

No. CE/RE/MERC/RPO/2019/3893

Date: 06.02.2019

To  
**The Secretary,**  
Maharashtra Electricity Regulatory Commission,  
13<sup>th</sup> Floor, Centre No.1, World Trade Centre,  
**Cuffe Parade, Mumbai - 400 005.**

<b>MERC</b>			
Inward No:	0573	Date:	6/2/19
Chairman	Member	Member	
Secretary	Executive Director		
Director (EE)	Director (T)		

**Sub:** Submission in the matter of Suo-motu proceeding for Verification and Compliance of Renewable Purchase Obligation targets of MSEDCL for FY 2017-18, as specified under MERC (Renewable Purchase Obligation, its compliance and Implementation of REC framework) Regulations, 2016.

**Ref:** MERC Notice No. 1267 dated 25.11.2018.

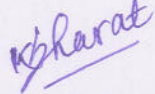
Respected Sir,

With reference to the above subject, please find enclosed herewith Submission in the matter of Suo-motu proceeding for Verification and Compliance of Renewable Purchase Obligation targets of MSEDCL for FY 2017-18, as specified under MERC (Renewable Purchase Obligation, its compliance and Implementation of REC framework) Regulations, 2016.

Submitted for the kind consideration of the Hon'ble Commission.

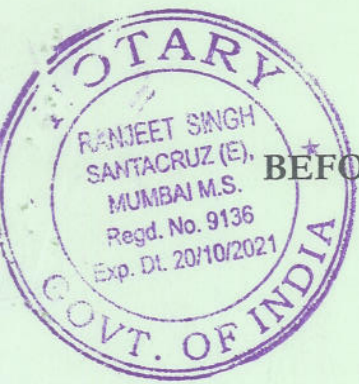
Thanking you,

Yours faithfully,

  
**Chief Engineer (Renewable Energy)**

**Copy s. w. r. to:**

1. The Director (Commercial), MSEDCL, Mumbai.



BEFORE THE MAHARASHTRA ELECTRICITY REGULATORY  
COMMISSION

CASE NO. OF 2019

*Filing No.:* \_\_\_\_\_

IN THE MATTER OF

SUO-MOTU PROCEEDING FOR VERIFICATION AND COMPLIANCE  
OF RENEWABLE PURCHASE OBLIGATION TARGETS OF MSEDCL  
FOR FY 2017-18, AS SPECIFIED UNDER MERC (RENEWABLE  
PURCHASE OBLIGATION, ITS COMPLIANCE AND  
IMPLEMENTATION OF REC FRAMEWORK) REGULATIONS, 2016.

AND

IN THE MATTER OF

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY  
LTD



**AFFIDAVIT ON BEHALF OF PETITIONER (MSEDCL) VERIFYING THE SUBMISSION.**

I, Mrs. Kavita Gharat, aged 41 years, having my office at MSEDCL, Prakashgad, Bandra (E), Mumbai- 400 051, do hereby solemnly affirm and state as under;

1. I am Chief Engineer (Renewable Energy) of the Maharashtra State Electricity Distribution Co. Ltd, (herein after referred to as "MSEDCL" for the sake of brevity), in the above matter and am duly authorized to make this affidavit.
2. The statements made in paragraphs of the submission are true to my knowledge and belief and statements made in point wise submission are based on information and I believe them to be true.
3. I say that there are no proceedings pending in any court of law/ tribunal or arbitrator or any other authority, wherein the Petitioner is a party and where issues arising and/or reliefs sought are identical or similar to the issues arising in the matter pending before the Commission.

Solemnly affirm at Mumbai on this 6 February, 2019 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed therefrom.

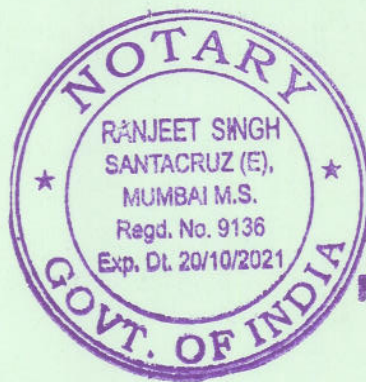
Identified before me

Place: Mumbai

Date: 06.02.2019.

Deponent

*K. Gharat*  
**CHIEF ENGINEER (RE)  
M.S.E.D.C.L.**



**BEFORE ME**

*RJS*

**RANJEET SINGH  
M.Sc.LL.B  
NOTARY  
MAHARASHTRA  
GOVT. OF INDIA**

**- 6 FEB 2019**





BEFORE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION,  
MUMBAI

Case No. ---of-----

IN THE MATTER OF

**Suo-motu proceeding for Verification and Compliance of Renewable Purchase Obligation targets of MSEDCL for FY 2017-18, as specified under MERC (Renewable Purchase Obligation, its compliance and Implementation of REC framework) Regulations, 2016.**

**SUBMISSION**

BY MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED,  
MUMBAI.

Pursuant to the directives issued by the Hon'ble Commission vide its Notice No. 1267 dated 25<sup>th</sup> October, 2018; MSEDCL is filing this Submission before Hon'ble Commission.

