Before the

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Case No. 52 of 2021

Case for Verification of compliance of Renewable Purchase Obligation targets by Tata Power Co. Ltd. (Distribution) for FY 2018-19 and FY 2019-20

Coram

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

Parties

- 1. Tata Power Co. Ltd. (Distribution) (**TPC-D**)
- 2. Maharashtra Energy Development Agency (**MEDA**)
- 3. Maharashtra State Load Despatch Centre (MSLDC)

Appearance For

TPC-D
 Shri. Peyush Tandon
 MEDA
 Shri. Manoj Pise
 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 TPC-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 Order dated 31 July 2018 in Case No. 209 of 2017 and 2 April 2019 in Case No. 38 of 2019 regarding compliance of RPO targets by TPC-D for FY 2016-17 and FY 2017-18 respectively, the Commission had stated as follows:
 - a. TPC-D has standalone Solar RPO surplus of 4.471 MU for FY 2016-17 and shortfall of 20.654 MU for FY 2017-18. Cumulative Solar RPO shortfall till FY 2017-18 is 15.963 MU.
 - b. TPC-D has standalone non-Solar RPO surplus of 4.226 MU and 0.168 MU for FY 2016-17 and FY 2017-18, respectively. Cumulative non-Solar RPO surplus till FY 2017-18 is 18.464 MU.
 - c. TPC-D has standalone Mini-Micro Hydro RPO surplus of 1.55 MU for FY 2016-17 and fulfilled the standalone target for FY 2017-18. TPC-D has fulfilled the cumulative Mini-Micro Hydro Solar RPO till FY 2017-18.
 - d. The Commission directed TPC-D to purchase the Solar power and/or RECs so as to fully meet its standalone and cumulative shortfall of FY 2016-17 and FY 2017-18. Further, the Commission allowed TPC-D to explore the option of obtaining tradeable

RECs against excess achievement over the RPO target by applying to the Central Agency and update the Commission at the time of verification process for FY 2018-19.

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 TPC-D, which is summarized below:

RPO settlement data for TPC-D as furnished by MEDA										
Item	FY 20	18-19	FY 2019-20							
	%	MUs	%	MUs						
Gross Energy consumption	100%	4675.95	100%	4749.270						
Solar RPO										
Target	2.75%	128.589	3.50%	166.224						
Achivement	3.23%	151.096	1.182%	56.160						
Shortfall /(Surplus)	-0.481%	-22.507	2.318%	110.064						
Non-Solar RPO										
Target	11.00%	514.35	11.50%	546.17						
Achivement	11.01%	514.925	11.48%	545.10						
Shortfall /(Surplus)	-0.01%	-0.571	0.02%	1.066						
Mini-Micro RPO(Within Non-Solar)										
Target	0.20%	1.029	0.20%	1.092						
Achivement	0.00%	0.00	0.00%	0.024						
Shortfall /(Surplus)	0.20%	1.029	0.20%	1.068						
Total RE to be procured as per the Target	13.75%	642.943	15.00%	712.391						
Total Actual RE Procured	14.24%	666.021	12.66%	601.284						
Total Shortfall/(Surplus)	-0.49%	-23.078	2.34%	111.107						

- 7. According to MEDA, the RPO status of TPC-D for FY 2018-19 and 2019-20 is as below:
 - a. In Solar RPO, for FY 2018-19 TPC-D has a surplus of 22.51MU and for FY 2019-20 has a shortfall of 110.06 MU. Further, TPC-D has cumulative shortfall of 15.96 MU till FY 2017-18.
 - b. In Non-Solar RPO, for FY 2018-19 and FY 2019-20 TPC-D has a surplus of 0.57 MU and shortfall of 1.07 MU, respectively. Further, TPC-D has cumulative surplus of 18.46 MU till FY 2017-18.
 - c. In Mini/Micro Hydro RPO (within Non-Solar RPO), TPC-D has a shortfall of 1.03 MU for FY 2018-19 and 1.07 MU for FY 2019-20. Further, TPC-D has no cumulative surplus or shortfall till FY 2017-18.
- 8. The Commission asked TPC-D to submit its response to the data furnished by MEDA. Further, the Commission sought replies from TPC-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 TPC-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 MU and corresponding MW) for meeting the future RPO targets.
- 9. In its response dated 10 June 2021, TPC-D stated as follows:

