

- (a) The competitive bidding process initiated by GUVNL for procurement of power from Wind and Solar project were deferred number of times due to various reasons beyond the control of the Petitioner. It is submitted that 285 MW capacity of Wind capacity tied up under competitive bidding (Phase I) got delayed for the period upto 4-6 months and could not avail the generation benefit of around 306 MUs. Hence, Distribution Licensees in the State are finding difficulty in tying RE power through competitive bidding and there are supply constraints in the availability of RE sources in the State of Gujarat.
- (b) The Commission has extended the Scheduled Commercial Operation Date (SCOD) of 25 MW Solar Thermal Project of M/s. Cargo Power and Infrastructure Pvt. Ltd., which could have entailed the generation benefit of 42 MUs during FY 2019-20. Also, the 11.5 MW MSW project of RGE Surat Pvt. Ltd. and 4 MW of Junagadh WTE Pvt. Ltd. were delayed by the project developers and hence, depriving GUVNL from the generation benefit of 109 MUs during FY 2019-20. Similarly, generation from Small Hydel project was 90.64 MUs i.e. PLF of 47.90% as against the normative PLF of 70% which could have entailed generation of 132.45 MUs resulting in shortfall of approximately 42 MUs. In case of Biomass projects there was generation of 165.38 MUs i.e. PLF of 62.93% as against the normative PLF of 80% which could have entailed generation of 210.24 MUs.
- (c) The Petitioner has submitted that there is total shortfall of 456 MUs in case of Solar, Wind, Bagasse, Municipal Solid Waste and Waste to Energy based projects on account of inadequate capacity addition due to reasons attributable purely to the generators and beyond the control of GUVNL as well as actual available generation from RE capacity being at lower level as compared to normative generation. Moreover, there is further shortfall of around 87 MUs which was also beyond the control of GUVNL and solely on account of under-operationalization of Biomass and Small Hydel Projects.

7.5. The Petitioner has also submitted regarding the efforts made towards RPO compliance for the FY 2019-20, which are stated as under:

- (a) The Petitioner, GUVNL has been proactively promoting RE Sources since inception of the first Solar Power Policy notified by Govt. of Gujarat in 2009 and making all-out efforts towards using non-conventional energy sources for surmounting the issues of carbon emissions and its related impacts on climatic change.
- (b) Pursuant to the GoG Solar Power Policy 2009, the Petitioner had tied up 886 MW capacity out of which 861 MW capacity has been available to the Petitioner. Taking into consideration the increasing trend of Solar RPO during the ensuing years, GUVNL tied up another 250 MW capacity in 2017 under SECI's Competitive Bidding under Phase II, Batch- IV of Jawaharlal Nehru National Solar Mission (JNNSM) of Government of India. Thereafter, during FY 2017-18 and FY 2018-19, GUVNL tied up 700 MW Wind power and 1500 MW Solar power (Non-Park based) through Competitive Bidding out of which 482 MW Wind and 565 MW Solar is already commissioned (as on 31.03.2020) and balance capacity is likely to get commissioned in FY 2020-21 and FY 2021-22. Besides, GUVNL has tied up 1600 MW Solar capacity (Solar Park based - 1000 MW Dholera Solar Park and 600 MW Raghnesda Solar Park) which is expected to be commissioned in phased manner during FY 2021-22 and FY 2022-23. Further, GUVNL has also tied up 350 MW Solar Non-Park based capacity in FY 2020-21, generation benefit of which would be available in FY 2022-23. Also, another 500 MW Solar Tender is under implementation, PPAs for which are expected to be signed shortly and generation benefit from the Projects would be available in FY 2022-23.
- (c) It is also mentioned that GUVNL has been persistently undertaking tendering processes to meet the increasing RPO targets. However, there has been instances of delay in concluding tender on account of reasons beyond control of GUVNL viz. extension in bid-deadlines based on Bidders requests, requirement of modifying Bid Security / Performance Bank Guarantees in the interest of Bidders' participation, etc. Besides, at certain times, GUVNL was bound to scrap some tenders and undertake re-tendering process on account of reasons viz. discovery of higher tariffs, low participation / bid-submission by single bidder, requirement of modifying tender conditions in the interest of

Bidders' participation & competition, etc. The Commission is requested to recognize that GUVNL has been making all possible efforts exercising commercial prudence towards RE Promotion and compliance of RPO Obligation.

- (d) As enumerated herein above, it is submitted that the cumulative effect of (i) Constraints in availability of renewable energy / Inadequate capacity addition (ii) Actual RE generation below normative generation has resulted into shortfall in compliance for FY 2019-20. Further, it is to submit that the reasons for shortfall in RPO were beyond the control of GUVNL / Distribution Companies and are not attributable to GUVNL / Distribution Companies since there has been no willful default or failure on the part of GUVNL Distribution Companies for compliance of PO for FY 2019-20. 2.10 It is submitted that the Regulation 4.2 of GERC (Procurement of Energy from Renewable Sources), Regulations, 2010 Provides for revising the targets of PO in case of supply constraints or factors beyond control of concerned distribution licensee.
- (e) Under the RPO Regulations, the Commission has inherent power to give relaxation as may be deemed necessary in the scenario of RE supply constrains or other factors not attributable to concerned distribution licensee. It is also submitted that Hon'ble APTEL has held that the State Commission can revise the RPO before or during a year or after passing of year under Regulation 4.2 of PO Regulations ensuring that such revision does not defeat the object of the Electricity Act and the Regulations.

