

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Case No. 51 of 2021

Case for Verification of compliance of Renewable Purchase Obligation targets by Adani
Electricity Mumbai Limited for FY 2018-19 and FY 2019-20

Coram

Sanjay Kumar, Chairperson
I.M. Bohari, Member
Mukesh Khullar, Member

Parties

1. Adani Electricity Mumbai Limited - Distribution (**AEML-D**)
2. Maharashtra Energy Development Agency (**MEDA**)
3. Maharashtra State Load Despatch Centre (**MSLDC**)

Appearance For

- | | |
|-----------|-----------------------|
| 1. AEML-D | : Shri. Kishore Patil |
| 2. MEDA | : Shri. Manoj Pise |
| 3. MSLDC | : Smt. Juelee M. Wagh |

ORDER

Date: 7 September, 2021

1. The MERC (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2016 (**'RPO-REC Regulations 2016'**) specify the Renewable Purchase Obligation (**RPO**) targets for Obligated Entities, including AEML-D as Distribution Licensee, for FY 2018-19 and FY 2019-20. The RPO targets specified in Regulation 7.1 are as below:

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%	11.00%
2017-18	2.00%	10.50%	12.50%
2018-19	2.75%	11.00%	13.75%
2019-20	3.50%	11.50%	15.00%

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

2. Regulation 12 of the RPO-REC Regulations, 2016 empowers the Commission to deal with shortfalls in compliance of RPO targets by Obligated Entities as follows:

“12. RPO Regulatory Charges

12.1 If the Obligated Entity fails to comply with the RPO target as provided in these Regulations during any year and fails to purchase the required quantum of RECs, the State Commission may direct the Obligated Entity to deposit into a separate fund, to be created and maintained by such Obligated Entity, such amount as the Commission may determine on the basis of the shortfall in units of RPO, RPO Regulatory Charges and the Forbearance Price decided by the Central Commission; separately in respect of Solar and Non-Solar RPO:

Provided that RPO Regulatory Charges shall be equivalent to the highest applicable preferential tariff during the year for Solar or Non-Solar RE generating sources, as the case may be, or any other rate as may be stipulated by the State Commission:

Provided further that the fund so created shall be utilised, as may be directed by the State Commission.”

3. Through its Order dated 1 July 2010 in Case No. 21 of 2010, the Commission designated MEDA, Pune as the State Agency to undertake the functions envisaged under the Regulations.
4. As per Regulation 10.4 of the RPO-REC Regulations 2016, a Distribution Licensee is required to submit, at the end of each financial year, a detailed statement of energy procured from Renewable Energy (RE) sources, certified by its auditors.
5. Vide its Orders dated 31 July 2018 in Case No. 210 of 2017 and 4 April 2019 in Case No. 39 of 2019 regarding compliance of RPO targets by AEML-D for FY 2016-17 and FY 2017-18 respectively, the Commission had stated as follows:
 - a. AEML-D has standalone Solar RPO shortfall of 23.323 MU and 38.048 MU for FY 2016-17 and FY 2017-18, respectively. Cumulative Solar RPO shortfall till FY 2017-18 is 61.37 MU.
 - b. AEML-D has standalone non-Solar RPO shortfall of 229.538 MU and 768.343 MU for FY 2016-17 and FY 2017-18, respectively. Cumulative non-Solar RPO shortfall till FY 2017-18 is 997.88 MU.
 - c. AEML-D has standalone Mini-Micro Hydro RPO shortfall of 1.798 MU and 1.959 MU for FY 2016-17 and FY 2017-18, respectively. Cumulative Mini-Micro Hydro Solar RPO shortfall till FY 2017-18 is 3.76 MU.
 - d. The Commission directed AEML-D to purchase the Solar, non-Solar and Mini-Micro power and/or RECs so as to fully meet its standalone and cumulative shortfall of FY 2016-17 and FY 2017-18 by the end of March 2020.

6. In accordance with Regulation 9.5, MEDA, vide its letter dated 30 January 2020 and 30 December 2020, submitted the RPO settlement data for FY 2018-19 and FY 2019-20 in respect of AEML-D which is summarized below:

RPO settlement data for AEML-D as furnished by MEDA				
Item	FY 2018-19		FY 2019-20	
	%	MU	%	MU
Gross Energy consumption	100%	9358.51	100%	9433.236
Solar RPO				
Target	2.75%	257.359	3.50%	330.163
Achievement	0.79%	74.164	0.736%	69.456
Shortfall /(Surplus)	1.958%	183.195	2.764%	260.708
Non-Solar RPO				
Target	11.00%	1029.44	11.50%	1084.82
Achievement	2.29%	214.080	2.34%	220.56
Shortfall /(Surplus)	8.71%	815.355	9.16%	864.258
Mini-Micro RPO(Within Non-Solar)				
Target	0.20%	2.059	0.20%	2.170
Achievement	0.00%	0.00	0.00%	0.000
Shortfall /(Surplus)	0.20%	2.059	0.20%	2.170
Total RE to be procured as per the Target				
	13.75%	1286.795	15.00%	1414.985155
Total Actual RE Procured				
	3.08%	288.245	3.07%	290.019
Total Shortfall/(Surplus)				
	10.67%	998.550	11.93%	1124.966

