

**BEFORE THE HON'BLE KERALA STATE ELECTRICITY
REGULATORY COMMISSION
Thiruvananthapuram**

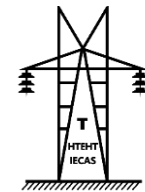
SUGGESTIONS / OBJECTIONS

IN THE MATTER OF

Draft - Renewable Energy and Net Metering Regulations, 2019

31st October, 2019

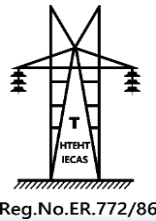
RPO Requirements by Distribution Licensee and Other Obligated Entities in this RE Regulation- 2019.



Reg.No.ER.772/86

Sales by Licensee/Consumption by Obligated Entity.	RPO Requirement	REC Eligibility	Remarks
<i>100 % Energy from Old Large Hydro Power Stations(LHP)</i>	<i>NIL, No requirement for both Solar and Non Solar RPO norms.</i>	<i>No</i>	<i>Solar RPO requirement is not addressing .</i>
<i>100 % Energy from RE Sources of Generation.</i>	<i>100 % Energy falls under RPO requirement and to meet both Solar and Non Solar RPO Norms.</i>	<i>Yes, Depends on Conditions of REC.</i>	<i>Since 100 % Energy is from RE sources, the entire Energy not to be accounted for RPO norms.</i>
<i>100 % Energy from Non-RE Sources of Generation.</i>	<i>100 % Energy falls under RPO Requirements.</i>	<i>NO</i>	

Suggestions / Objections on Renewable Energy and Net Metering



- RPO is a mechanism to encourage and to Promote the Generation from RE Sources, Since Govt. of India fixed an ambitious target for RE Generation.
- For promoting the RE Generation RPO Requirement is a driving force for it.
- RPO Requirement set by Ministry of Power is broad Guide line and *“Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of distribution licensee for purchase of energy from RE sources, taking in to account availability of such resources and its impact on retail tariff.....”*
- Request Hon'ble Commission to fix RPO requirement of the Obligated entities taking account of this guidelines.
- The RE Energy Transmission ,wheeling and Open Access Charges to be avoided to promote RE Generation within our State.
- If Hon'ble Commission introduces Open Access Charges, Transmission and Wheeling Charges for RE generation in Kerala no one will not invest in Our state in RE sector.
- Also this new Regulation will be include all the Promoting factors of RE Generations in 2013 and 2015 Regulations on RE Sector.

Suggestions / Objections on Renewable Energy and Net Metering

• 3.0 Obligation to Purchase Renewable Energy

The following entities in the State of Kerala shall have the obligation to purchase such quantity of renewable energy during the financial years commencing from 2019-2020 as specified in the Table below;

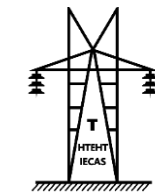
- a. Distribution licensees;
- b. Captive consumer; and
- c. Open access consumer.

Table-1

Financial Year	Quantum of purchase (in %) from Renewable Energy Sources (in terms of energy in KWh)		
	Non Solar	Solar	Total
2019-20	8.00	4.00	12.00
2020-21	9.00	5.25	14.25
2021-22	10.25	6.75	17.00
2022-23	*	*	*
2023-24	*	*	*

*Will be notified by the Commission later.

Suggestions / Objections on Renewable Energy and Net Metering

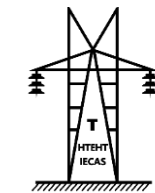


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- 3.0 Obligation to Purchase Renewable Energy

Financial Year	RPO obligation in %		
	Non Solar	Solar	Total
2016-17	4.5	0.5	5
2017-18	6	1.5	7.5
2018-19	7	2.75	9.75
2019-20	8	4	12
2020-21	9	5.25	14.25
2021-22	10.25	6.75	17

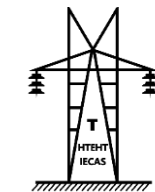
Suggestions / Objections on Renewable Energy and Net Metering



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State	RPO Obligation in %											
	2016-17			2017-18			2018-19			2019-20		
	Non Solar	Solar	Total	Non Solar	Solar	Total	Non Solar	Solar	Total	Non Solar	Solar	Total
Haryana	2.75	1	3.75	2.75	1.25	4.0	3.0	1.5	4.5	2.75	2.0	4.75
Telengana							0.67	5.33	6.0	0.73	5.77	6.5
J& K	6.5	1	7.5	7.25	1.25	8.5	8	1.5	9.5	1.75	8.75	10.5
Odisha				4.5	3	7.5	5	4.5	9.5	5.5	5.5	11
Punjab	4.1	1.3	5.4	4.2	1.8	6.0	4.3	2.2	6.5	4.5	2.5	7.0
Kerala (Proposed)	4.5	0.5	5	6	1.5	7.5	7	2.75	9.75	8	4	12

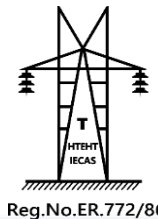
Suggestions / Objections on Renewable Energy and Net Metering



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State	RPO Obligation in %											
	2019-20			2020-21			2021-22			Remarks		
	Non Solar	Solar	Total	Non Solar	Solar	Total	Non Solar	Solar	Total			
Haryana	2.75	1	3.75	2.5	2.5	5.0	2.5	3	5.5			
Telengana	0.73	5.77	6.5	0.79	6.21	7.0	0.9	7.1	8.0			
J& K	1.75	8.75	10	2.0	9.5	11.5	3	9.5	12.5			
Kerala (Proposed)	8	4	12	9	5.25	14.25	10.25	16.75	17			