7.6. We note that the Commission has issued the GERC (Procurement of Energy from Renewable Sources) (Second Amendment) Regulations, 2018 dated 21.04.2018 vide Notification No. 01 of 2018 notified on 23.04.2018. As per the aforesaid Regulations, the RPO obligation of the obligated entities for FY 2019-20 is as under:

Year	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy in kWh)			
	Total	Wind	Solar	'Others' (Biomass, Bagasse, MSW and Hydro)
FY 2019-20	14.30%	8.05%	5.50%	0.75%

- 7.7. The details submitted for RPO compliance of the subsidiary distribution licensees by the Petitioner for the FY 2019-20 taking into account the total power purchase requirement of 92705 MUs less purchase of 1849 MUs from large hydro projects from various renewable energy sources, i.e. Solar, Wind and Others is as under:

RPO Status	Wind	Solar	Others	Total
Total Energy (MUs)	90856			
Percentage energy required to be procured as per Regulation	8.05%	5.50%	0.75%	14.30%
Energy in MUs required to be procured	7314	4997	681	12992
Renewable Energy Purchased (MUs)	8325	3270	343	11938
Renewable Energy Purchased (%)	9.16%	3.60%	0.38%	13.14%
Shortfall (+)/Excess (-) (MUs)	(-) 1011	1727	338	1054
Shortfall (+)/Excess (-) (%)	(-) 1.11%	1.90%	0.37%	1.16%

The aforesaid compliance submitted by GUVNL is also supported by GEDA, the nodal agency for monitoring the compliance of the RPO by the obligated entities vide its letter dated 14.08.2020 to the Commission stating purchase of Non-Solar as 8673 MUs and Solar as 3269 MUs.

- 7.8. It is apparent from the above that the Petitioner has worked out the RPO compliance against the total power purchase requirement of 92705 MUs. However, as per the various details submitted in tariff determination and True-up for FY 2019-20 by the Petitioner, the actual trued-up total energy requirement is 93075.70 MUs instead of 92705 MUs. Therefore, considering actual trued-up total energy requirement of 93075.70 MUs, the percentage of renewable energy procured and Shortfall/Surplus against the RPO targets stands revised as under:

RPO Status	Wind	Solar	Others	Total
Total Energy (MUs)	93075.70			
Percentage energy required to be procured as per Regulation	8.05%	5.50%	0.75%	14.30%
Energy in MUs required to be procured	7492.594	5119.164	698.068	13309.825
Renewable Energy Purchased (MUs)	8325.000	3270.000	342.652	11937.652
Renewable Energy Purchased (%)	8.94%	3.51%	0.37%	12.83%
Shortfall (+)/Excess (-) (MUs)	(-) 832.406	1849.164	355.416	1372.173
Shortfall (+)/Excess (-) (%)	(-) 0.89%	1.99%	0.38%	1.47%

- 7.9. It transpires from the aforesaid Table that the Petitioner purchased 8325 MUs of Wind energy which is 8.94% of total consumption, 3270 MUs of Solar energy which is 3.51% of total consumption and 342.652 MUs of renewable energy from 'Other' sources

which is 0.37% of total consumption during FY 2019-20. It is apparent from above that there is shortfall of 1849.164 MUs of Solar energy against Solar RPO and shortfall of 355.416 MUs in purchase of 'Other' renewable sources. The total shortfall in RPO compliance is 1372.173 MUs.

7.10. Based on the above, it is requested by the Petitioner to compensate the excess purchase of Non-Solar RPO against the shortfall in purchase of solar energy in accordance with regulation 4.1 of RPO Regulations.

7.11. In the aforesaid background, we deal with the issue as to whether the GERC (Procurement of Energy from Renewable Sources), Regulations, 2010 and amendments thereto permit the revision of RPO as per actuals and exempt the obligated entities from the requirement of transferring the funds to a designated account against the shortfall in RPO compliance due to factors beyond the control of the obligated entities. The Petitioner has submitted that the shortfall in compliance of RPO is due to factors beyond the control of the Petitioner inter alia as stated above alongwith other reasons and hence, the Commission may exempt the Petitioner in view of the provisions of Regulation 7 read with Regulation 9 of the GERC (Procurement of Energy from Renewable Sources) Regulations, 2010 and amendments thereto, which are reproduced below:

“.....

7.1 If the distribution licensee is unable to fulfil the obligation, the shortfall of the specified quantum of that year would be added to the specified quantum for the next year. However, credit for excess purchase from renewable energy sources would not be adjusted in the ensuing year.

7.2 Despite availability of renewable energy sources, if the distribution licensee fails to fulfil the minimum quantum of purchase from renewable energy sources, it shall be liable to pay compensation as per clause 9 of these Regulations.

.....”

Thus, the aforesaid Regulations recognize that the Commission may carry forward the shortfall of RPO percentage if the obligated entity faced genuine difficulty and

whenever the carry forward of RPO percentage is allowed by the Commission, the same has be added to the RPO requirement of the next year as per the Regulations.

7.12. It is also necessary to refer Regulation 9 of the GERC (Procurement of Energy from Renewable Sources) Regulations, 2010. Regulation 9.1 states about the penalty to be imposed for non-fulfillment of RPO and compensation required to be paid by the obligated entity, which reads as under:

“9.1 If an obligated entity does not fulfil the renewable purchase obligation as provided in these Regulations during any year and also does not purchase the certificates, the 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 and the forbearance price decided by the Central Commission:
.....”

It is also necessary to refer the fifth and sixth proviso of the aforesaid Regulation 9.1, which read as under:

“.....”

Provided that in case of any genuine difficulty in complying with the renewable purchase obligation because of non-availability of power from renewable energy sources or the RECs, the obligated entity can approach the Commission to carry forward the compliance requirement to the next year:

Provided further that where the Commission has consented to carry forward of compliance requirement, the provision regarding payment of regulatory charges as specified above shall not be applicable.

.....”

It is apparent from the above, that the fifth proviso provides for carry forward of RPO when genuine difficulty is faced by the obligated entity in fulfillment of RPO. Similarly, the sixth proviso provides that when carry forward is allowed by the Commission, in such case no regulatory charges shall be applicable to the obligated entities.