7. According to MEDA, the RPO status of AEML-D for FY 2018-19 and 2019-20 is as below:

- a. In Solar RPO, for FY 2018-19 and FY 2019-20; AEML has a shortfall of 183.19 MU and 260.71 MU respectively. Further, AEML has cumulative shortfall of 61.37 MU till FY 2017-18.
- b. In Non-Solar RPO, for FY 2018-19 and FY 2019-20; AEML has a shortfall of 815.36 MU and 864.26 MU respectively. Further, AEML has cumulative shortfall of 997.88 MU till FY 2017-18.
- c. In Mini/Micro Hydro RPO (within Non-Solar RPO), for FY 2018-19 and FY 2019-20; AEML has a shortfall of 2.06 MU and 2.17 MU respectively. Further, AEML has a cumulative shortfall of 3.76 MU till FY 2017-18

8. The Commission asked AEML-D to submit its response to the data furnished by MEDA. Further, the Commission sought replies from AEML-D on the following points:

- a. Reconciliation statement along with rationale with regards to Gross Electricity Consumption (GEC) data reported by MEDA and audited data of AEML-D.
- b. Status of Solar, Non-Solar RPO compliance including Mini/Micro Hydro RPO compliance, as per the directives given in earlier Orders of the Commission along with detailed statement for project wise energy procurement in MU from all Solar & Non-Solar generating projects including Mini/Micro Hydro projects and project wise contracted Solar and Non-Solar power capacity in MW during FY 2010-11 to FY 2019- 20.

- c. Detailed list of action and efforts undertaken by it prior to and during FY 2018-19 and FY 2019-20 to ensure compliance of RPO targets in respect of Solar RPO, Non-Solar RPO and Mini/Micro Hydro RPO.
- d. Details of long term RE procurement plan (in MUs and corresponding MW) for meeting the future RPO targets.

9. In its response dated 14 May 2021, AEML-D stated as follows:

A. Reconciliation statement along with rationale with regards to GEC data reported by MEDA and audited data of AEML-D.

- 9.1. MEDA had considered the GEC data for FY 2018-19 and FY 2019-20 as per the submission of AEML-D vide its letter dated 20 August 2019 and 26 May 2020, respectively.
- 9.2. The GEC data provided for FY 2018-19 and FY 2019-20 were provisional at that time, since the changeover consumption and open access consumption were still to be finalised.
- 9.3. Post receipt of (Generation Credit Notes) GCNs for all consumers for FY 2018-19, the open access consumption was finalized. Also, the changeover consumption was finalized after considering the metered consumption of all changeover consumers for FY 2018-19. The Commission has approved the GEC for FY 2018-19 as 9,373.27 MU in AEML-D's MYT Order dated 30 March 2020 in Case No. 325 of 2019 for the purpose of truing up of FY 2018-19, after considering the final changeover and open access consumption for FY 2018-19.
- 9.4. With respect to FY 2019-20, even now, AEML- D has not received GCNs for all open access consumers for all the months. Also, there are cases where GCNs have been received now, but their corresponding credit to consumers have not been provided yet. Hence, for the purpose of determining GEC for FY 2019-20 at this stage, AEML-D has considered the open access consumption based on the credit given to open access consumers as per the available GCNs. GEC for FY 2019- 20 will change slightly till the time of final truing up of FY 2019-20 during the Mid Term Review proceedings as per MYT Regulations, 2019, based on the availability of all GCNs and the corresponding credit to consumers.
- 9.5. Accordingly, revised GEC for FY 2018-19 and FY 2019-20 is as follows:

Particulars	FY 2018-19 (MU)	FY 2019-20 (MU)
Total Energy input at T-D	11,034.31	11,149.47
Changeover (HT) and OA consumption at T-D	247.51	324.83
Changeover (LT) consumption at T-D	1,705.04	1,692.66
Total Changeover and OA consumption at T-D	1,952.55	2,017.49
Net Energy input at T-D for own consumers	9,081.77	9,131.99
InSTS loss (%)	3.11%	3.16%
Net Energy input at G-T for own consumers	9,373.27	9,430.16

The above may be considered for the limited purpose of assessing compliance to RPO under present proceedings.

9.6. Considering these revised GECs, the RPO position for FY 2018-19 and FY 2019-20 changed as below:

Particulars	FY 2018-19 (MU)	FY 2019-20 (MU)
Gross Energy Consumption	9,373.27	9,430.16
Solar RPO		
Target (2.75%)	257.76	330.06
Achievement	74.16	69.92
Shortfall/(Surplus)	183.60	260.14
Non-Solar RPO		
Target (11%)	1031.06	1084.47
Achievement	214.53	221.28
Shortfall/(Surplus)	816.53	863.18
Mini/Micro RPO		
Target (0.2%)	2.06	2.17
Achievement	0	0
Shortfall/(Surplus)	2.06	2.17

9.7. The achievement in Non-solar RPO in FY 2018-19 as considered by MEDA was 214.08 MU and, as per actuals, it is 214.53 MU. There was a correction in the energy procured from the source AAA Sons Pvt. Ltd. in FY 2018-19, as shown in table below:

Particulars / MU	As submitted to MEDA	Actuals
Reliance Innoventures	89.60	89.60
AAA Sons Pvt. Ltd.	2.38	2.83
Vector Green Energy Pvt. Ltd. - 18 MW	34.75	34.75
Vector Green Energy Pvt. Ltd. - 6 MW	12.28	12.28
Tembhu Power Pvt. Limited	5.61	5.61
Reliance Clean Power Pvt. Ltd.	69.46	69.46
Total	214.08	214.53

9.8. The Commission has considered the non-solar purchase for FY 2018-19 as 214.53 MU during truing up of FY 2018-19 in AEML-D's MYT Order dated 30.03.2020 (Table 0-33 of the MYT Order). Thus, for FY 2018-19, AEML-D has a standalone shortfall of 183.60 MU in Solar RPO, 816.53 MU in Non-solar RPO and 2.06 MU in Mini/Micro hydro RPO.

