
Explanatory Memorandum for the proposed draft of the Maharashtra Electricity Regulatory Commission (Renewable Purchase Obligation, its compliance and REC framework Implementation) Regulations, 2016

Background

The Maharashtra Electricity Regulatory Commission (Renewable Purchase Obligation, its compliance and REC framework Implementation) Regulations, 2010 (hereinafter referred to as the MERC RPO-REC Regulations, 2010) were notified by the Maharashtra Electricity Regulatory Commission (hereinafter referred to as MERC or the Commission) on June 7, 2010. Aforementioned Regulations are applicable for the period for the Operating Period from FY 2010-11 to FY 2015-16, i.e., till 31 March, 2016. The Hon'ble Appellate Tribunal for Electricity (ATE) in its Judgment dated 20 April, 2015 in Appeal No. 1, 2 and 4 of 2013, amongst various other directions under Section 121 of the Electricity Act, 2003 (hereinafter referred as EA, 2003) , also directed that the State Commission shall decide the RPO targets before the commencement of the Multi Year Tariff (MYT) period to give adequate time to distribution licensee to plan and arrange procurement of renewable energy sources and enter into PPAs with the renewable energy project developers. In light of the above, and in context of the onset of the new MYT Control Period, several amendments have been proposed to the MERC RPO-REC Regulations, 2010 including the RPO targets for the future years.

The following paragraphs provide a detailed description of the rationale and the corresponding draft.

Amendment in Regulation No. 5

The existing Regulations 5.1 specifies as under:

“5.1 The minimum percentage as specified under Regulation 7.1 shall be applicable to all Distribution Licensees in the State of Maharashtra as well as to open access consumers and captive users within the State of Maharashtra, subject to following conditions:

- (a) *Any person who owns a grid connected Captive Generating Plant with installed capacity of 1 MW and above (or such other capacity as may be stipulated from time to time) and consumes electricity generated*

from such plant for his own use; shall be subjected to minimum percentage of RPO to the extent of his consumption met through such captive source.

...”

In order to provide further clarity it is proposed to insert the words “based on conventional fossil fuel based generation” between the words “Captive Generating Plant” and “with installed capacity of 1 MW and above”

Amendment in Regulation No. 6

The current RPO framework (FY 2010-11 to FY 2015-16) is co-terminus with the existing MYT Control Period, i.e., it ends on 31 March, 2016. It is well recognised that a longer tenure for the regulatory and policy framework increases the certainty as perceived by the investors and will help to accelerate the process of harnessing of renewable energy. Risk perception of the investors and developers can be mitigated with steady policy and regulatory regime and with assurance of no significant mid-course changes to various terms and conditions outlined under the framework. From off-taker’s perspective as well, this shall facilitate their long term planning and procurement process.

The option available for tenure for proposed RPO policy regime: Four years (from FY 2016-17 to FY 2019-20), which may be co-terminus with

- a) the RE Tariff mechanism
- b) the MYT Control Period and

The Commission is also formulated the MYT mechanism, which shall be effective from FY 2016-17 to FY 2019-20. Further, the Commission is also formulated the RE Tariff mechanism, which shall be effective from FY 2015-16 to FY 2019-20. **Hence, it is proposed that the Operating Period for RPO regime shall be co-terminus with the Control Period under new MYT regime.** Thus, the RPO framework shall be valid until 31 March, 2020 (i.e., up to FY 2019-20), from the date of notification of the RPO Regulations.

“6. The RPO framework specified under these Regulations shall commence from 1 April, 2016 and shall be valid until 31 March, 2020.”

Amendment in Regulation No. 7

Technology specific targets or generic targets

Under the current framework, separate RPO targets have been specified for Solar, Non-Solar and Mini/Micro hydro projects. The approach of specifying resource-specific RPO target on one side increases the complexity of RPO administration, reporting and compliance procedures and increases the cost of RPO compliance.

On the other side, the Government has also set separate capacity addition target for major RE sources such as Solar, Wind and other RE with a cumulative capacity addition planned of 175 GW by 2020. Further, the GoM has initiated various measures for promotion of energy generation from new renewable energy sources like solar rooftop PV, municipal solid waste, which has significant potential within State and can become a major energy source in future. For promotion of specific technologies, and in order to achieve the technology specific capacity addition target, specifying technology specific target shall be required.

In view of this, it is proposed that the present approach of technology specific targets for Solar, Non-Solar and mini/micro hydro plants shall be continued over the new control period.

Further, the Commission in various proceedings noted various problems/difficulties faced by the Obligated Entities in procuring of power from renewable energy sources for fulfilling technology specific RPO target. In this context, Captive Users of Captive Generating Plants with installed capacity of 1 MW and above but less than 5 MW, Open Access Consumers with contract demand of 1 MVA and above but less than 5 MVA and Distribution Licensee(s) with peak demand of 1 MW and above but less than 5 MW, shall meet their RPO target for a particular year on composite basis as stipulated under column (c) of the Table 9 below. All other Obligated Entities shall be subjected to technology specific RPO.