The point-wise submission is as under:

**a) MSEDCL should verify the RPO settlement details for FY 2017-18, as submitted by MEDA, and highlight discrepancies, if any, along with proper justification.**

It is respectfully submitted that, MSEDCL, vide letter dated 03.08.2018, has submitted the RPO Compliance Report for FY 2017-18 in the prescribed format to MEDA and Hon'ble MERC.

1. The compliance of RPO was computed on the basis of monthly Gross Energy Consumption (GEC) at G<>T interface (aggregated annually) during FY 2017-18 as informed by MSLDC.
2. The GEC submitted by MSLDC to MSEDCL/MEDA is 127429 MU, which is inclusive of the energy consumption by Open Access consumers of MSEDCL. Therefore, to determine the actual GEC of MSEDCL, Open Access consumption ought to be deleted. Also, MSEDCL RE procurement and open access consumption are considered by grossing up the losses at Transmission periphery i.e. G<>T Interface in line with MERC order dated 14.09.2016 in Case No. 16 of 2016. The total open access consumption for FY 2017-18 was 5511.52 MU (Conventional Open Access 4812.07 MU, Wind+ Solar+ Small Hydro Open Access 699.45 MU). Thus, the actual GEC of MSEDCL (excluding OA Consumption) at G<>T Interface is 121918.42 MU.
3. MEDA vide letter dated 21.09.2018 had submitted the RPO compliance data of MSEDCL for FY 2017-18 to MERC.



4. The details of MSEDCL's RPO compliance for FY 2017-18 are as follows :

Gross Energy Consumption (MUs)		Solar RPO		Non Solar RPO (Including Mini-Micro)		Mini / Micro Hydro RPO (within Non Solar RPO)		Total		
		Mus	%	Mus	%	Mus	%	Mus	%	
121918	Target	2438	2.00	12801	10.50	25.60	0.02	15239	12.50	
	Achievement	Energy procurement	962	0.79	10680	10.57	0.53	0.02	11642	11.36
		REC	0		2211		25.07		2211	
		Total	962		12891		10.57		25.6	
Shortfall (-) / Surplus (Mus)		-1476		90		0.00		-1386		

5. MSEDCL had undertaken the procurement of RECs for fulfillment of its non-solar RPO (including mini-micro hydro). The quantum of RECs to be procured is based on the expected generation from the contracted Capacity. Thus, MSEDCL had procured total 2211,000 nos. non-solar RECs equating to 2211 MUs.

6. The respective certificates of Purchase of RECs are annexed thereto under Annexure-I. The details of the same are tabulated below for ready reference:

Sr. No.	REC Purchase From	REC Purchase date	REC Type	No. of RECs	Mus	Total Cost of REC in Crs
1	PXIL	31.01.2018	Non-Solar	666666	666.666	99.9999
2	PXIL	28.02.2018	Non-Solar	1000000	1000	150
3	IEX	28.03.2018	Non-Solar	544708	544.708	81.7045
			Total	2211374	2211.374	331.7044

7. In view of above, MSEDCL has fulfilled non-solar RPO (including mini-micro hydro) target for FY 2017-18 and has surplus of 90 MUs. The Clause no. 7.1 of MERC (Renewable Purchase Obligation, Its Compliance And Implementation Of Renewable Energy Certificate Framework) Regulations, 2016, states that

*"MERC Provided further that any variation in the fulfilment of RPO targets by the Obligated Entity within a band of +/- 5% of the applicable RPO target (in terms of Energy Units or MWh) for the respective years shall be allowed under exceptional circumstances subject to detailed scrutiny";*

Thus, MSEDCL is merely 0.7 % surplus of its non-Solar RPO Target. Hence it is requested to allow to carry forward this surplus in FY 2018-19.

8. However, pertaining to Solar RECs, the MSEDCL submits that Hon'ble CERC vide letter dated 20.07.2017 informed that trading on Solar REC is suspended until further orders and further vacated the stay on 23.04.2018. Hence, MSEDCL could not purchase Solar RECs. Therefore, MSEDCL request Hon'ble Commission to allow MSEDCL to carry forward the Solar shortfall and to meet



all solar shortfall by the end of FY 2020-21.

9. In view of above, it is to submit that MSEDCL had undertaken the maximum efforts and best possible course of action to comply the RPO targets of FY 2017-18. MSEDCL has fulfilled the 100% non-solar RPO (including mini-micro hydro) compliance.

**b) MSEDCL should submit the status of its Solar, Non-Solar including Mini-Micro Hydro compliance as per the directives of the Commission vide orders in case No. 180 of 2013, Case No. 190 of 2014, Case No. 16 of 2016, Case No. 169 of 2016 and Case No. 207 of 2017 along with detailed statement for project wise energy procurement in MUs from Solar and Non-Solar generating projects including Mini-Micro Hydro Projects and project wise contracted Solar and Non-Solar power capacity in MW, including Mini-Micro Hydro Projects during FY 2010-11 to FY 2017-18.**