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

- 9.1. MEDA had considered the GEC data for FY 2018-19 and FY 2019-20 as per the submission of TPC-D vide its letter dated 8 November 2019 and 19 October 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. The Commission has approved the GEC for FY 2017-18 and FY 2018-19 as 4,547.93 MU and 4,681.57 MU in TPC-D's MYT Order dated 30 March 2020 in Case No. 326 of 2019 for the purpose of truing up of FY 2017-18 and FY 2018-19. However, during the proceeding of Case No. 326 of 2019, for FY 2017-18, the submission done by TPC-D for credit passed on to open access consumers was based on the data available till March 2018. Similarly, for FY 2018-19 the details of credit passed on to open access consumers was based on the data available till March 2019. Hence, at the time of submission of the MYT Petition the final data for credit passed on to the open access consumers beyond March 2018 and March 2019 was inadvertently not updated in the data submitted with true up of ARR Petition for FY 2017-18 and FY 2018-19, respectively to the Commission. Therefore, TPC-D vide the instant RPO Verification proceedings is bringing to light the correct and final data qua credit passed on to the open access consumers. Additionally, TPC-D has also updated the Changeover Sales based on the monthly settlement of energy between TPC-D and AEML-D for FY 2018-19.
- 9.4. With respect to FY 2019-20, TPC- D has not received GCNs for all open access consumers for all the months. Hence, for the purpose of determining GEC for FY 2019-20 at this stage, TPC-D has considered the open access consumption based on the credit given to open access consumers as per the available GCNs.
- 9.5. Accordingly, revised GEC for FY 2017-18, FY 2018-19 and FY 2019-20 is as follows:

		FY 2017-18			FY 2018-19			FY 2019-20	
Particulars	TPC-D	Approved after Truing Up	Revised due to updated credit notes	TPC-D	Approved after Truing Up	Revised due to updated OA credit notes & CO sale	TPC-D	Approved for provisional Truing Up	Revised After Year End
TPC-D Sales (Retail) with 15 days Adjustments	2532.93	2532.93	2532.93	2804.2	2,804.19	2,804.19	2922.72	2,930.92	2,881.92
110 kV Billed Units	284.97	284.79	284.79	347.57	348.76	348.76	374.13	354.99	334.98
Bill credit given to OA consumers	817.21	817.21	817.21	660.8	660.8	660.8	495.9	495.9	647.54
Total Sales excluding 110 kV Sales	3065.18	3,065.36	3,065.36	3117.43	3,116.23	3,116.23	3044.49	3,071.84	3,194.48
Distribution Losses	0.78%	0.75%	0.75%	0.56%	0.27%	0.27%	1.02%	1.02%	1.02%
ABT Meter readings at T<>D Interface	3374.41	3373.4	3373.4	3482.71	3473.3	3473.3	3075.86	3103.49	3557.99
110 kV Sales @ T<>D	285.02	284.79	284.79	347.57	348.76	348.76	374.13	354.99	334.98
ABT Meter readings without 110 kV Sales	3089.39	3,088.61	3,088.61	3,135.14	3,124.54	3,124.54	2,701.73	2,748.50	3,223.01
OA wind credit at T<>D Interface	828.08	828.08	833.08	655.5	655.5	670.52	501.01	501.01	670.65
Energy Requirement for TPC-D consumers at T<>D interface	2261.31	2260.54	2255.53	2479.64	2469.04	2454.02	2574.85	2602.48	2552.36
Sales to Change-over consumers for FBSM Adjustment	1852.18	1854.62	1854.62	1721.78	1721.63	1727.4	1668.22	1638.06	1678.62
Bill credit given to OA consumers	1.92	1.92	2.44	3.3	3.3	3.88	0	0	4.09

		FY 2017-18			FY 2018-19			FY 2019-20	
Particulars	TPC-D	Approved after Truing Up	Revised due to updated credit notes	TPC-D	Approved after Truing Up	Revised due to updated OA credit notes & CO sale	TPC-D	Approved for provisional Truing Up	Revised After Year End
Sale to Change-over consumers after adjusting for OA wind credit	1850.25	1852.7	1852.18	1718.48	1718.33	1723.52	1668.22	1638.06	1674.53
Energy Sales at 110/132 kV level	285.02	284.79	284.79	347.57	348.76	348.76	374.13	354.99	334.98
Total Energy Requirement at T<>D	4,396.58	4,398.03	4,392.50	4,545.69	4,536.13	4,526.29	4617.2	4,595.53	4,561.86
Transmission Loss	3.31%	3.30%	3.30%	3.10%	3.11%	3.11%	3.30%	3.18%	3.17%
Total Energy Requirement at G<>T	4546.98	4,547.93	4542.4	4691.05	4,681.57	4671.58	4774.77	4,746.46	4711.21