RPO assessment for new Control Period (FY 2016-17 to FY 2019-20)

The National Action Plan for Climate Change (NAPCC) issued by Prime Minister of India envisages minimum 5% of RE procurement target for FY 2009-10, which is to be increased by 1% for next 10 years. SERC may set higher percentages than this minimum target at each point in time. Therefore, considering these targets, minimum renewable purchase obligation for next Control Period as per NAPCC would be as follows:

Table 1: RPO targets as per NAPCC

Sr No.	Year	Minimum Renewable Purchase Obligation
1.	2016-17	12%
2.	2017-18	13%
3.	2018-19	14%
4.	2019-20	15%

(Source: NAPCC)

As per the National Tariff Policy, it is envisaged that the targets for Solar RPO shall be 0.25% by 2012-13 extending to 3% by 2022

Table 2 : Solar RPO targets as per National Tariff Policy

Sr. No.	Year	Solar RPO
1	2011-12	0.25%
2	2012-13	0.25%
3	2013-14	0.50%
4	2014-15	0.75%
5	2015-16	1.00%
6	2016-17	1.25%
7	2017-18	1.75%
8	2018-19	2.25%
9	2019-20	2.50%
10	2020-21	2.75%
11	2021-22	3.00%

(Source: National Tariff Policy)

Further, Clause 6.4 of Tariff Policy requires SERCs to specify minimum percentage of renewable energy after taking into account the availability of renewable energy in the region and its impact on retail tariff. Therefore, it is necessary to ascertain the renewable energy potential vis-a-vis achievable capacity addition before specifying RPO targets.

The Government of India has declared a target of 175 GW capacity additions for installation of renewable power projects in the country by the year 2022 which includes solar power projects of 100 GW capacity additions and Wind project of 60 GW capacity additions. Considering the importance of new and renewable sources of energy in the State and their potential of power generation in the State, the GoM on 20 July, 2015 approved a

comprehensive grid connected renewable policy. The policy envisages setting up of grid-connected renewable power projects in next 5 years as per following capacities:

Table 3: Proposed targets as per the GoM Policy

Sr No.	Source	Target (MW)
1.	Wind	5000
2.	Bagasse based co-generation	1000
3.	Small Hydro	400
4.	Biomass	300
5.	Industrial Waste	200
6.	Solar	7500
	Total	14400 MW

Following table shows the installed capacity of RE in the State of Maharashtra.

Table 4: RE installed capacity in Maharashtra as on 31 March, 2015

Source	31.03.2015 (MW)
Wind	4441.71
Bagasse based co-generation	1414.75
Small Hydro	284.3
Biomass	200
Waste to Energy	35.14
Solar	329.25
Total	6705.15

MEDA vide its 5-year plan prepared earlier, had proposed renewable energy capacity addition from FY 2012-13 to FY 2016-17. As regards capacity addition targets for future years, MEDA is yet to come out with the Y-o-Y renewable capacity addition plan in line with the cumulative targets specified under the aforementioned GoM RE Policy.

Following table provides a projection of the Y-o-Y RE capacity addition envisaged during the period till FY 2019-20. For the purpose of making the projections, historical yearly capacity addition during FY 2010-11 to FY 2014-15 has been analysed. In case of Wind Power, it is observed that technical and financial viability of the technology is well proven and significant capacity addition has taken place. Therefore, for projecting the capacity addition, average addition (per year) of the past years has been considered as addition during

FY 2015-16 and the same has been escalated by 5-year CAGR i.e., during FY 2010-11 to FY 2014-15. In case of Bagasse based co-generation, average addition (per year) has been considered as addition during Control Period. Capacity addition of Solar projects has been considered in view of the targets set under various policies.

Table 5: Projected RE Capacity addition during FY 2016-17 to FY 2019-20 (MW)

Sr. No.	Source	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
1	Wind	530	600	650	725
2	Bagasse based co-generation	225	225	225	225
3	Small Hydro	25	25	25	25
4	Biomass	30	40	50	50
5	Industrial Waste	10	10	20	25
6	Solar	500	600	700	800
		1320	1500	1670	1850

On the basis of capacity utilisation factor and auxiliary consumption norms approved by the Commission in the relevant tariff Regulations for RE by the Commission, the RE availability during next four-year period has been computed. Further, energy requirement for next four years for the State has been considered as per long-term forecast indicated in the 18th Electric Power Survey (EPS) published by Central Electricity Authority. The energy requirement vis-a-vis RE availability has been shown in the following Table:

Table 6 : Renewable Energy availability during next Control Period

Year	RE Availability MU	Energy requirement MU	RE Availability as a percentage of energy requirement
2016-17	23,012	1,69,353	13.6%
2017-18	26,880	1,75,870	15.3%
2018-19	31,148	1,87,034	16.7%
2019-20	35,787	1,99,001	18.0%