1. MSEDCL's compliance in respect to the directives of the Commission in the said Orders are as below:

FY	MERC Order		RE Sources	Directives of the Commission	Compliance of the Directives
	Case No.	Date			
2012-13	180 of 2013	12-Mar-14	Non-Solar	allowed MSEDCL to meet its Non-Solar RPO shortfall of FY 2012-13 in FY 2013-14 on cumulative basis (298.37 MU)	Non-solar: MSEDCL fulfilled cumulative Non-solar Target upto FY 2014-15, by way of purchase of Non-Solar RECs. (1724.49 MUs) during Jan-March, 2018
			Mini-Micro	allowed MSEDCL to meet its RPO target of Mini/Micro Hydro by FY 2015-16 on cumulative basis. (16.60 Mus)	MSEDCL purchased Non-Solar RECs in Dec,-2017 and Mar, 2018 to meet cumulative mini-micro Hydro target upto FY 2016-17.
			Solar	allowed MSEDCL to cumulatively fulfil its Solar RPO targets by FY 2015-16 (644.22 Mus).	MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18 and Oct-18 ( 1378.966 Mus). REC certificates are attached as Annexure – B.
2013-14	190 of 2014	04-Aug-15	Non-Solar/Solar	MSEDCL shall constitute a separate 'RPO Regulatory Charges Fund' to purchase Solar and Non-Solar RECs and/or to procure power so as to fully meet the cumulative shortfall against RPO targets (Solar: 925.96 MUs and Non-Solar: 1078.13 MUs) by the end of March, 2016.	Solar: MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18 and Oct-18 ( 1378.966 Mus) Non-solar: MSEDCL fulfilled cumulative Non-solar Target upto FY 2014-15, by way of purchase of Non-Solar RECs. (1724.49 MUs) during Jan-March, 2018
			Mini-Micro	MSEDCL may make up for the past shortfall, including the shortfall in FY 2013-14, by fulfilling its Mini/Micro Hydro RPO (32.65 MUs) targets on a cumulative basis by the end of FY 2015-16.	MSEDCL purchased Non-Solar RECs in Dec,-2017 and Mar, 2018 to meet cumulative mini-micro Hydro target upto FY 2016-17.
2014-15	16 of 2016	42627	Non-Solar/Solar	MSEDCL shall constitute a separate 'RPO Regulatory Charges Fund' and shall be utilized to purchase Solar and Non-Solar RECs and/or to procure power so as to fully meet the shortfall against its Solar and Non-Solar (excluding Mini/Micro Hydro) RPO targets for FY 2014-15 by the end of March, 2017, (Cumulative shortfall: Solar: 1201.81 MUs and Non-Solar: 1724.49 MUs)	Non-solar: MSEDCL fulfilled cumulative Non-solar Target upto FY 2014-15, by way of purchase of Non-Solar RECs. (1724.49 MUs) during Jan-March, 2018.  MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18 and Oct-18 ( 1378.966 Mus)
			Mini-Micro	allows MSEDCL to purchase Non-Solar RECs in the current year (FY 2016-17) to meet any shortfall still remaining for the period upto FY 2014-15	MSEDCL purchased Non-Solar RECs in Dec,-2017 and Mar, 2018 to meet cumulative mini-micro Hydro target upto FY 2016-17.



2015-16	169 of 2016	27-Mar-18	Non-Solar/Solar	MSEDCL shall constitute a notional 'RPO Regulatory Charges Fund to purchase Solar power and/or RECs so as to fully meet its shortfall of FY 2015-16 by the end of March, 2019. (Solar: 1359.75 MUs and Non Solar: cumulative surplus of 34.155 MUs)	Non Solar: Non-Solar targets has been fulfilled by RE procurement (1078.55 MUs) and RECs (666 MUs) with the surplus of 34.155 MUs. MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18 and Oct-18 ( 1378.966 Mus)
			Mini-Micro	to meet this shortfall by purchase Non-Solar RECs (or additional Mini/Micro Hydro power, if available) by the end of FY 2018-19) to meet any shortfall still remaining for the period upto FY 2015-16.	MSEDCL purchased Non-Solar RECs in Dec,-2017 and Mar, 2018 to meet cumulative mini-micro Hydro target upto FY 2016-17.
2016-17	207 of 2017	31-Jul-18	Non-Solar	Cumulative Surplus of 34.15 MUs	Non-solar: MSEDCL fulfilled standalone Non-Solar RPO Target by the way of RE procurement and REC purchase ( 1822 MUs).
			Mini-Micro	The Commission allows MSEDCL to meet the shortfall by purchase Non-Solar RECs (or additional Mini/Micro Hydro power, if available) by the end of FY 2018-19) to meet any shortfall still remaining for the period upto FY 2016-17" ( 90.252 Mus)	MSEDCL purchased Non-Solar RECs in Dec,-2017 and Mar, 2018 to meet cumulative mini-micro Hydro target upto FY 2016-17.
			Solar	MSEDCL shall purchase Solar power and/or RECs (subject to Supreme Court decision) so as to fully meet its standalone and cumulative shortfall (as determined earlier in this Order at the end of FY 2016-17), by the end of March, 2019 instead of March 2020 as requested by MSEDCL. ( 2049.614 MUs)	MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18, Oct-18 ( 1378.966 Mus) and is in process of purchase of solar RECs towards fulfilment of Solar RPO shortfall for FY 2016-17.