- 9.6. Further, the Commission had issued an Order in the matter of Verification of compliance of RPO by TPC-D for FY 2016-17, in Case No. 209 of 2017 on 31 July 2018. In the said Order the Commission had determined the RPO status of TPC-D considering the GEC as 4,650.94 MU. Further, the Commission had issued the MTR order in Case No. 69 of 2018 on 12 September 2018, in which the Commission had approved the total Energy Requirement at G<>T interface as 4,642.62 MU in true up of FY 2016-17, accordingly the RPO targets, shortfall and surplus for FY 2016-17 should be recalculated considering the requirement as 4642.62 MU instead of 4650.94 MU.
- 9.7. Further, with respect to the discrepancy in case of Non-Solar RPO obligation achievement it is submitted that the Non-Solar obligation has been calculated after excluding Mini/Micro Hydro power obligation but MEDA has calculated the obligation considering the Mini/Micro Hydro power obligation within the Non-Solar RPO.
- 9.8. Considering these revised GECs, the RPO position for FY 2016-17 and FY 2017-18 changed as below:

Revised Table Considering Order Case 69 of 2018 (for GEC for FY17) & revised GEC for FY2018 based on									
updated OA data									
	Cumulative			Cumulative					
Item	RPO (Surplus)/	FY 2016-17	FY 2017-18	RPO					
	Short fall till			(Surplus)/					

	end of earlier control period (FY 2010-11 to FY 2015-16					Short fall till end of FY 2017-18
	Mus	%	Mus	%	Mus	Mus
Gross Energy consumption		100%	4642.62	100%	4542.4	
Solar RPO						
Target	139.86	1.00%	46.43	2.00%	90.85	277.13
Previous Year Shortfall/(Surplus)					-4.77	
Achievement	140.08	1.10%	50.98	1.55%	70.36	261.42
Shortfall /(Surplus)	-0.22	-0.10%	-4.55	-0.10%	15.71	15.71
Non-Solar RPO						
Target	2842.18	9.98%	463.33	10.48%	476.04	3781.56
Previous Year Shortfall/(Surplus)					-20.06	
Achievement	2856.25	10.09%	469.32	10.50%	476.46	3802.03
Shortfall /(Surplus)	-14.07	-0.11%	-5.99	-0.02%	-20.47	-20.47
Mini-Micro RPO (Within Non-Solar)						
Target	4.47	0.02%	0.93	0.02%	0.95	6.35
Achievement	2.92	0.53%	2.48	0.02%	0.95	6.35
Shortfall /(Surplus)	1.55	-0.33%	-1.55	-0.33%	0	0

Further, the revised RPO status from FY 2016-17 to FY 2019-20 based on revised GEC is as below:

Cumulative Shortfall in Solar and Non-Solar RPO till FY 2019-20 based on revised data										
RPO Targets & Achievement	Units FY	Y 2016-17	FY 2017-18	FY 2018-19	FY 2019-20					
Total Energy Requirement	MU		4542.40	4671.58	4711.21					
Solar RPO target	%		2.00%	2.75%	3.50%					
Solar RPO target	MU		90.85	128.47	164.89					
Previous Year Shortfall/(Surplus)	MU		-4.77	15.79	-6.84					
Solar RPO Achievement	MU		70.29	151.10	56.83					
Solar RPO Shortfall/(Surplus)	MU	-4.77	15.79	-6.84	101.22					
Non-Solar (Excl. Mini Hydro) RPO target	%		10.48%	10.98%	11.48%					
Non-Solar (Excl. Mini Hydro) RPO target	MU		476.04	512.85	540.71					
Previous Year Shortfall/(Surplus)	MU		-20.06	-20.47	-27.40					
Non-Solar RPO Achievement	MU		476.46	519.78	554.98					
Non-Solar RPO Shortfall/(Surplus)	MU	-20.06	-20.47	-27.40	-41.67					
Mini Hydro RPO target	%		0.02%	0.02%	0.02%					
Mini Hydro RPO target	MU		0.95	1.03	1.08					
Previous Year Shortfall/(Surplus)	MU		0.00	0.00	0.00					
Mini Hydro RPO Achievement	MU		0.95	1.03	1.08					
Mini Hydro RPO Shortfall/(Surplus)	MU	0.00	0.00	0.00	0.00					

TPC-D requests the Commission to consider the revised submission made by it.

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 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.