9.9. The achievement in solar RPO in FY 2019-20 as considered by MEDA was 69.46 MU. Solar RPO achievement now considered, based on actuals is 69.92 MU. The difference

is because at the time of submission of information to MEDA for FY 2019-20, GCNs for all open access consumers were not available. Hence, the purchase from solar OA consumers in FY 2019-20, in accordance with Distribution Open Access (First Amendment) Regulations, 2019 was not final. Based on the available GCNs for FY 2019-20, AEML-D has revised the energy purchased from solar OA consumers for FY 2019-20, as shown in table below:

Particulars / MU	As submitted to MEDA	Actuals
Dhursar Solar Power Private Limited	56.33	56.33
Consumption from RTS Generating plants	12.93	12.93
OA Solar purchase	0.20	0.66
Total – Solar	69.46	69.92

9.10. Similarly, the achievement in non-solar RPO in FY 2019-20 as considered by MEDA was 220.56 MU. Non-solar RPO achievement now considered based on actuals is 221.28 MU. The difference is also because at the time of submission of information to MEDA for FY 2019-20, GCNs for all open access consumers were not available. Based on the available GCNs for FY 2019-20, AEML-D has revised the energy purchased from non-solar OA consumers for FY 2019-20, as shown in table below:

Particulars / MU	As submitted to MEDA	Actuals
Existing Non-Solar sources	218.84	218.84
OA Non-solar purchase	1.73	2.45
Total – Non-Solar	220.56	221.28

9.11. The Commission is requested to consider the solar and non-solar RPO achievement for FY 2019-20 as 69.92 MU and 221.28 MU respectively. Based on the above, for FY 2019-20, AEML-D has a standalone shortfall of 260.14 MU in Solar RPO, 863.18 MU in Non-solar RPO and 2.17 MU in Mini/Micro hydro RPO.

9.12. Further, figures for cumulative shortfall till FY 2017-18 in Solar RPO and Non-Solar RPO have slightly changed after truing up of FY 2017-18 by the Commission in AEML-D's MYT Order dated 30 March 2020 in Case No. 325 of 2019. The cumulative shortfall till FY 2017-18, as approved by the Commission is 61.74 MU for Solar RPO (Table 0-25 of the MYT Order) and 999.70 MU for Non-Solar RPO (Table 0-32 of the MYT Order). This is because in the Order dated 4 April 2019 in Case No. 39 of 2019 (RPO verification for FY 2017-18 for AEML-D), the GEC for FY 2017-18 was considered as 9,374.24 MU. However, GEC for FY 2017-18 was revised in MYT Order to 9,392.37 MU post receipt of all GCNs of open access consumers for FY 2017-18.

B. AEML-D should submit the status of Solar, Non-Solar RPO compliance including Mini/Micro Hydro RPO compliance, as per the directives given in earlier Orders of the Commission along with detailed statement for project wise energy procurement in MUs from all Solar & Non-Solar generating projects including Mini/Micro Hydro projects and project wise contracted Solar and Non-Solar power capacity in MW during FY 2010-11 to FY 2019-20.

9.13. The source wise RE procurement in FY 2018-19 and FY 2019-20 is shown in table below:

Source	RE Purchase (MU)		Type of RE
	FY 18-19	FY 19-20	
Solar			
Dhursar Solar Power Private Limited	66.20	56.33	Solar
Consumption from RTS Generating plants	7.96	12.93	Solar
OA Solar purchase	-	0.66	Solar
Total – Solar	74.16	69.92	
Non-Solar			
Reliance Innoventures	89.60	78.55	Wind
AAA Sons Pvt. Ltd.	2.83	2.21	Wind
Vector Green Energy Pvt. Ltd. - 18 MW	34.75	37.43	Wind
Vector Green Energy Pvt. Ltd. - 6 MW	12.28	11.15	Wind
Tembhu Power Pvt. Limited	5.61	3.78	Small Hydro
Reliance Clean Power Pvt. Ltd.	69.46	85.73	Wind
OA Non-Solar purchase	-	2.45	Wind
Total - Non Solar	214.53	221.28	

9.14. It may be noted that the Distribution Open Access (First Amendment) Regulations, 2019 allow the Distribution Licensee to consider the surplus RE energy of OA consumers at the end of each month towards fulfilment of its RPO. These Regulations are effective from July 2019. Hence, the surplus RE energy of OA consumers purchased by AEML-D from July 2019 onwards in accordance with Distribution Open Access (First Amendment) Regulations, 2019 has been considered towards fulfilment of RPO. AEML-D has not purchased any RECs in FY 2018-19 and FY 2019-20.