## 2. Status of Mini-Micro Hydro Target compliance:

i. Hon'ble Commission vide Order dated 31.07.2018 in Case No. 207 of 2017 has ruled that

".....

i) MSEDCL fallen short of its stand-alone Solar RPO target by 689.86 MUS for FY 2016-17, and a cumulative shortfall of 2049.614 MUs

ii) MSEDCL fulfilled exactly its stand-alone non-Solar RPO target of FY 2016-17 and has a cumulative surplus of 34.152 MUs.

iii) MSEDCL fallen short of its stand-alone Mini/Micro target by 21.682 MUs for FY 2016-17 and a cumulative shortfall of 90.252 MUs. ...."

ii. In reference to the above mentioned shortfall of stand-alone Mini/Micro target by 21.682 MUs for FY 2016-17 and a cumulative shortfall of 90.252 MUs, it is submitted that

b. During FY 2017-18, MSEDCL has purchased 1822000 non-Solar RECs (i.e. equivalent to 1822 MUs) on 29 November, 2017 and 27 December, 2017 to fulfill shortfall of Non- Solar Obligation (including Mini-Micro) of FY 2016-17 and the cumulative shortfall up to the FY 2015-16.

c. Hon'ble Commission has considered the fulfillment of non-Solar RPO of 10% (which is including mini-micro Hydro) and also has shown the cumulative surplus of 34.152 MUs.

d. MSEDCL has fulfilled its non-solar RPO targets including Mini-Micro hydro targets by purchasing non-Solar RECs (as per MERC order dated 06.03.2014 in Case No. 183 of 2013).

e. Although, it has been represented in the Order that MSEDCL fallen short of





its stand-alone Mini/Micro target by 21.682 MUs for FY 2016-17 and a cumulative shortfall of 90.252 MUs.

Therefore, it is humbly requested to consider the above said facts that MSEDCL has fulfilled the Mini-Micro Hydro obligation by the way of purchasing non-Solar RECs, during verification of Non-Solar RPO Targets against Mini-Micro Hydro for FY 2017-18 for which the Hon'ble Commission has initiated the suo-moto process and to consider that the MSEDCL has fulfilled the shortfall of Mini-Micro Hydro up to of FY 2016-17.

**3. Status of Non-Solar RPO compliance (excluding Mini-Micro Hydro):**

MSEDCL has fulfilled its non-Solar RPO Target upto FY 2017-18.

**4. Status of Solar RPO compliance:**

MSEDCL has met its Solar RPO target upto FY 2015-16 by the way of purchase of Solar RECs during Sept-18, Oct-18 and Nov-18 and is in process of purchase of solar RECs towards fulfilment of Solar RPO shortfall for FY 2016-17.

FY	Solar Shortfall	Solar RECs Purchased during FY 2018-19	Balance Solar shortfall
Cumulative upto 2015-16	1359.75	1359.75	0
2016-17	689.864	19.216	670.648
Total (upto 2016-17)	<b>2049.614</b>	1378.966	670.648

**c) MSEDCL should submit detailed list of actions and efforts undertaken by it prior to and during FY 2017-18 to ensure compliance of RPO targets in respect of Solar RPO, Non-solar RPO and mini/micro hydro RPO for FY 2017-18.**

**1. Efforts taken for meeting Non-Solar RPO target:**

- i. MSEDCL respectfully submits that MSEDCL has always been encouraging Renewable generation in the State and has executed long term Energy Purchase Agreements (EPAs) with the renewable generators at preferential tariff determined by the Hon'ble Commission. Also MSEDCL is in process to procure renewable energy through the competitive bidding process.
- ii. MSEDCL has procured 56.4 MW Wind Power through the Short term Tenders for the period of 11 months and also developed a Web Portal to procure Wind Power from Wind Generators on short term basis for a period of minimum 3 months to maximum 12 months with due approval of Hon'ble Commission vide Order dated 15.11.2017 in Case No. 155 of 2017,
- iii. MSEDCL has executed Long Term EPA to the tune of 6317 MW capacity with Non-Solar RE Generators (as on 31.03.2018) Details as below:



S.No.	Non Solar - RE Sources	Contracted capacity (as on 31.03.2017)	Capacity Addition during FY 17-18	Contracted capacity (as on 31.03.2018)
1	Wind	3465	300	3765
2	Small Hydro	302.3	2.8	305.1
3	Bagasse(Co-gen)	1997.75	-	1997.75
4	Biomass	211	25	236
5	MSW	4	-	4
	<b>Total</b>	<b>5989</b>	<b>459.5</b>	<b>6307.85</b>

iv. MSEDCL further submits that on the basis of commissioned capacity and as per normative CUF / PLF decided by MERC, expected generation from non-solar RE sources for FY 2017-18 is tabulated as below:

S.No.	Generation Source	Commissioned (as on 31.03.2017)	Capacity Commissioned during FY 17-18	MERC Normative CUF /PLF	Expected Generation for FY 17-18	Actual Generation for FY 17-18
	<b>Non - Solar</b>	MW		%	MU	MU
1	Wind	3465	300	22%	6967	6137
2	Small Hydro	274	24	30%	752	698
3	Bagasse (Co-gen)	1920.85	33	60%	10182	3402
4	Biomass	182	0	80%	1275	442
5	MSW	4	0	80%	28	0.2
	<b>Total</b>	<b>5845.85</b>			<b>19204</b>	<b>10680</b>