9.9. The source wise RE procurement from FY 2010-11 to FY 2019-20 are shown in table below:

Solar Procurement:

Resources	Contracted Capacity	FY 2010- 11	FY 2011- 12	FY 2012- 13	FY 2013- 14	FY 2014- 15	FY 2015- 16	FY 2016- 17	FY 2017- 18	FY 2018- 19	FY 2019- 20	Cumulative Solar RPO Achievement by FY 2019- 20
UoM	MW	MUs										
Mulshi Solar	3 MW	0.05	4.03	4.33	4.05	4.12	4.34	4	3.81	3.86	3.81	36.41
Solar Rooftop	60 kWp	1	0.09	0.07	0.06	0.07	0.07	0.04	0.01	0	0.01	0.41
Palaswadi Solar	25 MW	-	-	-	-	38.16	47.63	46.86	45.53	43.53	42.79	264.51
Net Metering								0.08	0.84	3.71	7.31	11.93
REC Certificate - Solar	-	-	-	0.31	1.57	9	22.1	0	20	100	2.83	155.81
Deemed purchase upto 10% of the actual total generation											0.05	0.05
Unutilised OA Banked energy									0		0.03	0.03
2% Banking Charges									0.08		0.01	0.09
Total		0.05	4.12	4.7	5.68	51.35	74.15	50.98	70.29	151.1	56.83	469.25

Non-Solar Procurement:

Resources	Contracted Capacity	FY 2010- 11	FY 2011- 12	FY 2012- 13	FY 2013- 14	FY 2014- 15	FY 2015- 16	FY 2016- 17	FY 2017- 18	FY 2018- 19	FY 2019- 20	Cumulative Non Solar RPO Achievement by FY 2019- 20
UoM	MW	MUs										
Supa	17	22.96	19.63	-	-	-	-	-	-	-	-	42.59
Nivede	20.95	-	-	30.41	23.71	-	-	-	-	-	-	54.12
Khandke	50.4	96.43	108.41	110.32	113.94	97.16	98.74	84.29	75.82	96.02	103.96	985.09
Bramhanvel	11.25	16.03	17.09	18.98	18.07	16.94	17.96	20.16	17.96	22.11	20.38	185.7
Sadawaghapur	17.5	26.18	32.14	31.36	29.31	26	25.74	32.06	27.28	31.7	28.4	290.18
Visapur 6 MW	6	-	12.75	11.94	13.06	11.65	10.89	11.84	10.65	11.18	11.32	105.28
Visapur 4 MW	4	7.42	7.59	7.47	7.39	6.17	6.45	6.94	6.15	6.41	7.17	69.16
Visapur (GSW) 24 MW	24	-	-	-	-	8.65	30.11	35.25	31.11	32.61	33.19	170.93
Visapur (GSW) 8 MW	8	-	-	-	-	1.65	10.1	10.45	8.9	9.83	9.78	50.71
Agaswadi	49.5	1	29.33	112.28	113.88	100.64	98.57	104.05	91.71	97.14	102.52	850.12
Bilateral	-	50.14	-	1	-	1	1	-	1			50.14
REC	-	1	188.39	261	271	264.56	215.08	164.28	207.57	209.93	228.42	2,010.23
Deemed purchase upto 10% of the actual total generation											5.13	5.13
Unutilised OA									0.11	3.21	5.41	8.73
banked energy									0.11	3.21	5.71	0.75
2% Banking Charges									0.15	0.65	0.38	1.18
Total		219.17	415.33	583.76	590.37	533.42	513.66	469.32	477.41	520.8	556.06	4,879.29

9.10. TPC-D has complied with the Mini/Micro Hydro RPO through procurement of Non Solar REC as approved by the Commission from FY 2010-11 to till date. Further, TPC-

- D has taken significant efforts to procure energy from Mini/Micro Hydro projects by floating a tender on 25 October, 2017 for procurement of Mini/Micro Hydro power for which it has received no responses, hence it has met its Mini/Micro Hydro RPO target of 0.95 MUs for FY 2017-18 by purchasing Non-Solar RECs of 0.95 Mus and same is approved by the Commission in Order in Case No. 38 of 2019 dated 2 April, 2019.
- 9.11. For FY 2018-19, TPC-D had taken efforts to procure energy from Mini/Micro Hydro projects by floating a tender in December 2018. However, it did not receive any response for the tender. Hence, it has met the Mini / Micro Hydro Obligation for FY 2018-19 through purchase of Non-Solar RECs.
- 9.12. Similar to FY2018-19, during FY2019-20, TPC-D has met the Mini / Micro Hydro Obligation for FY 2019-20 through purchase of Non-Solar RECs. The Commission is requested to approve the same.
- C. Detailed list of action and efforts undertaken 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.

Efforts taken for Solar RPO compliance of FY2018-19

9.13. With respect to Solar RPO, TPC-D has met the standalone target of FY 2018-19 as well as cumulative solar target upto FY 2018-19 through procurement of 151.10 MUs of solar power. The details of solar power procured from various sources during FY 2018-19 is as follows:

Resources	FY 2018-19 (MU)
Mulshi Solar	3.86
Solar Rooftop	0.00
Palaswadi Solar	43.53
Net Metering	3.71
REC Certificate - Solar	100.00
Total	151.10

TPC-D has procured 151.10 MU as against the total Solar RPO requirement of 144.25 MU which includes 128.47 MU towards meeting Solar RPO obligation of FY 2018-19 and 15.79 MU towards meeting the shortfall RPO obligation till FY 2017-18 and has thus met its entire Solar RPO requirement till FY 2018-19 with a surplus of 6.84 MU.