7.13. The Petitioner has submitted that Regulation 4.2 of the GERC (Procurement of Energy from Renewable Sources) Regulations, 2010 provides for revising the RPO targets in

case of supply constraints or factors beyond the control of the concerned obligated entity and as per the provisions of RPO Regulations, the Commission has power to give relaxation as may be deemed necessary in the scenario of RE supply constraints or other factors not attributable to concerned distribution licensee. The Petitioner referring to the judgement dated 25.04.2014 in Appeal No. 24 of 2013 of the Hon'ble APTEL has further submitted that this Commission is empowered to revise the RPO targets specified under Regulation 4.1 due to inadequate Renewable Capacity addition in the State and reasons beyond control of distribution licensee irrespective of the fact that whether Renewable Energy Certificates are available or not.

7.14. In this regard it is necessary to refer Regulation 4.1 and Regulation 4.2 of the GERC (Procurement of Energy from Renewable Sources) Regulations, 2010 and the GERC (Procurement of Energy from Renewable Sources) (First Amendment) Regulations, 2014, as under:

GERC (Procurement of Energy from Renewable Sources) Regulations, 2010:

“4.1 Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of its consumers including T&D losses during a year. Similarly, Captive and Open Access user(s) / consumer(s) shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of his/her total consumption during a year.

The defined minimum percentages are given below in the Table 1.

Table 1

Year	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy in kWh)			
	Total	Wind	Solar	Biomass, bagasse and others
(1)	(2)	(3)	(4)	(5)
2010-11	5%	4.5%	0.25%	0.25%
2011-12	6%	5.0%	0.50%	0.50%
2012-13	7%	5.5%	1.00%	0.50%

If the above mentioned minimum quantum of power purchase from solar and other renewable energy sources is not available in a particular year, then in such cases,

additional wind or other energy, over and above that shown in column 3 and 5, shall be utilized for fulfillment of the RPO in accordance with column 2.

Provided further that such obligation to purchase renewable energy shall be inclusive of the purchases, if any, from renewable energy sources already being made by the obligated entity concerned:

Provided also that the power purchases under the power purchase agreements for the purchase of renewable energy sources already entered into by the distribution licensees shall continue to be made till their present validity, even if the total purchases under such agreements exceed the percentage as specified hereinabove.

4.2 The Commission may, suo-motu or at the request of a licensee, revise the percentage targets for a year as per clause 4.1 of these Regulations keeping in view supply constraints or other factors beyond the control of the licensee.”

GERC (Procurement of Energy from Renewable Sources) First Amendment, Regulations, 2014:

“4) Substitution of Table 1 of Regulation 4.1

The table 1 provided in Principal Regulation 4.1 shall be substituted by following table 1

Year	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy in kWh)			
	TOTAL	Wind	Solar	Others (Biomass, Bagasse, MSW, etc.)
2010-11	5.0	4.50	0.25	0.25
2011-12	6.0	5.00	0.50	0.50
2012-13	7.0	5.50	1.00	0.50
2013-14	7.0	5.50	1.00	0.50
2014-15	8.0	6.25	1.25	0.50
2015-16	9.0	7.00	1.50	0.50
2016-17	10.0	7.75	1.75	0.50

GERC (Procurement of Energy from Renewable Sources) (Second Amendment), Regulations, 2018

“3) Substitution of Table I of Regulation 4.1:

Table I provided in the Gujarat Electricity Regulatory Commission (Procurement of Energy from Renewable Sources) (First Amendment) Regulations, 2014 is substituted by following Table - I and II:

TABLE - I

	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy in kWh)			
Year	Wind	Solar	Others (Biomass, Bagasse, MSW, etc.)	Total
(1)	(2)	(3)	(4)	(5)
2010-11	4.50	0.25	0.25	5.0
2011-12	5.00	0.50	0.50	6.0
2012-13	5.50	1.00	0.50	7.0
2013-14	5.50	1.00	0.50	7.0
2014-15	6.25	1.25	0.50	8.0
2015-16	7.00	1.50	0.50	9.0
2016-17	7.75	1.75	0.50	10.0

TABLE - II

	Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy in kWh)			
Year	Wind	Solar	Others (Biomass, Bagasse, MSW, etc.)	Total
(1)	(2)	(3)	(4)	(5)
2017-18	7.75	1.75	0.50	10.00
2018-19	7.95	4.25	0.50	12.70
2019-20	8.05	5.50	0.75	14.30
2020-21	8.15	6.75	0.75	15.65
2021-22	8.25	8.00	0.75	17.00

3) Substitution of para 2 of the Principal Regulation 4.1:

If the above mentioned minimum quantum of power purchase either from Solar or Wind or Others (including Biomass, Bagasse, Hydro and MSW) is not available in a particular year of FY 2017-18 to 2021-22, then in such cases, additional renewable energy available either from Solar or Wind or Others shall be utilised for fulfilment of RPO in accordance with Column 5.

.....”

The aforesaid Regulation 4.1 provides that in case of non-availability of Solar or Wind or Others (including Biomass, Bagasse, Hydro and MSW) renewable energy, in a particular year, shortfall of such energy, be made good through the energy available either from Solar or Wind or Other sources of energy including Biomass, Bagasse etc., whereas; Regulation 4.2 provides that keeping in view supply constraints or other factors beyond the control of the licensee, the Commission may suo-motu or at the request of a licensee, revise the percentage targets for a year.

7.15. We further note that the Hon'ble APTEL in Appeal No. 24 of 2013 filed by the Appellant, Indian Wind Energy Association V/s. GERC & others has dealt with aforesaid aspects in its judgment dated 25.04.2014.

7.16. At para 48 the Hon'ble APTEL in the judgment dated 16.04.2015 in Appeal No. 258 of 2013 and Appeal No. 21 of 2014 has recorded as under:

“.....