9.15. The cumulative shortfall till FY 2019-20 is 505.48 MU in Solar RPO, 2,679.43 MU in Non-Solar RPO and 8.00 MU in Mini/Micro hydro RPO.

C. AEML-D should submit detailed list of action and efforts undertaken by it prior to and during FY 2018-19 and FY 2019-20 to ensure compliance of RPO targets in respect of Solar RPO, Non-Solar RPO and Mini/Micro Hydro RPO.

9.16. AEML-D's existing contracts for meeting Solar and Non-Solar RPO are as under:

S. No	Name of Supplier Company	Contracted Capacity (MW)	Type of Renewable Energy Source
1	Dhursar Solar Power Pvt. Ltd.	40	Solar
2	Reliance Innoventures	45	Wind
3	AAA Sons Enterprises	3.375	Wind
4	Vector Green Energy Pvt. Ltd.	18	Wind
5	Vector Green Energy Pvt. Ltd.	6	Wind
6	Tembhu Power Pvt. Ltd.	4.5	Small Hydro
7	Reliance Power Ltd	45	Wind

- 9.17. AEML-D has made all possible efforts to comply with the RPO targets for Mini/Micro Hydro. AEML-D has issued Expressions of Interest (EoI) on 18 July 2018 and 29 July 2019 for purchase from Mini/Micro Hydro sources, but no offers were received. While AEML-D cannot comment on the reasons for such lack of interest, it is possible that the developers planning to connect to MSEDCL network prefer to sell their power to MSEDCL only, as selling to any Distribution Licensee other than the host Licensee would require Open Access permission, while the power will still be sold at the preferential tariff specified by the Commission.
- 9.18. AEML-D had filed a Petition (Case No. 335 of 2018), wherein AEML-D had prayed for carrying forward the shortfall in RPO for FY 2016-17 to FY 2019-20 to next control period i.e. FY2020-21 onwards. The Commission issued the Order in Case No. 335 of 2018 on 1 January 2019 and held that relaxation to carry forward of RPO targets to the next control period would be considered after the detailed scrutiny carried out at the time of verification of RPO targets for FY 2017-18. Thereafter the Commission in AEML-D's RPO verification Order for FY 2017-18 dated 4 April 2019 in Case No. 39 of 2019, directed AEML-D to purchase RE Power and /or RECs by the end of March, 2020 so as to fully meet these standalone and cumulative shortfall shortfalls.
- 9.19. On 22 May 2019, AEML-D had filed a Petition (Case No. 120 of 2019) for review of the Order dated 4 April 2019 in Case No. 39 of 2019. During the pendency of the said Petition, AEML has filed another Petition i.e. Case No. 281 of 2019 for adoption of tariff for procurement of up to 350 MW grid connected Wind- Solar Hybrid Power capacity with green shoe option of additional 350 MW grid connected Wind-Solar Hybrid Power capacity on long term basis through competitive bidding process to meet the Renewable Purchase Obligation (RPO) cumulatively for past period and ensuing control period.
- 9.20. The Order in Case No. 281 of 2019 was issued on 8 January 2020, wherein the Commission allowed AEML-D to procure RE power from 350 MW grid connected Wind-Solar Hybrid Power capacity with green shoe option of additional 350 MW grid connected Wind-Solar Hybrid Power capacity on long term basis through competitive bidding process.
- 9.21. Further, in para 28 of the Order in Case No. 281 of 2019, the Commission held as under:

"28. In view of the above detailed analysis, the Commission is summarizing its findings as against AEML's justification for procurement of Hybrid Power at 50% CUF as under:

a. RPO target - Current and Past period shortfall: As contended by AEML, for 700 MW at 50% CUF it will receive ~3000 MUs of RE power every year, which is not only sufficient to meet future period (FY 20- 21 onwards) RPO but will also fulfill the past shortfall of RPO for the control period FY16-17 to FY19-20. Besides that, the surplus purchase, if any after meeting RPO, will be used to replace short term power. As stated in earlier part of the Order, the Commission notes that 50% CUF is causing wastage (due to clipping) of energy resulting in higher per unit rate, As explained above, AEML has option of renegotiating rate with bidder by changing the hybrid mix or by procuring Hybrid Power at lower CUF or separately sourcing Solar and Wind

power to meet its RPO. Further, such power at renegotiated rate or from alternatives sources would be at lower tariff rate than that what has been proposed in the present case and hence will accrue to AEML higher saving in power purchase expenses.”

9.22. Therefore AEML-D requests the Commission to consider its rulings at Para 28 in the Order dated 8 January 2020 in Case No. 281 of 2019 with respect to the direction given to AEML-D in Order dated 4 April 2019 in Case No. 39 of 2019, to purchase RE Power and /or RECs by the end of March 2020 so as to fully meet these standalone and cumulative shortfalls. Based on the ruling of the Commission in Case No. 281 of 2019, AEML-D withdrew the Petition in Case No. 120 of 2019 for review of Order dated 4 April 2019 in Case No. 39 of 2019 vide letter dated 4 March 2020.