Efforts Taken for Solar RPO compliance of FY2019-20

9.14. TPC-D has purchased 56.83 MU Solar Energy during FY2019-20 comprising of 46.61 MU from long term contracted capacities, 2.83 MU through Solar RECs, 7.31 MU net metering units, 0.05 MU through deemed purchase of 10% open Access banked energy, 0.03 MU unutilised Open Access energy, 2% banking charges of 0.01 MU against the Solar RPO requirement of around 164.892 MU, Tata Power-D has a cumulative shortfall of 101.22 MU till FY 2019-20, considering the adjustment of surplus of 6.84 MU of FY2018-19 in FY2019-20.

- 9.15. TPC-D has evaluated the option of procuring Solar RE on short term basis. It had floated a tender in May 2019 through DEEP e-Bidding Portal, for procurement of Solar Renewable Power on short term basis through Tariff based competitive bidding process, but there was no response for the same.
- 9.16. Further, considering the increasing solar RPO targets in future, TPC-D had put up the proposal before the Commission through a petition in Case No. 136 of 2019 dated 6 June 2019, to procure 150 MW solar power from grid connected solar PV power projects through Competitive Bidding Process. The Commission issued an Order in this case on 2 August 2019 in which the Commission has accorded an approval for procurement of 150 MW Solar power through Competitive Bidding process.
- 9.17. Further, TPC-D floated a tender on 21 August 2019 on MSTC's e-bidding 'DEEP Portal' to procure cumulative 150 MW Solar Power from grid connected solar photovoltaic project on long term basis for a period of 25 years. TPREL was declared as successful Bidder after completion of the Bidding process. Subsequently, TPC-D had filed a petition for adoption of Tariff and through the Order in Case No. 292 of 2019, the Commission has accorded approval for procurement of 150 MW on long term basis from grid connected Solar power project for Rs. 2.83 per unit for 25 Years.
- 9.18. Subsequent to this Order, TPC-D signed a PPA on 3 January 2020. Considering the timelines of this process, this project was scheduled to achieve commercial operation in FY 2021-22.
- 9.19. In line with the same to fulfill the RPO obligation TPC-D has started bidding for solar RECs through market every month but the Solar RECs available in market since April, 2019 were very few and the rate for purchasing RECs was very high compared to previous year. Due to limited availability of RECs with higher rates and higher demand, TPC-D was not able to procure the same to fulfill the Solar RPO compliance.

Efforts Taken for Non-Solar RPO compliance of FY2018-19 and FY 2019-20

9.20. TPC-D has met the Non-Solar obligation partly by procuring Non solar Power from existing contracted capacity already tied up to meet Non-Solar RPO and balance through procurement of Non Solar REC for FY 2018-19 and FY 2019-20. Detail of existing contracted capacity is as follows:

Sources	Contracted Capacity (MW)
Khandke	50.4
Bramhanvel	11.25
Sadawaghapur	17.5
Visapur 6 MW	6
Visapur 4 MW	4
Visapur (GSW) 24 MW	24
Visapur (GSW) 8 MW	8
Agaswadi	49.5
Total	170.65

9.21. During FY2018-19, Tata power-D has purchased 307.01 MU from long term Non-Solar RE Sources and 209.93 MU through Non-Solar REC certificates, 3.21 MU from

- unutilised OA banked energy and 0.65 MU from 2% Banking Charges. Considering the surplus of previous year, the Tata Power-D has cumulative surplus of non-solar power of 27.40 MU at the end of FY 2018-19.
- 9.22. During FY 2019-20, TPC-D has purchased 316.72 MU from long term Non-Solar RE Sources and 228.42 MU through Non-Solar REC certificates, 5.13 MU from deemed purchase from open access banked energy, 5.41 MU from unutilised OA banked energy and 0.38 MU from 2% Banking Charges. Considering the surplus of previous year, the TPC-D has cumulative surplus of non-solar power of 41.67 MU at the end of FY 2019-20.