48. *RE Regulation, 2010 dated 17.4.2010 specified RPO for three years (2010-11 to 2012-13) with increasing quantum of RPO every year. Under Regulation 4.2, the RPOs can be revised before the beginning or during a financial year for that year if the State Commission is convinced that the targets set up by it are unrealistic and cannot be achieved. For example, on the basis of the experience of FYs 2010-11 and 2011-12, if the State Commission feels that the targets set up by the Commission for FY 2012-13 are high and unrealistic, it may revise the same at the beginning of FY 2012-13 or during FY 2012-13. The State Commission may also revise the targets during a year due to force majeure such as natural calamity occurring during the year due to which it becomes impossible to achieve the RPO targets.....”*

Thus, the Hon'ble Appellate Tribunal while interpreting Regulation 4.2 read with Regulation 4.1 of the GERC (Procurement of Energy from Renewable Sources) Regulations, 2010 has recorded with clear findings on the powers of the Commission to revise the Renewable Purchase Obligation targets, if the same are found unrealistic considering the availability of renewable energy in the State.

7.17. Further, the finding recorded in para-49 of the Order dated 16.04.2015 in Appeal No. 258 of 2013 and Appeal No. 21 of 2014 by the Hon'ble Appellate Tribunal is reproduced below:

“.....

49. *The State Commission may also revise the targets after the completion of financial year under Regulation 4.2 due to supply constraints or factors beyond the control of the licensee which may be due to reasons such as:*

- i) *Actual renewable energy generation is below normative generation from tied up renewable energy sources due to reasons beyond the control of the distribution licensee.*
- ii) *Force majeure such as natural calamity resulting in supply constraints.*
- iii) *Inadequate capacity addition in the State and RECs could not be purchased due to non-availability of REC despite efforts made by the distribution licensee. In a resource rich State where the State Commission had set up RPO targets keeping in view the anticipated capacity addition in the State, the State Commission may also revise the targets due to inadequate renewable capacity addition in the State.*
- iv) *Minimum energy purchase obligation for renewable sources of energy was fixed on estimated energy consumption of the licensee in the ARR based on estimated growth but the actual consumption has been much lower due to slow growth or negative growth or due to forced majeure. Thus, percentage RPO on actual energy consumption was met but minimum energy purchase target fixed in the ARR based on anticipated energy consumption could not be met.*
- v) *A distribution licensee has proposed to meet a part or full RPO by purchase of REC but REC could not be purchased, despite efforts made by the licensee, due to non-availability of REC.*

.....”

As per the above decision of the Hon’ble Appellate Tribunal for Electricity, the Commission has powers to revise the Renewable Purchase Obligation targets under Regulation 4.2 in case the State Commission finds it necessary to revise the target due to inadequate Renewable Capacity Addition.

The Hon’ble APTEL decided that the Commission may also revise the RPO targets in case of actual generation being lower than the normative generation due to reasons beyond the control of the Distribution Licensee or there is a natural calamity or inadequate capacity addition in the State.

7.18. A cogent reading of para 49 (iii) and 51, clearly establishes that in resource rich State, the Commission can revise the RPO targets in case of inadequate capacity addition, irrespective of the fact whether RECs are available or not. The inadequate addition of renewable energy capacity is independent ground for revision of Renewable Purchase

Obligation targets of the entity concerned. Regulation 4.1 notified by the Commission prescribes the RPO targets for compliance by the obligated entities. Regulation 4.2 empowers the Commission to revise the targets. Regulation 5 says that renewable energy certificate is an instrument for fulfillment of RPO. Therefore, while deciding the issue, the State Commission is empowered to revise the targets due to inadequate RE capacity addition and reasons beyond control of the Distribution Licensees.

7.19. In view of above, the availability of renewable energy sources needs to be ascertained prior to revising the RPO targets or allowing carry forward or imposing penalty on the obligated entity. The availability of renewable energy sources is dependent on the potential of renewable energy generation in the State and outside.

7.20. Prior to deciding the requirement of revision of the RPO targets, it is necessary to verify as to whether there was adequate renewable capacity addition in the State or not for fulfillment of RPO targets by the obligated entities and whether the generation from such capacity was available to the obligated entities during the year. Accordingly, capacity addition in respect of various renewable sources of generation, i.e. Wind and Solar within the State as well as at the national level was verified by the Commission as tabulated below:

Addition of Wind Capacity

Sr. No	Financial Year	Gujarat (MW)	Nationwide (MW)	Percentage (%) addition in Gujarat
1	2017-18	272.80	1865.23	14.63%
2	2018-19	459.65	1480.97	31.04%
3	2019-20	1468.45	2117.78	69.34 %
Total		2200.90	5463.98	40.28%

(Source: http://mospi.nic.in/sites/default/files/publication_reports/ES_2020_240420m.pdf)

Addition of Solar Capacity

Sr. No	Financial Year	Gujarat (MW)	Nationwide (MW)	Percentage (%) addition in Gujarat
1	2017-18	339.00	9362.65	3.62%
2	2018-19	852.13	6529.23	13.05%
3	2019-20	508.24	6447.11	7.88%
Total		1699.37	22338.99	7.61%

(Source: http://mospi.nic.in/sites/default/files/publication_reports/ES_2020_240420m.pdf)