Note: Computation of expected generation for FY 17-18 is based on 100% generation from the plant Commissioned on or before 31.03.2017 and 50% generation from the plant commissioned during FY 17-18.

v. MSEDCL submits that from above table it is clear that the current contracted capacity (as on 31.03.2018) is well sufficient for fulfilment of Non-Solar RPO Compliance (12801 MUs) and the Expected RE procurement for FY 2017-18 from non-solar RE sources was 19,204 Mus.

vi. However, due to natural factors beyond the control of MSEDCL viz. Changes in climate and inefficiency of Generators, the actual resulting CUF / PLF is not at par with the normative CUF / PLF, which eventually affects the actual generation (10680 Mus) from non-solar RE-sources and leads towards shortfall in meeting RPO target.

vii. Therefore, on account of above, MSEDCL had undertaken the purchase of 2211 MUs in the form of RECs from Energy Exchanges, in order to comply with the non-solar RPO.

## 2. Efforts taken for meeting Solar RPO target:

i. MSEDCL has executed long term power purchase agreements for the total capacity of 1527 MW as on 31.03.2017 to meet the solar target under various schemes of MNRE, GoI and with MSPGCL.

S.No.	Generation Source	Contracted capacity (as on 31.03.2017)	Capacity Addition during FY 17-18	Contracted capacity (as on 31.03.2018)
1	Solar	327	1200	1527

ii. The expected generation from the Commissioned capacity is as below:



Generation Source	Commissioned (as on 31.03.2017)	Capacity Commissioned during FY 17-18	MERC Normative CUF /PLF	Expected Generation for FY 17-18	Actual Generation for FY 17-18
Solar	MU	MU	%	MU	MU
	252	610	19%	927	962

Note: Computation of expected generation for FY 17-18 is based on 100% generation from the plant Commissioned on or before 31.03.2017 and 50% generation from the plant commissioned during FY 17-18.

iii. MSEDCL, during September, 2017 floated a tender for procurement of 100 MW Solar power on short Term Basis, however, only one Bidder was participated that too found technically disqualified after evaluation. Hence the Tender process is abandoned.

iv. On 07.02.2018, Hon'ble Commission asked MSEDCL to offer comments/views on the MNRE letter regarding consideration of the requests of RE Power Developers who have entered PPAs with SECI under various MNRE schemes and advising DISCOMS/Utilities to make payments for the power supplied by all such projects between the date of synchronization and CoD at the rate determined by SERC of state. In response to that, MSEDCL requested Hon'ble Commission to approve the purchase of such solar power injected by Solar projects situated in Maharashtra (selected under MNRE schemes) who have offered to sell power between date of synchronization and Commercial operation Date(CoD) at Rs.2.50 p.u. and to allow MSEDCL to consider this power for fulfillment of RPO target of MSEDCL. Accordingly, MSEDCL has procured this RE Power from the said developers between date of synchronization and Commercial operation Date(CoD).

v. Further, as per MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015) Regulations, solar energy purchased by MSEDCL through the net metering is eligible towards meeting its solar RPO. The relevant para is reproduced below.

*"...11.2. The quantum of electricity consumed by the Eligible Consumer from the Roof-top Solar PV System under the Net Metering arrangement shall, if such Consumer is not an Obligated Entity, qualify towards meeting the Solar RPO of the Distribution Licensee:*

*Provided that the Distribution Licensee shall, with the consent of the Eligible Consumer, make all the necessary arrangements, including for additional metering, as may be required for the accounting of the Solar energy generated and consumed by the Eligible Consumer.*

*11.3. The unadjusted surplus Units of Solar energy purchased by the Distribution Licensee under the provisions of Regulation 10.3 shall qualify towards meeting its Solar RPO...."*

91.57 MW of rooftop solar capacity has been installed as on Mar-2018 and 109.59 MUs from Net-Metering consumers has been considered for Solar RPO.



### 3. Efforts taken to meet Mini-micro Hydro RPO Target:

It is to submit that MSEDCL has signed PPA with Mini/Micro Hydro Generators, whoever had approached for signing of EPA. Moreover, it is to be submitted that till March 2017, only three generators had executed EPA. The projects are Shahanoor (0.75 MW), Yeoteshwar (0.075 MW) and Terwanmedhe, MSPGCL (0.2 MW). The details are as below:

S.No.	Generation Source	Contracted capacity (as on 31.03.2017)	Capacity Addition during FY 17-18	Contracted capacity (as on 31.03.2018)
1	<b>Mini / Micro Hydro</b>	1.025	-	1.025

The expected generation from the mini-micro hydro is as below:

S.No.	Generation Source	Commissioned capacity (as on 31.03.2017) (MU)	Capacity Commissioned during FY 17-18 (MU)	MERC Normative CUF*	Expected Generation for FY 17-18 (MU)	Actual Generation for FY 17-18 (MU)
1	<b>Mini / Micro Hydro</b>	1.025	0	30%	2.69	0.53

The Hon'ble Commission is requested to consider the ground realities that very less capacity available from mini-micro hydro. Considering inadequate availability of such resources at present and in absence of REC specific to Mini-Micro Hydro Power, the Hon'ble Commission introduced the provision of purchase of Non-Solar RECs in RPO Regulations, 2016 in order to meet the shortfall against Mini-Micro Hydro Target.