Efforts Taken for Mini/Micro RPO compliance of FY2018-19 & FY 2019-20

- 9.23. TPC-D had taken efforts to procure energy from Mini/Micro Hydro projects by floating a tender in December 2018. However, Tata Power-D did not receive any response for the tender. Hence, it has met the Mini / Micro Hydro Obligation for FY 2018-19 through purchase of Non-Solar RECs.
- 9.24. Similar to FY2018-19, during FY2019-20, TPC-D has met the Mini / Micro Hydro Obligation for FY 2019-20 through purchase of Non-Solar RECs.
- D. TPC-D should submit the details for long term RE procurement plan (in MUs and corresponding MW) for meeting the future RPO targets.
- 9.25. TPC-D had floated a bid to procure cumulative 150 MW Solar Power from Grid connected Solar Photovoltaic and TPREL was declared as successful Bidder. The Commission has granted approval for the EPA with TPREL and adopted the discovered tariff of Rs. 2.83/kWh for purchase of 150 MW Solar Power from TPREL, vide Order dated 4 December 2019 in Case No. 292 of 2019. The generation from 150 MW capacity is expected in FY 2021-22.
- 9.26. Additionally, TPC-D had floated a bid to procure 225 MW wind solar hybrid power. The Commission had granted approval vide Order in Case No. 152 of 2020 dated 10 Augus, 2020, for procurement of 225 MW of Wind-Solar hybrid power on long term basis (for the period of 25 years) from grid connected projects for meeting its Solar and Non-Solar RPO and allows TPC-D to enter into PPA with the successful bidder for a period of Twenty-Five years at Rs. 2.59/kWh.

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 TPC-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 TPC-D for FY 2018-19 & FY 2019-20, based on details provided by MEDA and TPC, 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, TPC-D 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 TPC-D had fulfilled its Solar and Non-Solar RPO targets till the end of earlier control period (starting from FY 2010-11 to FY 2015-16). TPC-D had a shortfall of 1.55 MUs in the Mini-Micro RPO category for the same period.
- 15. The Commission by its earlier Orders dated 31 July 2018 in Case No. 209 of 2017 and 2 April 2019 in Case No. 38 of 2019 has verified the compliance of RPO targets of TPC-D for FY 2016-17 and FY 2017-18 respectively. The RPO settlement details for TPC-D till FY 2017-18, as approved by the Commission in its Order dated 2 April 2019 is reproduced below:

	RPO settlement data for TPC-D (Approved)										
Item	Cumulative RPO (Surplus)/ Short fall till end of earlier control perod (FY 2010-11 to FY 2015- 16	FY 2	2016-17	FY 20	017-18	Cumulative RPO (Surplus)/ Short fall till end of FY 2017-18					
	MUs	% MUs		%	MUs	MUs					
Gross Energy consumption		100%	4650.940	100%	4542.689						
Solar RPO	Fig.										
Target	139.86	1.00%	46.509	2.00%	90.854	277.223					
Achivement	140.08	1.10%	50.980	1.55%	70.200	261.260					
Shortfall /(Surplus)	-0.22	-0.096%	-4.471	0.45%	20.654	15.963					
Non-Solar RPO											
Target	2842.18	10.00%	465.094	10.50%	476.982	3784.256					
Achivement	2856.250	10.09%	469.320	10.504%	477.150	3802.720					
Shortfall /(Surplus)	-14.070	-0.09%	-4.226	-0.004%	-0.168	-18.464					
Mini-Micro RPO (With	in Non-Solar)										
Target	4.470	0.20%	0.930	0.20%	0.95	6.35					
Achivement	2.92	0.53%	2.481	0.20%	0.95	6.35					
Shortfall /(Surplus)	1.550	-0.33%	-1.551	0.00%	0.00	0.00					

^{&#}x27;-' or () indicates surplus

16. The Commission notes that at truing up for the FY 2016-17 during MTR Order in Case No. 69 of 2018 dated 12 September 2018 and at truing up for the FY 2017-18 during MYT Order of TPC-D in Case No. 326 of 2019 dated 30 March 2020 the commission has approved GEC for FY 2016-17 and 2017-18 as 4642.62 MU and 4547.93 MU, respectively. Further, in MYT

Order in Case No. 326 of 2019 dated 30 March 2020 the Commission has approved GEC for FY 2018-19 as 4681.57 MU.