9.23. It is understood by AEML-D that vide the aforesaid Order, the Commission has permitted AEML-D to procure 700 MW Hybrid RE Power with a view to meeting previous shortfall in RPO, plus compliance with future RPO as well. The procurement from the said source of 700 MW will commence towards the end of the current year and, accordingly, the compliance to the total shortfall of RPO from previous MYT Control Period, plus the additional RPO of the current Control Period, shall then have to be assessed cumulatively at the end of the present MYT Control Period.

9.24. Considering the Order of the Commission dated 8 January 2020 in Case No. 281 of 2019 and the anticipated commencement of power supply from the 700 MW hybrid RE power plant, the total shortfall in RPO till FY 2019-20 may kindly be permitted to be carried forward for compliance by the end of fourth MYT Control Period.

D. AEML-D should submit the details for long term RE procurement plan (in MUs and corresponding MW) for meeting the future RPO targets.

9.25. AEML-D has entered into PPA with M/s Rosepetal Solar Energy Pvt. Ltd. for procuring 700 MW wind and solar hybrid RE power from FY 2021-22 onwards. Further, AEML-D has also filed a Petition (Case no. 140 of 2020 and MA No. 7 of 2021) seeking approval of procurement of 1000 MW of Power from grid connected Renewable Energy (RE) Power Projects, complemented with Power from Coal based Thermal Power Projects. Procurement of RE power from these sources will help AEML-D in meeting the RPO targets in future years.

Regulatory Process

10. Through a Public Notice dated 16 June 2021 published in the Loksatta and Maharashtra Times (Marathi) and Times of India and Indian Express (English) daily newspapers, the Commission invited suggestions and objections considering the submissions of MEDA and AEML-D. The Commission also impleaded MEDA and MSLDC as Parties. An online Public e-Hearing was held on 9 July 2021.

11. The summary of RPO compliance of AEML for FY 2018-19 & FY 2019-20, based on details provided by MEDA and AEML, is at Annexure-1 of this Order. The list of persons who gave their comments in writing or made oral submissions during the Public Hearing is at

Annexure-2 (A). The list of persons present at the Public Hearing is at Annexure-2(B). (These lists include persons/organizations concerned with the RPO compliance verification hearings held on the same day in respect of the other Distribution Licensees also.)

12. At the Public e-Hearing, AEML reiterated the points regarding its compliance of RPO targets made in its written submissions.

Suggestions/Objections received

13. Shri Kiran Chudhari vide email dated 30 June 2021 shared paper cuttings and objected levying of Green Tariff for supply of green energy by Distribution Licensee.

Commission's Analysis and Ruling

14. The Commission notes that AEML had fulfilled its Solar, non-Solar and Mini-Micro Hydro Project RPO till the end of earlier control period (starting from FY 2010-11 to FY 2015-16).
15. The Commission by its earlier Order dated 4 April 2019 in Case No. 39 of 2019 has verified the compliance of RPO targets of AEML-D for FY 2017-18. The RPO settlement details for AEML-D till FY 2017-18, as approved by the Commission in its Order dated 4 April 2019 is reproduced below:

RPO settlement data for AEML (Approved)						
Item	Cumulative RPO (Surplus)/ Short fall till end of earlier control period (FY 2010-11 to FY 2015-16)	FY 2016-17		FY 2017-18		Cumulative RPO (Surplus)/ Short fall till end of FY 2017-18
		MUs	%	MUs		
Gross Energy consumption		100%	8987.639	100%	9374.240	
Solar RPO						
Target	186.13	1.00%	89.876	2.00%	187.485	463.49
Achivement	267.05	0.74%	66.553	0.731%	68.517	402.12
Shortfall /(Surplus)	-80.92	0.260%	23.323	1.269%	118.968	61.37
Non-Solar RPO						
Target	3734.62	10.00%	898.76	10.50%	984.30	5617.68
Achivement	3749.980	7.45%	669.226	2.140%	200.597	4619.80
Shortfall /(Surplus)	-15.360	2.55%	229.538	8.36%	783.698	997.88
Mini-Micro RPO(Within Non-Solar)						
Target	5.900	0.20%	1.798	0.20%	1.969	9.67
Achivement	5.91	0.00%	0.00	0.00%	0.00	5.91
Shortfall /(Surplus)	-0.010	0.20%	1.798	0.20%	1.969	3.76

'-' or () indicates surplus

16. The Commission notes that while truing up for the FY 2017-18 during MYT Order of AEML-D in Case No. 325 of 2019, the Commission by its Order dated 30 March 2020 has approved GEC for FY 2017-18 as 9392.37 MU which is higher than that considered in above table. Accordingly, with reference to revised GEC the cumulative shortfall of Solar RPO and

Non-Solar RPO at the end of FY 2017-18 is now revised upward to 61.74 MU and 999.70 MU, respectively.