Therefore, MSEDCL purchased non-solar RECs of 25 MUs towards fulfilment of mini-micro hydro shortfall for FY 2017-18.

In view of above, MSEDCL once again requests to cancel the separate categorization of Mini/Micro Hydro RPO target due to non-availability of capacity from Mini/Micro Hydro projects.

#### d) **MSEDCL should submit the details for long term RE procurement plan for meeting the year wise RPO targets for FY 2018-19.**

1) It is submitted that, MSEDCL has contracted sufficient and adequate renewable power for meeting the RPO targets for FY 2018-19. The Details are as follows:

Source	Contracted Capacity as on 31.03.2018	Commissioned Capacity as on 31.03.2018	Capacity Addition in FY 18-19	Expected Capacity as on 31.03.2019	CUF/PLF Normative	Expected generation in FY 18-19
	(MW)	(MW)	(MW)	(MW)	%	MU
<b>Wind</b>	3765	3765	-244	3521	22%	7021
<b>Bagasse Cogen*</b>	1997.75	1954	272	2226	60%	6811
<b>Biomass</b>	236	182	0	182	80%	1275
<b>MSW</b>	4	4	0	4	80%	28
<b>Small Hydro</b>	306	297	1.5	299	30%	782
<b>Mini/Micro Hydro</b>	1.025	1.025	0	1.025	30%	3



Source	Contracted Capacity as on 31.03.2018	Commissioned Capacity as on 31.03.2018	Capacity Addition in FY 18-19	Expected Capacity as on 31.03.2019	CUF/PLF Normative	Expected generation in FY 18-19
	(MW)	(MW)	(MW)	(MW)	%	MU
Solar	1527	832	280	1112	19%	1618
<b>Total</b>	<b>7836</b>	<b>7035</b>	<b>310</b>	<b>7345</b>		<b>17538</b>

\*Actual Exportable capacity – 62% of Contracted Capacity

Note: Computation of expected generation for FY 18-19 is based on 100% generation from the plant Commissioned on or before 31.03.2018 and 50% generation from the plant commissioned during FY 18-19.

It is to submit further that MERC has set the RPO target for FY 2018-19 as 13.75%. As per MYT tariff order, the GEC of MSEDCL for FY 18-19 will be around 127199 MUs and assuming the Open access consumption of around 5500 MUs, the GEC for calculating RPO Target will be 121699 MUs. Considering this GEC, RPO Target for FY 2018-19 becomes 16735 MU, whereas taking into account the normative CUF as per Regulations, around 17538 MUs of Renewable Energy is expected to be generated from the contracted capacity and procured by MSEDCL, which appears to be sufficient to fulfil the RPO Targets for Y 2018-19.

However, due to natural factors beyond the control of MSEDCL viz., climatic conditions and inefficiency of Generators, if the actual CUF / PLF is not on par with the normative CUF / PLF, MSEDCL will resort to Short Term power procurement from RE Sources and/or purchase of REC to fulfill the RPO target.

## 2) Additional Provisions for Long term procurement of RE power through Competitive bidding:

MSEDCL has executed long term power purchase agreement/Power Sale Agreement from different sources for meeting the Solar and non-Solar RPO target and the details are as below. It is expected that these capacities will be commissioned in FY 2018-19 & FY 2019-20.

### Non Solar

#### 1. Wind Energy :

##### I. **Contracted (Under Commissioning- 1087 MW):**

###### **Capacity addition in FY 2018-19**

- Intra-state Grid connected existing/new wind projects(Bidding by MSEDCL): 87 MW (Against bid of 250 MW)

###### **Capacity addition in FY 2019-20**

- CTU/STU Grid connected wind projects (Bidding by MSEDCL): 500 MW
- CTU/STU Grid connected wind projects (Bidding by SECI): 500 MW

##### II. **Under Tenderization: (700 MW):**

- Intra-state Grid connected existing wind projects (Bidding by MSEDCL): 500 MW
- Procurement of Power from Wind-Solar Hybrid Power Projects (around 200 MW).



## **2. Bagasse and Biomass based Co-generation:**

### **I. Contracted:**

#### **Capacity Addition: FY 2018-19**

- i. Bagasse based Co-Generation: 300 MW

### **II. Under Tenderization:**

- ii. For Biomass based Generation: 50 MW

### **III. Tender to be Floated:**

- iii. For Bagasse based Co-Generation: 200 MW

## **3. Solar Energy:**

### **I. Contracted:**

#### **Capacity addition expected in FY 2018-19. (200 MW)**

- i. De-centralized Solar Generation at S/S Land (EESL): 200 MW

#### **Capacity addition expected in FY 2019-20. (1917 MW)**

- i. CTU/STU Grid connected Solar projects (Bidding by MSEDCL): 1000 MW (Contracted)
- ii. De-centralized Solar Generation at 11 kV (Bidding by MSEDCL): 235 MW (Under process of Agreement)
- iii. De-centralized Solar Generation at 11 kV (Bidding by MSPGCL): 302 MW (Consent Given)
- iv. De-centralized Solar Generation at 11 kV (MSEDCL): 180 MW (from 1400 MW Tender of 2018) (to be contracted after adoption of the Tariff by Hon'ble Commission.
- v. De-centralized Solar Generation at 11 kV (Bidding by MSPGCL): 200 MW (Consent Given)