- 17. TPC-D in the instant Petition has submitted that during the proceeding of Case No. 326 of 2019, for FY 2017-18, the submission done by TPC-D for credit passed on to open access consumers was based on the data available till March 2018. Similarly, for FY 2018-19 the details of credit passed on to open access consumers was based on the data available till March 2019. Hence, at the time of submission of the MYT Petition the final data for credit passed on to the open access consumers beyond March 2018 and March 2019 was inadvertently not updated in the data submitted with true up of ARR Petition for FY 2017-18 and FY 2018-19 respectively to the Commission. TPC-D has highlighted that it is now bringing the correct final data after adjusting the credit passed on to the open access consumers and has also updated the Changeover Sales based on the monthly settlement of energy between TPC-D and AEML-D for FY 2018-19.
- 18. The Commission notes the submission for TPC-D and accordingly, revises the GEC for FY 2017-18 and FY 2018-19 as 4542.4 MU and 4671.58 MU, respectively.
- 19. Further, for FY 2019-20, TPC-D has updated the open access consumption based on the credit given to open access consumers as per the available GCNs. Accordingly, TPC-D has requested the Commission to consider the GEC for FY 2019-20 as 4711.21 MU. TPC-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 of data for all 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 the meantime, the Commission has considered GEC submitted by TPC-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.
- 20. Based on above, the status of achievement of RPO targets by TPC-D at the end of Control Period of RPO Regulations 2016, as approved by the Commission, is as shown below:

For FY 2016-17 and FY 2017-18:

RPO settlement data for TPC-D (Approved)										
Item	Cumulative RPO (Surplus)/ Short fall till end of earlier control perod (FY 2010-11 to FY 2015-16	FY 2016-17		FY 20	017-18	Cumulative RPO (Surplus)/ Short fall till end of FY 2017- 18				
	MUs	%	MUs	%	MUs	MUs				
Gross Energy consumption		100%	4642.62	100%	4542.40					
Solar RPO										
Target	139.86	1.00%	46.43	2.00%	90.85	277.13				
Achivement	140.08	1.10%	50.98	1.55%	70.29	261.35				
Shortfall /(Surplus)	ll /(Surplus) -0.22		-4.55	0.45%	20.56	15.78				
Non-Solar RPO										
Target	2842.18	10.00%	464.26	10.50%	476.95	3783.39				
Achivement	2856.250	10.11%	469.32	10.49%	476.46	3802.03				
Shortfall /(Surplus)	-14.070	-0.11%	-5.06	0.011%	0.49	-18.64				
Mini-Micro RPO (With	in Non-Solar)									
Target	4.470	0.20%	0.93	0.20%	0.95	6.35				
Achivement			2.48	0.20%	0.95	6.35				
Shortfall /(Surplus)	1.550	-0.33%	-1.55	0.00%	0.00	0.00				

For FY 2018-19 and FY 2019-20

RPO settlement data for TPC-D (Approved)										
Item	Cumulative RPO (Surplus)/ Short fall till end of FY 2017-18	FY 20	018-19	FY 2019	Cumulative RPO (Surplus)/ Short fall till end of FY 2019-20					
	MUs	%	MUs	%	MUs	MUs				
Gross Energy consumption		100%	4671.58	100%	4711.21					
Solar RPO										
Target	277.13	2.75%	128.47	3.50%	164.89	570.50				
Achivement	261.35	3.23%	151.10	1.206%	56.83	469.28				
Shortfall /(Surplus)	15.78	-0.484%	-22.63	2.294%	108.06	101.22				
Non-Solar RPO										
Target	3783.39	11.00%	513.87	11.50%	541.79	4839.06				
Achivement	3802.03	11.13%	519.78	11.78%	554.98	4876.79				
Shortfall /(Surplus)	-18.64	-0.13%	-5.91	-0.28%	-13.19	-37.73				
Mini-Micro RPO(Within Non-Solar)										
Target	6.35	0.20%	1.03	0.20%	1.08	8.46				
Achivement	6.35	0.20%	1.03	0.20%	1.08	8.46				
Shortfall /(Surplus)	0.00	0.00%	0.00	0.00%	0.00	0.00				

21. Accordingly, the Commission notes that TPC-D has:

- i. Surplus of its stand-alone Solar RPO target by 22.63 MU for FY 2018-19 and Shortfall of its stand alone Solar RPO target by 108.06 MU for FY 2019-20. Further, the cumulative Solar RPO shortfall at the end of FY 2019-20 is 101.22 MU.
- ii. Surplus of its stand-alone non-Solar RPO target by 5.91 MU and 13.19 MU for FY 2018-19 and FY 2019-20, respectively. Further, the cumulative non-Solar RPO Surplus at the end of FY 2019-20 is 37.73 MU.