- 7.21. From the aforesaid tables it transpires that there was total addition of 2200.90 MW of Wind capacity in Gujarat as compared to 5463.98 MW capacity addition at the National level during the period of 3 years from FY 2017-18 to FY 2019-20.
- 7.22. We note that the increase in RPO percentage is required to be considered taking into account the incremental consumption of the licensees in the State while comparing the incremental capacity of Wind energy generation in the State as well as at the National Level. The Renewable Purchase Obligation specified for Wind energy for FY 2017-18 was 7.75%, for FY 2018-19 was 7.95 % and for FY 2019-20 it was 8.05%. However, GUVNL and its subsidiary companies i.e. distribution licensees have achieved compliance of the target for Wind RPO of FY 2019-20.
- 7.23. The Petitioner has submitted that it has been signing PPAs at preferential tariff with all the Wind Developers that have approached GUVNL to supply power but adequate Wind capacity under PPA route was not set up which has also impacted the Wind energy generation / RPO compliance during FY 2016-17. Further, though the Petitioner having tied up Wind capacity to the tune of 4353.6 MW during FY 2019-20.
- 7.24. The Wind capacity tied up by the Petitioner during FY 2019-20 despite being the highest capacity of Wind power tied up in any year but the competitive bidding process initiated by the Petitioner for procurement of power from Wind projects were deferred a number of times and due to that the Petitioners have not attained the benefit of additional generation from the Competitive Bidding process. Moreover, 285 MW capacity of Wind capacity tied up under competitive bidding got delayed as long as for the period of 4 to 6 months and therefore, the generation benefit from the entire tied up capacity was not available to the Petitioner for meeting the RPO compliance. From the above, it transpires that the availability of Wind capacity in the State was limited during the above period and effectively the procurement of wind power reduced.
- 7.25. As far as Solar capacity addition is concerned, it transpires from the tables above that there was total addition of 1699.37 MW of Solar capacity in Gujarat as compared to 22338.99 MW capacity addition at the National level during the period of 3 years from FY 2017-18 to FY 2019-20. Moreover, on comparison of addition in Solar capacity from FY 2017-18 to FY 2019-20, it shows upward trend in FY 2018-19 and then downward

trend in FY 2019-20 at the State level whereas at the National level there is downward trend. The capacity addition of Solar power in the State was 852.13 MW in FY 2018-19, whereas the same has reduced to 508.24 MW in FY 2019-20. As noted above there is increase in total consumption in the distribution licensees' area during past three years on one hand whereas addition in Solar capacity has reduced on other hand.

- 7.26. The Commission has extended the Scheduled Commercial Operation Date (SCOD) of 25 MW Solar Thermal Project of M/s. Cargo Power and Infrastructure Pvt. Ltd., which could have entailed the generation benefit of 42 MUs during FY 2019-20. Also, the 11.5 MW MSW project of RGE Surat Pvt. Ltd. and 4 MW of Junagadh WTE Pvt. Ltd. were delayed by the project developers and GUVNL deprived from the generation benefit of 109 MUs during FY 2019-20. Similarly, generation from Small Hydel project was 90.64 MUs i.e. PLF of 47.90% as against the normative PLF of 70% which could have entailed generation of 132.45 MUs. In case of Biomass project there was 165.38 MUs i.e. PLF of 62.93% against the normative PLF of 80% which could have entailed generation of 210.24 MUs.
- 7.27. As noted above, the Petitioner submitted that as regards the Solar RPO for FY 2019-20, there is shortfall of 1727 MUs of Solar energy as against the requirement of 4997 MUs to meet the Solar RPO of 5.50% since GUVNL purchased 3270 MUs Solar energy, i.e. 3.60%. However, as per the Trued-up figures, the total energy requirement is 93075.70 MUs instead of 92705 MUs submitted in the present Petition for FY 2019-20, which indicates shortfall of 1849.235 MUs of Solar energy as against the requirement of 5119.164 MUs to meet the Solar RPO of 5.50%.
- 7.28. We note that the Petitioner has submitted the breakup of renewable energy purchased from the different generators i.e. large hydro, small hydro, biomass, bagasse etc. as per the directives of the Commission. On analysis of the aforesaid details it transpires that 1849 MUs of hydro energy is purchased from large hydro power projects excluded as applicability of RPO on it. Further, the said energy is also not qualified for fulfillment of RPO. Thus, the net total energy on which RPO needs to be verified is excluding the power procurement from large hydro projects. The Commission has considered the total procurement for applicability of RPO with consideration of trued-up figures, wherein the energy purchased from large hydro projects are excluded for applicability of RPO for FY 2019-20.

7.29. The Commission also observed that the energy purchased from biomass based projects by the Petitioner GUVNL consist of the energy supplied from utilization of biomass as well as the energy diverted through UI which does not qualify for RPO. However, the Petitioner has considered the same as the energy supplied from biomass fuel-based generation. Such, energy quantum which is supplied under UI mechanism by biomass generator is not qualified for fulfilment of RPO as it is against the provisions of the GERC (Procurement from Renewable Energy Sources) Regulations, 2010 and amendment made in it. Thus, such energy quantum is not qualified for fulfilment of RPO. In absence of such details provided by the Petitioner, the Commission makes it clear here that such energy is not qualify for fulfilment of RPO.

7.30. We have noted that the energy consumption as per the trued-up figures of DISCOMs/GUVNL was 87332 MUs for FY 2017-18, 98021.01 MUs for FY 2018-19 and 93075.70 MUs for FY 2019-20. Hence, there is an increase in total consumption in the distribution licensees areas during past three years on one hand whereas addition in Solar capacity has reduced on other hand.

7.31. As far as RPO compliance in respect of “Other RE Sources” is concerned, the installed capacity for Biomass/Bagasse/Mini Hydro category in the State is as under.

Installed Capacity (MW)	Biomass	Mini Hydro
As on 31-03-15	41.10	8.56
As on 31-03-16	41.10	8.56
As on 31-03-17	41.10	8.56
As on 31-03-18	41.10	20.56
As on 31-03-19	41.10	20.56
As on 31-03-20	41.10	60.60

(Source: SLDC Annual Report)

7.32. It can be seen from the above table that there is no capacity addition during FY 2014-15 to FY 2019-20 for Biomass in the State. Also, it can be seen that against increase of the RPO target for ‘Others’ category from 0.50% in FY 2018-19 to 0.75% during FY 2019-20, there is no corresponding addition in the installed capacity. As per the Petitioners submission, the total tied up capacity for ‘Others’ category by the Petitioner is 119.4 MW.