17. Further, the Commission notes AEML-D's submission that the RPO settlement data for FY 2018-19 to MEDA was based on the data available to it prior to the MYT Order dated 30 March 2020. During the truing up of FY 2018-19, approved GEC was 9273 MU which is higher than 9358.46 MU submitted to MEDA by letter dated 20 August 2019. Due to such change in GEC, the Commission has revised RPO targets reported by MEDA which was based on lower GEC. Further, AEML-D has also reported a minor correction to the solar energy procured from one of the developers (M/s AAA Son Pvt. Ltd.) during FY 2018-19, the Commission has considered the same.
18. For FY 2019-20, AEML-D has submitted that the GEC as submitted by MEDA has been revised after considering the final Open access consumption of consumers which become available post submission of details to MEDA. AEML-D has also submitted that the GCNs for all open access consumers for all the months of FY 2019-20 has still not been received. The Commission observes that the GEC for FY 2019-20 may undergo further change post receiving data from all the open access consumers for all the months of FY 2019-20. Further, such GEC would be finally approved during true-up of FY 2019-20 which will be undertaken during Mid Term Review under MYT Regulations 2019. Therefore, in mean time, the Commission has considered GEC submitted by AEML-D for arriving at RPO targets for FY 2019-20. Impact of any variation in GEC post trueing up process will be factored in during next RPO verification process.
19. Based on above, the status of achievement of RPO targets by AEML-D at the end of Control Period of RPO Regulations 2016, as approved by the Commission, is as shown below:

RPO settlement data for AEML (Approved)						
Item	Cumulative RPO (Surplus)/ Short fall till end of FY 2017-18	FY 2018-19		FY 2019-20		Cumulative RPO (Surplus)/ Short fall till end of FY 2019-20
		MUs	%	MUs	%	
Gross Energy consumption		100%	9373.27	100%	9430.160	
Solar RPO						
Target	463.85	2.75%	257.765	3.50%	330.056	1051.67
Achivement	402.12	0.79%	74.164	0.741%	69.920	546.20
Shortfall /(Surplus)	61.73	1.959%	183.601	2.759%	260.136	505.47
Non-Solar RPO						
Target	5619.58	11.00%	1031.06	11.50%	1084.47	7735.11
Achivement	4619.88	2.29%	214.530	2.35%	221.28	5055.69
Shortfall /(Surplus)	999.71	8.71%	816.530	9.15%	863.188	2679.42
Mini-Micro RPO(Within Non-Solar)						
Target	9.67	0.20%	2.062	0.20%	2.169	13.90
Achivement	5.91	0.00%	0.00	0.00%	0.000	5.91
Shortfall /(Surplus)	3.76	0.20%	2.062	0.20%	2.169	7.99

20. Accordingly, the Commission notes that AEML-D has:
- Shortfall of its stand-alone Solar RPO target by 183.60 MU and 260.14 MU for FY 2018-19 and FY 2019-20, respectively. Further, the cumulative Solar RPO shortfall at the end of FY 2019-20 is 505.47 MU.

- ii. Shortfall of its stand-alone non-Solar RPO target by 816.53 MU and 863.19 MU for FY 2018-19 and FY 2019-20 respectively. Further, the cumulative non-Solar RPO shortfall at the end of FY 2019-20 is 2679.42 MU.
 - iii. Shortfall of its stand-alone Mini/Micro target by 2.062 MU and 2.169 MU for FY 2018-19 and FY 2019-20, respectively. Further, the cumulative Mini/Micro RPO shortfall at the end of FY 2019-20 is 7.99 MU.
21. AEML-D in its submission has requested to allow carry forward of cumulative RPO shortfall till FY 2019-20 to the end of fourth MYT Control Period i.e. by end of FY 2024-25.
22. The Commission notes that AEML had cumulative surplus in RPO targets at the end of the previous control period i.e. at the end of FY 2015-16. However, for the Control Period starting from FY 2016-17, it has shortfall in its standalone Solar, non-Solar and Mini-Micro Hydro RPO targets for all the individual Financial Years. The Commission notes that AEML-D has made similar prayers in its earlier Petitions. However, the Commission in its RPO verification Order for FY 2017-18 dated 4 April 2019, directed AEML-D to purchase RE Power and /or RECs by the end of March 2020 so as to fully meet these standalone and cumulative shortfall. However, it is observed that AEML-D has not procured any RECs even after the Commission's Order dated 4 April 2019.
23. Further, with respect to the RPO targets for Mini/Micro Hydro, AEML-D has submitted that it has issued EoI on 18 July 2018 and 29 July 2019 for purchase from Mini/Micro Hydro sources, but no offers were received. The Commission notes the efforts made by AEML-D for procurement of power from Mini/Micro Hydro sources to meet their specific RPO targets. At the same time, the Commission also notes that through its earlier Orders, it has allowed Distribution Licensees to meet shortfall in Mini/Micro Hydro RPO through procurement of RECs. Thus, option of meeting such RPO shortfall through procurement of RECs was available to AEML-D, but it has not acted upon it.
24. At the same time, the Commission also notes that AEML-D has entered into PPA with M/s Rosepetal Solar Energy Pvt. Ltd. for procuring 700 MW wind and solar hybrid RE power. The Commission has adopted such competitively discovered tariff vide Order dated 8 January 2020. As submitted by AEML-D, such 700 MW Hybrid RE project will generate around 3000 MU/annum at 50% CUF. AEML-D's current requirement to meet RPO target is around 1400 MU. Thus, balance 1600 MU/year can be used for meeting cumulative RPO shortfall. Thus, the Commission notes that even though AEML-D has not opted for REC procurement for meeting RPO shortfall, it has contracted new RE source which will be sufficient to meet its cumulative RPO shortfall as well as future RPO targets. Further, the Commission in its recent Order dated 12 July 2021 in Case No. 140 of 2020 has allowed AEML-D to initiate the bidding process for procurement of power upto 500 MW on RTC basis from grid connected Renewable Energy Power Projects, complemented with Other Non-Renewable Energy source. Such additional RE power procurement would be sufficient to meet future RPO targets of AEML-D.
25. Therefore, although AEML-D has not able to meet RPO targets for FY 2018-19 and FY 2019-20, but considering efforts taken by AEML-D (signing of PPA for 700 MW Hybrid RE and proposing additional 500 MW RE on RTC basis by supplementing with non-RE power)

which would be help AEML-D to meet RPO targets on cumulative basis including past RPO shortfall, the Commission thinks it appropriate to not take any action against AEML-D as envisaged in Regulation 12 of MERC RPO Regulations 2016.