- iii. Met its stand-alone Mini/Micro target for FY 2018-19 and FY 2019-20. Further, there is no cumulative Shortfall or Surplus for Mini/Micro RPO category at the end of FY 2019-20.
- 22. The Commission notes that TPC-D had cumulative surplus in RPO targets at the end of the previous control period i.e. at the end of FY 2015-16. Now at the end of this Control Period i.e. at the end of FY 2019-20, TPC-D has cumulative shortfall of 101.22 MU in Solar RPO, cumulative surplus of 37.73 MU in non-Solar RPO and has met its cumulative Mini/Micro Hydro RPO without any shortfall or surplus.
- 23. TPC-D in its present submission has requested the Commission to allow carry forward of cumulative shortfall in Solar RPO to FY 2022-23.
- 24. The Commission notes that in its RPO verification Order for FY 2017-18 dated 2 April 2019, the Commission had allowed TPC-D to purchase Solar Power and /or RECs in FY 2018-19 so as to fully meet the standalone and cumulative shortfall. Accordingly, TPC-D has met its stand alone as well as cumulative Solar RPO till FY 2018-19. However, in FY 2019-20, TPC-D has reported stand alone short fall in solar RPO. TPC-D has justified the same on account of its inability to buy Solar RECs because of their reduced availability and its increased rate.
- 25. The Commission also notes TPC-D's efforts of entering into new contracts for procurement of Renewable Energy. TPC-D has entered into PPA with TPREL for procuring 150 MW of solar power at Rs. 2.83/unit. The Commission has adopted such competitively discovered tariff vide Order dated 4 December 2019. Further, TPC-D had floated a bid to procure 225 MW wind solar hybrid power. The Commission had granted approval vide Order in Case No. 152 of 2020 dated 10 August 2020, for procurement of 225 MW of Wind-Solar hybrid power on long term basis (for the period of 25 years) at rate of Rs. 2.59/unit.
- 26. Therefore, although TPC-D has not been able to meet its Solar RPO targets for FY 2019-20, but considering efforts taken by TPC-D (entering into PPA for 150 MW of Solar project and 225 MW of Wind-Solar Hybrid project) which would help it to meet its Solar and Non-Solar RPO targets on cumulative basis including past Solar RPO shortfall, the Commission thinks it appropriate not to take any action against TPC-D as envisaged in Regulation 12 of MERC RPO Regulations 2016.
- 27. Accordingly, the Commission allows TPC-D to carry forward cumulative Solar RPO shortfall till FY 2019-20 to future years. 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 TPC-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.

- 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	НРО	Other Non-	Total Non-	Total RPO	
		пРО	Solar RPO	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
2023-24		0.66%	To be specified later	To be specified later	
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. Notwithstanding that fact, the 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, TPC-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 related to Green Tariff option approved by the Commission for consumer who voluntarily want 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 option for the consumers to voluntarily choose, 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. 52 of 2021 stands concluded with the following ruling:

- a. Tata Power Co. Ltd. (Distribution) has surplus of its stand-alone Solar RPO target by 22.63 MU for FY 2018-19 and standalone shortfall for Solar RPO of 108.06 MU for FY 2019-20. It has cumulative shortfall of 101.22 MUs till FY 2019-20.
- b. Tata Power Co. Ltd. (Distribution) has surplus of its stand-alone non-Solar RPO target by 5.91 MU and 13.19 MU for FY 2018-19 and FY 2019-20, respectively. Further, the cumulative non-Solar RPO Surplus at the end of FY 2019-20 is 37.73 MU.
- c. Tata Power Co. Ltd. (Distribution) has met its stand-alone Mini/Micro Hydro target for FY 2018-19 and FY 2019-20. Further, there is no cumulative Shortfall or Surplus for Mini/Micro Hydro RPO category at the end of FY 2019-20.
- 2) Tata Power Co. Ltd. (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

$\frac{Annexure-1}{Summary of RPO compliance by TPC-D for FY 2018-19 and FY 2019-20, as submitted by MEDA and TPC-D}$

(in MU)

Discom- RPO			Solar RPO			Non-Solar RP	on-Solar RPO Mini-Micro Hydro RPO (within non-Sol			
targets compliance for FY 2018-19	Consumption) (Transmission Loss adjusted) (MU's)	Target (2.75%)	Met	Shortfall (+we) / 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	4675.95	128.59	151.1	-22.51	514.35	514.93	-0.57	1.03	0	1.03
As per TPC-D	4671.58	128.47	151.1	-22.63	512.85	519.78	-6.93	1.03	1.03	0

Discom- RPO	`		Solar RPO			Non-Solar RP	Non-Solar RPO Mini-Micro Hydro RPO (within non-So			
targets compliance for FY 2019-20	Consumption) (Transmission Loss adjusted) (MU's)	Target (3.5%)	Met	Shortfall (+we) / Surplus (-ve)	Target (11.50%)	Met	Shortfall (+ve) / Surplus (-ve)	Target (0.2% of its Non-solar)	Met	Shortfall (+ve) / Surplus (-ve)
As per MEDA	4749.27	166.22	56.16	110.06	546.17	545.1	1.07	1.09	0.02	1.07
As per TPC-D	4711.21	164.89	56.83	108.06	540.71	554.98	-14.27	1.08	1.08	0

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