- 7.33. The Petitioner has submitted that there is total shortfall of 456 MUs in case of Solar, Wind, Bagasse, Municipal Solid Waste and Waste to Energy based projects on account of inadequate capacity addition due to reasons attributable purely generators and beyond the control of GUVNL as well as actual available generation from RE capacity is at lower level as compared to normative generation. Moreover, there is shortfall of around 87 MUs beyond the control of GUVNL and solely on account of under-operationalization of Biomass and Small Hydel Projects.
- 7.34. From the above, it is apparent that adequate Wind capacity under PPA route was not tied up with the distribution licensees apart from inadequate addition in Wind capacity during past years. Solar capacity addition during these years is not adequate to meet the incremental requirement of the renewable energy as per the RPO targets on year-on-year basis on account of increase in total consumption in the distribution licensee area over the period. In case of Biomass power, there was negligible generation as the plants remained shut during the year while the in case of Small hydro, due to inadequate release of water, the generation up to target PLF was not available. It is contended by the Petitioner that these were factors beyond the control of the Petitioner and the same has affected the overall availability of renewable based generation in Gujarat, consequentially resulting in to shortfall in achievement of the RPO targets for FY 2019-20.
- 7.35. We note that Torrent Power Limited filed Petition No. 1901 of 2020 for its license area of Ahmedabad/Gandhinagar and Surat submitting its RPO compliance for FY 2019-20 and seeking revision of minimum quantum of purchase (in %) from renewable energy sources in view of supply constraints and factors beyond the control of the licensee under the provisions of Regulation 4.2 of the GERC (Procurement of Energy from Renewable Sources) Regulation, 2010 and adjustment of surplus RPO of Wind with shortfall in Solar RPO as per provisions of Regulation 4.1 considering total energy requirement as 11704.53 MUs for FY 2019-20.
- 7.36. We also note that Torrent Power Ltd. for its license area of Dahej has filed Petition No. 1902 of 2020 submitting its RPO compliance for FY 2019-20 considering total energy requirement as 497.28 MUs. Also, MPSEZ Utilities Ltd. (MUL) has filed Petition No. 1884 of 2020 for its license area submitting its RPO compliance for FY 2019-20 considering total energy requirement as 341.48 MUs. Moreover, GIFT Power Company

Limited (GIFT PCL) has filed Petition No. 1943 of 2021 for its license area submitting its RPO compliance for FY 2019-20 considering total energy requirement as 19.991 MUs although, the trued up energy requirement is 22.240 MUs as per Order in Tariff Petition No. 1942 of 2021. Hence, 'Energy Required' for GIPTPCL is considered as 22.240 MUs for compliance of RPO. Further, Petition No. 1992 of 2021 has been filed by Deendayal Port Trust Ltd. submitting details of power purchase from various sources including power procured from PGVCL, power exchange and Wind power towards RPO compliance for FY 2019-20 and as per Order dated 04.09.2021 in Tariff Petition No. 1968 of 2021, the Commission has approved trued up total energy requirement 147.38 LUs i.e. 14.738 MUs of DPT out of which 3.06 MUs is procured from distribution licensee PGVCL. Hence, 'Energy Required' for DPT is considered as 11.652 MUs after deducting power purchased from PGVCL for RPO compliance with consideration of 11.434 MUs Wind power procured by DPT from its Wind Power projects.

7.37. The Petitioner GUVNL has submitted the RPO compliance from 'Others Category' consisting of Biomass based power of 165.382 MUs and 177.270 from Mini-hydel projects totaling to 342.652 MUs. However, we note that there is dispute between GUVNL and Biomass Generators with whom PPAs of 30 MW are executed with regard to gaming by the Biomass project developers. In the said proceedings in Petition No. 1888 of 2020, it has come to notice that the energy supplied through Unscheduled Interchange (UI) mechanism by Biomass project developers is qualified for RPO, which is not correct. Therefore, such energy which is not generated from non-conventional or renewable source is not qualified for RPO compliance. We note that the Commission in tables at para 17.27 of Interim Order dated 09.10.2020 passed in IA No.'s 07 of 2020 & 08 of 2020 in Petition No. 1888 of 2020 has mentioned 'Schedule' and 'Injection' for FY 2018-19 of above three 10 MW Biomass based projects with whom PPAs are signed by the Petitioner GUVNL for procurement of biomass based generation as under based on which UI is worked out:

	Schedule in MUs	Injection in MUs	UI in MUs
Amreli	52.84	20.30	32.54
Bhavnagar	57.10	23.26	33.83
Junagadh	55.45	25.84	29.61
Total	165.38	69.40	95.98

7.38. Hence, we decide to disallow 95.81 MUs of UI energy of above Biomass power projects during FY 2019-20 as not being renewable energy generated from Biomass. Accordingly, in case of Petitioner GUVNL the same is revised as 246,671 MUs under 'Others' category for RPO compliance.

7.39. Accordingly, the RPO targets for FY 2019-20 and compliance thereof submitted by GUVNL and other distribution licensees is as under:

Particulars	UOM	FY 2019-20		
		Target RPO	Achieved	Excess (-) / Shortfall (+)
GUVNL				
Energy Required	MUs	91226.70		
Wind	%	8.05%	9.13%	(-) 1.08%
	MUs	7343.749	8325.000	(-) 981.251
Solar	%	5.50%	3.58%	1.92%
	MUs	5017.469	3270.000	1747.469
Others	%	0.75%	0.27%	0.48%
	MUs	684.200	246.671	437.529
Total	%	14.30%	12.98%	1.32%
	MUs	13045.418	11841.671	1203.747
TPL Ahmedabad & Surat				
Energy Required	MUs	11704.53		
Wind	%	8.05%	8.82%	(-) 0.77%
	MUs	942.215	1031.940	(-) 89.725
Solar	%	5.50%	3.08%	2.42%
	MUs	643.749	360.770	282.979
Others	%	0.75%	0.00%	0.75%
	MUs	87.784	0.000	87.784
Total	%	14.30%	11.90%	2.40%
	MUs	1673.748	1392.710	281.038
TPL Dahej				
Energy Required	MUs	497.28		
Wind	%	8.05%	6.11%	1.94%
	MUs	40.031	30.380	9.651
Solar	%	5.50%	2.06%	3.44%
	MUs	27.350	10.240	17.110
Others	%	0.75%	0.00%	0.75%
	MUs	3.730	0.000	3.730
Total	%	14.30%	8.17%	6.13%
	MUs	71.111	40.620	30.491