26. Accordingly, the Commission allows AEML-D to carry forward cumulative RPO shortfall till FY 2019-20 to future years. AEML-D requested to allow such carry forward till end of new Control Period i.e. FY 2024-25. In this regard, the Commission notes that next Control Period i.e. FY 2020-21 to FY 2024-25 is governed by the ‘MERC (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2019’ (RPO - REC Regulations 2019). Said Regulations allows carry forward of shortfall from FY 2020-21 and FY 2021-22 to FY 2022-23, subject to the provision of Penalty in form of reduction in the Annual Revenue Requirement (ARR). The relevant excerpts from the RPO-REC Regulations 2019 are reproduced below:

“12.3 Any shortfall in meeting the minimum percentage of RE as specified in Regulation 7 may be carried forward from FY 2020-21 and FY 2021-22 to FY 2022-23 and from FY 2023-24 to FY 2024-25 and Obligated Entity shall meet such shortfall on cumulative basis by 31 March 2023 and 31 March 2025, respectively;

Provided that Distribution Licensee shall be subjected to reduction in Annual Revenue Requirement at a rate of Rs 0.10 per kWh for cumulative shortfall in total RE procurement target for each year;

Provided further that other Obligated Entities shall be subjected to penalty of Rs. 0.10 per kWh for cumulative shortfall in total RE procurement target for each year;

Provided further that any cumulative shortfall in RE procurement as on 31 March 2023 and/or 31 March 2025 shall not be carried forward for next year and be adjusted by imposing reduction in ARR for Distribution Licensees and imposing penalty for other Obligated Entities, at rate of floor price of respective REC as on that date;

Provided further that if Obligated Entity is able to demonstrate that even after taking all possible measures including procurement of RECs, it is not able to meet RPO then the Commission may reduce the penalty amount subject to conditions as may be stipulated in that Order.”

Thus, as per above Regulations, RPO shortfall cannot be allowed to be carried forward beyond 31 March 2023. Hence, the Commission allows AEML-D to meet its cumulative shortfall till FY 2019-20 by 31 March 2023, failing which it will be liable for penal action as per above stated Regulations.

27. Having allowed carry forward of RPO shortfall to FY 2022-23, the Commission notes that main resource to fulfill such shortfall is 700 MW RE Hybrid Project. In its tariff adoption petition, AEML-D has stated that power from 700 MW RE Hybrid project will be available from FY 2021-22. Same has been reiterated in submission filed in present matter. However, 5 months of FY 2021-22 have already lapsed. The Commission is aware that Covid-19

restrictions must have impacted project execution timelines, but such delay would impact AEML-D's ability to meet cumulative RPO shortfall by FY 31 March 2023. Hence, AEML-D needs to closely monitor the progress of this project and communicate with project developer for early commissioning of the same. If required, AEML-D should plan for alternate resource / RECs for meeting RPO shortfall.

28. Further, the Commission notes that the MoP by its Order dated 29 January 2021 has notified the RPO trajectory for the Hydro Energy Sources i.e. the Hydro Power Obligation (HPO). As per the Order, the large hydro power projects (above 25 MW) which have come into commercial operation after 8 March 2019 shall be the eligible sources for HPO:

“4. On 8th March 2019, the Government had issued an order detailing various policy measures to promote hydropower sector in India inter-alia declaring large hydropower projects including pumped storage projects having capacity of more than 25 MW (LHPs) which come into commercial operation after 8.3.2019 as renewable energy source and to specify Hydropower Purchase Obligation (HPO) within Non-Solar Renewable Purchase Obligation (RPO).

5 In compliance of the above decision and with the objective to add 30,000 MW of hydropower capacity by the year 2029-2030, Ministry of Power has prepared a revised trajectory of RPO including long term trajectory for HPO considering the LHPs commissioned after 8th March 2019.

6 In super-session of orders dated 22nd July 2016 and 14th June 2018, Ministry of Power hereby specifies the following RPO Trajectory-

Year	Solar RPO	Non-Solar RPO			Total RPO
		HPO	Other Non-Solar RPO	Total Non-Solar RPO	
2019-20	7.25%	-	10.25%	10.25%	17.50%
2020-21	8.75%	-	10.25%	10.25%	19%
2021-22	10.50%	0.18%	10.50%	10.68%	21.18%
2022-23	To be specified later	0.35%	To be specified later	To be specified later	To be specified later
2023-24		0.66%			
2024-25		1.08%			
2025-26		1.48%			
2026-27		1.80%			
2027-28		2.15%			
2028-29		2.51%			
2029-30		2.82%			

.....”