On the basis of above analysis, year-wise Solar RPO targets for next Operating Period of four years may be as follows:

Table 7: Proposed Year wise Solar RPO target for next Control Period

Sr No.	Year	Minimum Renewable Purchase Obligation for Solar
1.	2016-17	1.00%
2.	2017-18	1.50%
3.	2018-19	2.00%
4.	2019-20	2.50%

Further, considering the Solar RPO target and the total RE availability projection in Maharashtra, the non-Solar RPO target for the next control period has been proposed such that the targets are also in line with the RPO targets set under the NAPCC (*refer Table above*). On the basis of above analysis, year-wise RPO targets for next Control Period of four years may be as follows:

Table 8: Proposed Year wise Non-Solar RPO target for next Control Period

Sr No.	Year	Minimum Renewable Purchase Obligation for Non-Solar
1.	2016-17	10%
2.	2017-18	10.50%
3.	2018-19	11%
4.	2019-20	11.50%

Thus, after considering a portion of Solar specific RPO targets to be met through purchase of Solar energy in line with targets set by the National tariff Policy, following Solar and Non-Solar RPO target percentages has been proposed for the new Control Period, starting from April 1, 2016.

Table 9: RPO Target

Year	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy equivalent in kWh)		
	Solar	Non-Solar (Other RE)	Total
	(a)	(b)	(c)
2016-17	1.00%	10.00%	11%
2017-18	1.50%	10.50%	12%
2018-19	2.00%	11.00%	13%
2019-20	2.50%	11.50%	14%

As clarified by the Commission in various Orders the objective of specifying the separate target for Mini/Micro hydro within Non-Solar RPO targets is to facilitate promotion of power procurement from Mini/Micro hydro sources in the State. Continuing this approach, in order to promote Mini/Micro hydel projects (with installed capacity less than or equal to 1 MW), it is proposed that Distribution Licensee(s) shall meet at least upto 0.2% per year of its Non-Solar (other RE) RPO obligation for the period from 2016-17 to 2019-20 by way of purchase from Mini Hydro or Micro Hydro power project.

It is proposed to introduce following RPO targets in Regulation 7.1

7.1 Every „Obligated Entity“ shall procure electricity generated from eligible renewable energy sources to the extent of the percentages, out of its total procurement of electricity from all sources in a year, set out in the following Table:

Year	Quantum of purchase (in %) from renewable energy sources (in terms of energy equivalent in kWh)		
	Solar	Non-Solar (other RE)	Total
	(a)	(b)	(c)
2016-17	1.00%	10.00%	11.0%
2017-18	1.50%	10.50%	12.0%
2018-19	2.00%	11.00%	13.0%
2019-20	2.50%	11.50%	14.0%

Provided that each Distribution Licensee shall meet 0.2% per year of its Non-solar (other RE) RPO for the period from FY 2016-17 to FY 2019-20 by way of purchase from Mini Hydro or Micro Hydro power projects:

Provided further that Distribution Licensees with peak demand of 1 MW and above but less than 5 MW, Captive Users of Captive Generating Plants with installed capacity of 1 MW and above but less than 5 MW and Open Access Consumers with contract demand of 1 MVA and above but less than 5 MVA, shall be required to meet only their composite RPO target set out in column (c) in the Table above annually;

Provided also that each Distribution Licensee shall include its plan for procurement of power from RE sources in its long-term power procurement plan such as would meet the RPO target stipulated above.

Further, in of the view of the recent developments, the following saving clause (proviso) is proposed to be introduced in Regulation 7.2. It is proposed to add following proviso after the first proviso:

Provided further that procurement by a Distribution Licensee of RE power generated within the State under a scheme of or approved by MNRE may be considered by the State Commission as eligible quantum for fulfilment of Renewable Purchase Obligation of such Distribution Licensee considering the nature of such scheme and for reasons to be recorded in writing.

Amendment in Regulation No. 12

Regulations 12 of the MERC RPO-REC Regulations empower the Commission to deal with the shortfalls in compliance of RPO targets. In view of recent developments it is felt that saving clause enabling the Commission to disallow all or part of the RPO Regulatory Charges and associated cost thereof, as pass through to consumers, subject to detailed scrutiny and based upon prevalent circumstances and for the reasons to be recorded in writing need to be incorporated in the existing Regulations. Therefore, it is proposed to add following proviso after second proviso:

“Provided also that the State Commission may not allow, upon considering the circumstances and for reasons to be recorded in writing, all or part of the RPO Regulatory Charges and associated costs thereof to be passed on to consumers.”

Based on the amendments as mentioned above, the Commission has issued the draft Maharashtra Electricity Regulatory Commission (Renewable Purchase Obligation, its compliance and REC framework Implementation) Regulations, 2016