MPSEZ				
Energy Required	MUs	341.48		
Wind	%	8.05%	14.75%	(-) 6.70%
	MUs	27.489	50.360	(-) 22.871
Solar	%	5.50%	5.02%	0.48%
	MUs	18.781	17.130	1.651
Others	%	0.75%	0.00%	0.75%
	MUs	2.561	0.000	2.561
Total	%	14.30%	19.76%	(-) 5.46%
	MUs	48.832	67.490	(-) 18.658
GIFT PCL				
Energy Required	MUs	22.240		
Wind	%	8.05%	0.00%	8.05%
	MUs	1.790	0.000	1.790
Solar	%	5.50%	0.60%	4.90%
	MUs	1.223	0.134	1.089
Others	%	0.75%	0.00%	0.75%
	MUs	0.167	0.000	0.167
Total	%	14.30%	0.60%	13.70%
	MUs	3.180	0.134	3.046
DPT				
Energy Required	MUs	11.652		
Wind	%	8.05%	98.13%	(-) 90.08%
	MUs	0.938	11.434	(-) 10.496
Solar	%	5.50%	0.00%	5.50%
	MUs	0.641	0.000	0.641
Others	%	0.75%	0.00%	0.75%
	MUs	0.087	0.000	0.087
Total	%	14.30%	98.13%	(-) 83.83%
	MUs	1.666	11.434	(-) 9.768

7.40. It is apparent that GUVNL was unable to comply the RPO targets specified by the Commission for FY 2019-20 for Solar and 'Other' RE sources, while in case of TPL-Ahmedabad & Surat, the shortfall is also in Solar category and 'Others' category but there was surplus in Wind category. In case of TPL-Dahej there was shortfall in Wind category, Solar category and 'Others' category. MUPL achieved the total RPO target specified by the Commission. In case of GIFT Power Company Limited there was shortfall in Wind category, Solar category and 'Others' category. Similarly, in case of DPT, the shortfall is in in Solar category and 'Others' category.

7.41. The main reasons for not achieving the RPO targets are as under:

- (i) The Wind generation capacity addition during the FY 2018-19 was quite low resulting into less availability of Wind power during FY 2019-20 from such addition. During FY 2019-20, the capacity addition of Wind power at national level was 2117.78 MW, out of which 1468.45 MW was installed in the State of Gujarat. However, adequate capacity to meet the RPO was not available so as to meet the additional requirement of energy by the licensees of the State to fulfil the RPO taking into account the increase in consumption from 87332 MUs in FY 2017-18 to 98021.21 MUs in FY 2018-19 and 91226.70 MUs (revised after excluding large hydro) in FY 2019-20 with corresponding increase in RPO percentage.
- (ii) It is noted that about 285 MW capacity of Wind capacity tied up by the Petitioner under competitive bidding (Phase I) got delayed as long as for the period up to 4 to 6 months. Therefore, the Petitioner could not avail the generation benefit to the tune of approximately 306 MUs. Moreover, the Petitioner during FY 2017-18 and 2018-19 tied up 700 MW Wind power through competitive bidding out of which 482 MW Wind capacity is already commissioned and balance capacity is likely to get commissioned in the year FY 2020-21 and FY 2021-22. Thus, energy generation from the capacity tied up was not available for full year. The aforesaid reasons led to paucity of WTG generation and the Petitioner was not able to meet the incremental requirement of fulfilment of RPO for Wind energy generation, which was beyond the control of the Petitioner.
- (iii) As regards Solar RPO, as noted above, there is increase in consumption from 87332 MUs in FY 2017-18 to 98021.21 MUs in FY 2018-19 and 91226.70 MUs (excluding large hydro) in the distribution licensees area on one hand whereas addition in Solar capacity has remained more or less identical. The Commission has extended the time limit of SCOD of M/s. Cargo Power & Infrastructure Pvt. Ltd. of 25 MW Solar Thermal Project which could have entailed generation benefit of 42 MUs during FY 2019-20. The Petitioner has tied up 1500 MW of Solar power (Non-park based) through competitive bidding out of which 565 MW Solar capacity is already commissioned and balance is likely to get commissioned in the years FY 2020-21 and FY 2021-22. Thus, there was no

adequate capacity addition resulting into lesser availability of Solar power towards RPO compliance which again was beyond the control of the Petitioner.

- (iv) There was also a shortfall in energy from 'Other' renewable sources, i.e. Biomass, Bagasse, Municipal Solid Waste generation during FY 2019-20. The 11.5 MW MSW based project of M/s RGE Surat Pvt. Ltd. which was scheduled to be commissioned on 31.10.2018 and 4 MW Junagadh WTE Pvt. Ltd. which was scheduled to be commissioned on 31.12.2018 are not developed by the project developers, depriving GUVNL/DISCOMs from the generation benefit of 109 MUs during FY 2019-20. During FY 2019-20, the generation benefit from Small Hydel Projects was 90.64 MUs, i.e. PLF of 47.90% as against the normative PLF of 132.45 MUs, which result into shortfall of 42 MUs.
- (v) Similarly, the generation from Biomass Projects was 165.38 MUs i.e. PLF of 62.93% against the normative PLF of 80% which could have entailed generation of 210.24 MUs (shortfall of approx. 45 MUs). Thus, the shortfall of around 87 MUs was beyond control of GUVNL and solely on account of under-operationalization of Biomass and Small Hydel Projects. Thus, no adequate generation was available to the Petitioner from these plants for the reasons beyond its control.
- (vi) In respect of bagasse based generation, the plants with which the Petitioner had signed PPAs could not be set up by the Developers which was beyond the control of the Petitioner. Thus, GUVNL could have procured 196 MUs more from Other RE Category, if the Small Hydro, MSW, WtE and Biomass projects had operated.