The Commission has not yet amended its RPO Regulations 2019 to include HPO. However, Commission notes that its RPO Regulations 2019 is based on broad principle of specifying achievable RPO targets as mandatory target and target set by the Central Government as overall target. Non achievement of mandatory target is liable for penalty, whereas obligated entities are incentivized (Rs. 0.25/kWh) for achieving overall target set by the Central Government. Relevant part of MERC RPO Regulations 2019 is reproduced below:

*“12.2 Distribution Licensee shall endeavor to achieve total RPO target notified by the Central Government and for doing so it will get incentive of Rs. 0.25 per kWh for RE procured above the minimum percentage specified in Regulation 7 upto the percentage notified by the Central Government as under or as may be notified from time to time:
.....”*

In view of above, HPO specified by the Ministry of Power vide order dated 29 January 2021 forms integral part of above provision of RPO Regulations 2019. Hence, Distribution Licensee would be eligible for above incentive of Rs. 0.25/kWh for meeting HPO targets specified by the Central Government. Accordingly, AEML-D shall endeavor to achieve RPO and HPO targets specified by the Central Government.

29. The Commission notes that only objection received during the public process is from Shri. Kiran Chudhari which was related to Green Tariff option approved by the Commission for consumer who voluntarily wish to procure only green energy from Distribution Licensee. Shri. Chudhari has objected to levying extra charge for such supply of Green Energy. However, this issue is not part of the present proceeding beside the fact that it is just an enabling provision, the Commission is not addressing the same in this proceeding.
30. Next RPO verification process under RPO Regulations 2019 will be conducted for FY 2020-21 and FY 2021-22 as part of Mid Term Review process under MYT Regulations 2019.
31. Hence, the Following Order:

ORDER

- 1) **The Case No. 51 of 2021 stands concluded with the following ruling:**
- Adani Electricity Mumbai Limited – Distribution has standalone shortfall for Solar RPO of 183.60 MU and 260.14 MU for FY 2018-19 and FY 2019-20, respectively and cumulative shortfall of 505.47 MU till FY 2019-20.**
 - Adani Electricity Mumbai Limited – Distribution has stand-alone shortfall for its Non-Solar RPO of 816.53 MU and 863.19 MU for FY 2018-19 and FY 2019-20, respectively and cumulative short fall of 2679.42 MU till FY 2019-20.**
 - Adani Electricity Mumbai Limited - Distribution has standalone shortfall for its Mini/Micro Hydro RPO of 2.062 MU and 2.169 MU for FY 2018-19 and FY 2019-20, respectively and cumulative short fall of 7.99 MU till FY 2019-20.**
- 2) **Adani Electricity Mumbai Limited - Distribution to fulfill its cumulative RPO shortfall till FY 2022-23.**

Sd/-
(Mukesh Khullar)
Member

Sd/-
(I.M. Bohari)
Member

Sd/-
(Sanjay Kumar)
Chairperson


(Abhijit Deshpande)
Secretary



**Summary of RPO compliance by AEML for FY 2018-19 and FY 2019-20, as submitted by MEDA and AEML-D
(in MU)**

Discom- RPO targets compliance for FY 2018-19	GEC(Gross Energy Consumption) (Transmission Loss adjusted) (MU's)	Solar RPO			Non-Solar RPO			Mini-Micro Hydro RPO (within non-Solar RPO)		
		Target (2.75%)	Met	Shortfall (+ve) / Surplus (-ve)	Target (11.00%)	Met	Shortfall (+ve) / Surplus (-ve)	Target (0.2% of its Non-solar)	Met	Shortfall (+ve) / Surplus (-ve)
As per MEDA	9358.51	257.36	74.16	183.19	1029.44	214.08	815.36	2.06	0	2.06
As per AEML	9373.27	257.76	74.16	183.6	1031.06	214.53	816.53	2.06	0	2.06

Discom- RPO targets compliance for FY 2019-20	GEC(Gross Energy Consumption) (Transmission Loss adjusted) (MU's)	Solar RPO			Non-Solar RPO			Mini-Micro Hydro RPO (within non-Solar RPO)		
		Target (2.75%)	Met	Shortfall (+ve) / Surplus (-ve)	Target (11.00%)	Met	Shortfall (+ve) / Surplus (-ve)	Target (0.2% of its Non-solar)	Met	Shortfall (+ve) / Surplus (-ve)
As per MEDA	9433.24	330.16	69.46	260.71	1084.82	220.56	864.26	2.17	0	2.17
As per AEML	9430.16	330.06	69.92	260.14	1084.47	221.28	863.19	2.17	0	2.17

Annexure -2

A] List of those who submitted written comments/suggestions or made oral submissions at the Online Public e-Hearing

1. Shri Kiran Chudhari

B] List of persons at the Online Public e-Hearing:

1. Shri. Prashant Kumar, TPC-D
2. Shri. Kishor Patil, AEML-D
3. Shri. N.N.Chhougule, BEST
4. Shri. S.S.Bansode, BEST
5. Shri. Pulkit Agarawal (Adv), Indian Railways
6. Shri. Saurabh Gupta, NUPLLP
7. Shri. Swapnil Kolwadkar, NUPLLP
8. Smt. Juelee M. Wagh, MSLDC
9. Shri. Manoj Pise, MEDA
10. Shri Arif H.Shaikh, MEDA