### **II. Under Tenderization: (5150 MW)**

- i. CTU/STU Grid connected Solar projects (Bidding by NTPC): 1000 MW (Consent Given)
- ii. STU Grid connected Solar projects (MSPGCL-EPC): 500 MW
- iii. STU Grid connected projects in Solar Parks (MSPGCL-Dondaicha): 250 MW
- iv. CTU/STU Grid connected Solar projects (Bidding by MSEDCL): 1000 MW (Tender floated)
- v. De-centralized Solar Generation at 11 kV (MSEDCL): 1400 MW of 2019 (Tender floated)
- vi. Grid connected Floating Solar Projects at Ujjani Dam, Solapur: 1000 MW (Tender floated)

It is submitted that the MSEDCL is taking utmost efforts and best possible course of action to comply the RPO targets of FY 2018-19 and future period by sourcing RE power through different possible procurement process viz., executing long term EPA's with all RE generators, through competitive bidding process, purchase of REC's, signing of PPAs with whichever mini/micro hydel generator had approached, etc.

In light of the details, it is submitted that MSEDCL has fulfilled the non-solar RPO target given by Hon'ble Commission for FY 2017-18. However there is shortfall in meeting Solar RPO target due to short supply of power by generators vis-a-vis CUF and non-availability of Solar REC in market.



MSEDCL further submits that the recent consents given to MSPGCL/SECI/NTPC and own power procurement tenders in process regarding Solar Power projects in pipeline shall result in adequate availability of Solar Power by the end of FY 2019-20. MSEDCL affirmatively submits that the tied up capacity shall be sufficient to meet the cumulative shortfall till the end of FY 2019-20.

**Prayers:**

Considering all the above efforts taken by MSEDCL to meet RPO target, it is humbly prayed as under:

- 1) To consider RPO compliance against mini-micro Hydro for FY 2016-17 by the way of purchase of non-solar RECs.
- 2) To allow to consider/carry forward the non-solar surplus 90 Mus during FY 2017-18 to non-solar RPO compliance for FY 2018-19 (in line with clause no. 7.1 of MERC RPO-REC Regulations, 2016).
- 3) To consider the difficulties faced by MSEDCL of low generation received from contracted capacity in real time of operation and non-availability of Solar REC in the Market during FY 2017-18, while deciding the RPO compliance.
- 4) To consider the non-solar REC procurement of 2211,000 nos. by MSEDCL against shortfall in RPO target of FY 2017-18.
- 5) To consider the solar REC procurement of 1378966 nos. by MSEDCL against cumulative shortfall in Solar RPO target upto FY 2016-17.
- 6) To carry forward the shortfall in Solar RPO target of MSEDCL and allow to fulfill Solar RPO target by FY 2019-20.
- 7) To permit MSEDCL to make further submissions, addition and alteration to this submission as may be necessary from time to time.

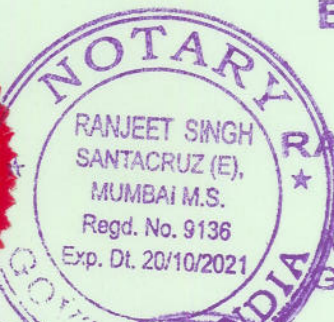
Place: Mumbai

Date: 6 FEB 2019



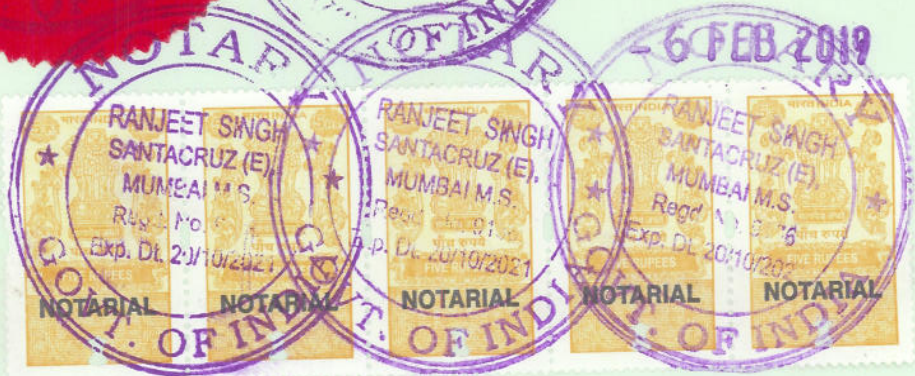
*Ranjet*  
**Chief Engineer (Renewable Energy)**

**BEFORE ME**

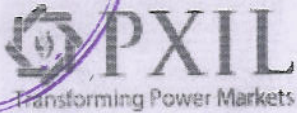


*Ranjet*  
**RANJEET SINGH**  
M.Sc.LL.B.