It is apparent from above that the Petitioner faced these constraints in availability of renewable energy in the State of Gujarat during FY 2019-20, which in turn resulted in shortfall in achievement of the RPO targets.

- 7.42. From the above we observe that the capacity addition as well as availability of the Wind energy generation and the energy generation from the 'Other' sources, i.e. small hydro, biomass, bagasse, MSW etc. was quite low during the FY 2019-20 in the country as well as in the State of Gujarat. Solar capacity has remained almost uniform. Renewable Energy addition and availability for RPO compliance is inadequate as against increase in total consumption in the distribution licensees' area during past

years. The GERC (Procurement of Energy by Renewable Sources) Regulations, 2010 provide separate RPO for Wind, Solar and 'Others' category. The availability of the renewable energy in the State was lower, which affected the requirement of the Distribution Licensees, which are obligated entities to meet their RPO requirements.

- 7.43. From the above observations we are of the view that there were supply constraints of renewable energy in the State of Gujarat during FY 2019-20. Accordingly, the Commission decides to revise the RPO of the distribution licensees of the State by adopting the weighted average formula in which the renewable energy actually procured for FY 2019-20 by the distribution licensees is considered and it is decided to revise the RPO target in percentage. In turn, the status of RPO compliance by GUVNL during F.Y. 2019-20 is as under:

Total RPO achieved in State:

Weighted Average RPO on the basis of compliance achieved:

RPO Category		Target RPO	RPO Achieved
Wind	%	8.05%	9.103%
	MUs	8356.213	9449.114
Solar	%	5.50%	3.524%
	MUs	5709.214	3658.274
Others	%	0.75%	0.238%
	MUs	778.529	246.671
Total	%	14.30%	12.85%
	MUs	14843.955	13342.491

- 7.44. As far as the RPO for Wind energy is concerned, we observe that the weighted average RPO on basis of actual RPO achieved works out to 9.10% as against 8.05% specified by the Commission in RPO Regulation. We also note that the Petitioner had signed the Power Purchase Agreements with Wind power project developers and has thereby tied up Wind capacity of 4353.6 MW as on 31.03.2020 in order to meet Wind RPO. It is also noted that about 285 MW capacity of Wind capacity tied up under Competitive Bidding (Phase I) got delayed for upto 4 to 6 months and the Petitioner could not avail the benefit of generation. We also note that the Petitioner is purchasing the energy from such developers at the preferential tariff determined by the Commission. However, if the Wind RPO for the State is revised from 8.05% to 9.10%, it would burden the licensees as well the consumers. The preamble of the Electricity Act, 2003, Tariff Policy and National Electricity Policy mandate the State Electricity Regulatory

Commission to protect the interest of the consumers as specified under Section 61(d) and Section 94 of the Act and also promote co-generation and generation of electricity from the renewable energy sources as specified under Section 61 (h) and Section 86 (1) (e) of the Act. Thus, the role of the Commission is to balance the interest of the consumers as well as the promotion of renewable energy. We are, therefore, of the view that the Wind RPO shall be maintained at the level of 8.05% as stipulated in the Regulations. The Petitioner and other 'Obligated Entities' shall be required to fulfill the Wind RPO @ 8.05% of their energy consumption of FY 2019-20. We also make it clear that the Wind RPO compliance @ 8.05% is to be fulfilled after adjustment of carry forward of Wind energy, if any, of previous years.

7.45. On the basis of above, we decide to revise the Renewable Purchase Obligations for the 'Solar' category and 'Others' category as under:

RPO Category	RPO as per the Regulations notified by the Commission	Revised RPO Percentage
Solar	5.50%	3.52%
Others	0.75%	0.24%

As regards, Wind RPO target, the same shall be 8.05% as decided above.

7.46. Based on the above revised RPO, the actual compliance of the Renewable Purchase Obligation by the Petitioner is worked out as under:

RPO Category	UOM	Revised RPO Target	RPO Achieved	Surplus (-) / Shortfall (+)
Energy Required		91226.70		
Wind	%	8.05%	9.13%	(-) 1.08%
	MUs	7343.749	8325.000	(-) 981.251
Solar	%	3.52%	3.58%	(-) 0.06%
	MUs	3211.180	3270.000	(-) 58.820
Others	%	0.24%	0.27%	(-) 0.03%
	MUs	218.944	246.671	(-) 27.727
Total	%	11.81%	12.98%	(-) 1.17%
	MUs	10773.873	11841.671	(-) 1067.798

8. Based on the above revised RPO percentages of 'Wind', 'Solar' and 'Other Category' of RPO, the Petitioner, GUVNL has complied 'Wind' RPO at 9.13% against 'Wind' RPO of 8.05%, Solar at

3.58% against revised 'Solar' RPO of 3.52%, 'Other Category' RPO at 0.27% against revised 'Other Category' RPO of 0.24% and 'Total' RPO percentage at 12.98% against revised 'Total' RPO percentage of 11.81%. for FY 2019-20.

9. Considering the above facts, present Petition succeeds as the Petitioner, GUVNL and its four subsidiary distribution companies have complied with the RPO as under:

RPO Category	Revised Percentage	Achieved Percentage
Wind	8.05%	9.13%
Solar	3.52%	3.58%
Others	0.24%	0.27%
Total	11.81%	12.98%

10. We order accordingly.

11. With this Order the present Petition stands disposed of.

Sd/-
[S. R. Pandey]
Member

Sd/-
[Mehul M. Gandhi]
Member

Place: Gandhinagar.
Date: 09/05/2022.