well taken.

Sd/-  
P.RAMA MOHAN  
MEMBER

Sd/-  
Dr.P.RAGHU  
MEMBER

Sd/-  
JUSTICE G.BHAVANI PARASAD  
CHAIRMAN

**Annexure**

<b>S. No.</b>	<b>Name of the Persons who submitted written Objections / Suggestions</b>	<b>Date</b>
1.	Sri S. Suryaprakasa Rao, Former Director/Erstwhile APCPDCL and Former Secretary/ Erstwhile APERC	15.09.2016
2.	Indian Wind Energy Association	4.10.2016
3.	Chief Engineer/IPC/APPCC	4.10.2016
4.	M/s Penna Cement Industries Ltd.	6.10.2016
5.	M/s Banyan Green Fuels Private Ltd.	6.10.2016
6.	Sri P. Madhu, State Secretary, CPI(M)	7.10.2016
7.	Sri M. Thimma Reddy, Convenor (People's Monitoring Group)	7.10.2016
8.	Sri Tushar Goyal, Mytrah Energy (India) Pvt. Ltd.	7.10.2016
9.	Saint Gobain (Grindwell Norton Ltd.,	7.10.2016
10.	M/s INOX Renewables Ltd.	7.10.2016
11.	Sri Ch. Narasinga Rao, CPI(M) State Secretariat Member	7.10.2016
12.	CGM/P&MM & IPC/APSPDCL	7.10.2016
13.	M/s Adani Green Energy Ltd.	7.10.2016
14.	Sri M. Venugopala Rao, Senior Journalist & Convener, Centre for Power Studies	7.10.2016
	Additional Submissions	28.10.2016
	Final Submissions	16.12.2016
15.	APSEB Engineers' Association	7.10.2016
16.	The Federation of Telangana and Andhra Pradesh Chambers of Commerce and Industry	14.10.2016
17.	Sri A. Punna Rao, Vijayawada	28.10.2016
	Additional Submissions	17.12.2016
18.	Sri Penumalli Madhu, Secretary, CPI(M), AP Committee	31.10.2016
	Additional Submissions	16.12.2016
19.	Dr. S. Chandramouli, President, APSEBEA	31.10.2016
20.	CGM/Planning, PPA&RA/APEPDCL	26.11.2016
21.	Chief Engineer/APSLDC	16.12.2016

<b>S. No.</b>	<b>Name &amp; Designation of the Persons who made oral submissions on date of hearing</b>	<b>Organization Representing</b>
1.	Sri Ravindra Kadar, Deputy Manager, Suzulon Energy Limited.	Indian Wind Energy Association, New Delhi
2.	Sri Dharmendra Gupta.	Adani Green Energy Ltd., Ahmedabad.
3.	Sri P.E. Pradeep	Saint Gobain, Renigunta.
4.	The Chief Engineer, IPC &PS.	APPCC
5.	Sri Vedavyasa Rao.	APSEB Engineers Association, Hyderabad
6.	Sri M. Venugopala Rao, Senior Journalist & Convener.	Centre for Power Studies, Hyderabad.
7.	Sri A. Punna Rao, Vijayawada.	
8.	Sri M. Timma Reddy, Convenor.	People's Monitoring Group on Electricity Regulation.
9.	Sri Thushal Goel.	Mytrah Energy (India) (P) td., Hyderabad.
10.	Sri P. Shiva Rao, Learned Standing Counsel.	SLDC, AP Transco.