**NOTARY  
MAHARASHTRA  
GOVT. OF INDIA**







**POWER EXCHANGE INDIA LIMITED**

**Certificate of Purchase of REC(s)**

**Number C - PXNS01180027**

**Issued On - 31-JAN-2018**

**Serial No. - PXI/31012018/NS/00027**

**MSEDCL**

**666666 Certificates**

**REC Type Non Solar**

**Session ID REC3101201801**

This certifies that **MSEDCL**  
is the holder of **666666 Non Solar** non transferable Renewable energy certificate(s) bought on  
31th day of JAN 2018, through *Power Exchange India Limited*.

This certificate represented hereby is issued and shall be held subject to all the provisions of the regulations  
of Honorable CERC as amended from time to time and the Bye - laws, Rules and Business Rule of  
*Power Exchange India Limited*.

**Power Exchange India Limited**

Power Exchange India Limited, Sumer Plaza, Unit no 901, 9th floor Marol Maroshi Road, Andheri (East), Mumbai – 400 059.CIN No:- U7490  
0MH2008PLC179152, Phone No: 91-022-40096667, Fax No:91-022-40096690, Web Site:www.powerexindia.com.  
Email : pxi\_mktops@pxil.co.in

Note: - This is a computer generated statement hence doesn't require signature.





**POWER EXCHANGE INDIA LIMITED**

**Certificate of Purchase of REC(s)**

**Number C - PXNS02180065**

**Issued On - 28-FEB-2018**

**Serial No. - PXI/28022018/NS/00065**

**MSEDCL**

**1000000 Certificates**

**REC Type Non Solar**

**Session ID REC2802201801**

This certifies that **MSEDCL**  
is the holder of **1000000 Non Solar** non transferable Renewable energy certificate(s) bought on  
28th day of FEB 2018, through *Power Exchange India Limited*.

This certificate represented hereby is issued and shall be held subject to all the provisions of the regulations  
of Honorable CERC as amended from time to time and the Bye - laws, Rules and Business Rule of  
*Power Exchange India Limited*.

**Power Exchange India Limited**

Power Exchange India Limited, Sumer Plaza, Unit no 901, 9th floor Marol Maroshi Road, Andheri (East), Mumbai – 400 059. CIN No:- U7490  
0MH2008PLC179152, Phone No: 91-022-40096667, Fax No:91-022-40096690, Web Site:www.powerexindia.com.  
Email : pxi\_mktops@pxil.co.in

Note: - This is a computer generated statement hence doesn't require signature.

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**RE Certificate for Buyer**

Issued On -28-Mar-2018

Number C-IEX\_NS002440

Serial No.- IEX\_2277278

**Maharashtra State Electricity Distribution Company  
Limited**

613,278 Certificates

REC Type- NON-SOLAR

This certifies that Maharashtra State Electricity Distribution Company Limited is the holder of 613,278 NON-SOLAR non transferable certificates, bought on 28 March,2018, through Indian Energy Exchange Ltd.

This certificate represented hereby is issued and shall be held subject to all the provisions of the regulations and the By-laws of Honorable CERC and Indian Energy Exchange Ltd and any amendments thereto.

WITNESS the signatures of its duly authorized officers this 28 March,2018.

**[Name and Designation of Authorized Signatory]**

**Akhilesh Awasthy  
Director Market Operations  
Indian Energy Exchange Ltd**

**[Computerized Generated Report, Signature is not required]**

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**RE Certificate for Buyer**

Issued On -26-Sep-2018

Number C-IEX\_SL001612

Serial No.- IEX\_1287021

**Maharashtra State Electricity Distribution Company  
Limited**

1,287,021 Certificates

REC Type- SOLAR

This certifies that Maharashtra State Electricity Distribution Company Limited is the holder of 1,287,021 SOLAR non transferable certificates, bought on 26 September,2018, through Indian Energy Exchange Ltd.

This certificate represented hereby is issued and shall be held subject to all the provisions of the regulations and the By-laws of Honorable CERC and Indian Energy Exchange Ltd and any amendments thereto.

WITNESS the signatures of its duly authorized officers this 26 September,2018.

**[Name and Designation of Authorized Signatory]**

**Akhilesh Awasthy  
Director Market Operations  
Indian Energy Exchange Ltd**

**[Computerized Generated Report, Signature is not required]**



**POWER EXCHANGE INDIA LIMITED**

**Certificate of Purchase of REC(s)**

Number C - PXSL10180002

Issued On - 31-OCT-2018

Serial No. - PXI/31102018/SL/00002

MSEDCL

91945 Certificates

REC Type Solar

Session ID REC3110201801

This certifies that MSEDCL  
is the holder of 91945 Solar non transferable Renewable energy certificate(s) bought on  
31th day of OCT 2018, through *Power Exchange India Limited.*

This certificate represented hereby is issued and shall be held subject to all the provisions of the regulations of Honorable CERC as amended from time to time and the Bye - laws, Rules and Business Rule of *Power Exchange India Limited.*

**Power Exchange India Limited**

Power Exchange India Limited, Sumer Plaza, Unit no 901, 9th floor Marol Maroshi Road, Andheri (East), Mumbai - 400 059. CIN No:- U7490  
0MH2008PLC179152, Phone No: 91-022-40096667, Fax No:91-022-40096690, Web Site:www.powerexindia.com.  
Email : pxi\_mktops@pxil.co.in

Note: - This is a computer generated statement hence doesn't require signature.

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