Suggestions / Objections on Renewable Energy and Net Metering



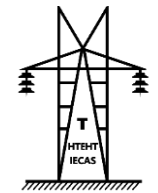
- The targets specified by MNRE are meant as broad guidelines to SERC's for determining the RPO obligation of their states. This need not be considered as legally binding directives. The conditions such as availability and cost of land, number of sunny days per year, wind velocity, hydel potential will vary from state to state. The respective state SERC's have to take the above parameters prevailing in each state into consideration and fix adequate targets pertinent to each state.
- In Kerala, land cost is prohibitive and availability of vacant land for solar generation is scarce. Hence obligated entities have to rely on available roof top space for solar generation. Another factor to be considered is that, Kerala has a long rainy season of about six months in a year and hence the CUF (Capacity Utilization Factor) will be much lower for Solar power generation compared to other states.
- In addition adequate wind potential for wind power generation is available only in two districts of the state. Further, the prohibitive land cost is a major hurdle for the installation of wind mills in the state.
- Hence Non Solar and Solar generations are not a feasible option in Kerala.

It can be seen from the table that states like Haryana have no intention to achieve the non-solar and solar targets fixed by MNRE . It has to be inferred that the SERC's of these states have fixed RPO targets taking into account the prevailing conditions of the respective states.

Hence, we humbly request the Hon' Commission to take these factors we have stated above into account and fix the RPO targets for the next 3 years in a reasonable manner.

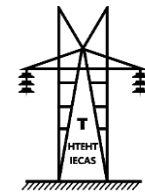
The opinion of the association regarding the RPO targets is that since the current RPO obligation in Kerala is already higher than many of the states with higher feasibility of renewable energy generation , the RPO targets may be freezed at current level for the next 3 years and may be further reviewed after three years .

- **4.0 Renewable Purchase Obligation (RPO) of the Distribution Licensee**
- 4.(1) Every distribution licensee shall meet the renewable energy at the percentage specified in Table 1 above, of the total energy (excluding quantum of energy met from hydro sources of power) supplied by it to the consumers within its areas of license
- **Replace** “ excluding quantum of energy met from hydro power sources “ with “ Excluding Hydro, Solar, Wind and Any Non-conventional source of energy”.
- Government of India, Ministry of Power has issued an Office Memorandum, F.No.15/2/2016 –H-I dated 8th Mar 2019 . Relevant excerpts from this Office Memorandum are reproduced below
- “ **2. Declaring LHPs(>25MW projects) as Renewable Energy Source:**
- *2.1 Large Hydropower Projects (LHPs, ie. > 25 MW projects) are declared as Renewable Energy Source. However , LHPs would not automatically be eligible for any differential treatment for statutory clearances such as Forest Clearance, environmental clearance, NBWL clearance, related Cumulative Impact Assessment and carrying Capacity study, etc. available to Small Hydropower Projects(SHPs), i.e. projects of capacity upto 25 MW. Ministry of Power shall continue to be the administrative Ministry for LHPs.”*



- “ **3. Hydro Purchase Obligation (HPO) as a separate entity within Non-solar Renewable Purchase Obligation (RPO) :**
- *3.1 Hydropower Purchase Obligation (HPO) is notified as a separate entity within Non-Solar Renewable Purchase Obligation (RPO). The HPO shall cover all LHPs commissioned after issue of this Office Memorandum as well as the untied capacity (i.e. without PPA) of the commissioned projects. This HPO will be within the existing Non-Solar RPO after increasing the percentage assigned for it so that existing Non-Solar RPO for other renewable sources remain unaffected by the introduction of HPO. The trajectory of annual HPO targets will be notified by the Ministry of Power based on the projected capacity addition plans in hydropower sector. Necessary amendments will be introduced in the Tariff Policy and Tariff Regulations to operationalize HPO. “*

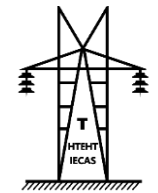
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Suggestions / Objections on Renewable Energy and Net Metering



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- RPO Requirement is a driving force for promoting the RE Generation.
- RPO Requirement set by Ministry of Power is broad Guide line and *“Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of distribution licensee for purchase of energy from RE sources,taking in to account availability of such resources and its impact on retail tariff.....”*
- Request Hon'ble Commission to fix RPO requirement of the Obligated entities taking account of this guidelines.
- The transmission, wheeling and Open Access Charges to be avoided for RE Energy to promote RE Generation within our State.
- If Hon'ble Commission introduces Open Access Charges,Transmission and Wheeling Charges for RE generation in Kerala no one will not invest in Our state in RE sector.
- Also this new Regulation will be include all the Promoting factors of RE Generations in 2013 and 2015 Regulations on RE Sector.

- **5.0 Renewable Purchase Obligation of the Captive Consumer**
- *Every captive consumer (except the consumers having standby generating sets having capacity of and below 100KW , and with plant load factor less than 10% irrespective of the capacity of generating set) shall meet the quantum of renewable energy not less than the percentage specified in table 1. above., of its total captive consumption.*
- *It is extremely unfair to include renewable energy generation in the purview of Renewable Energy Purchase Obligation (RPO)*

Our Suggestion

- *“Every captive consumer (except the consumers having standby generating sets having capacity of and below 100KW and **renewable energy generation including cogeneration**, and with plant load factor less than 10% irrespective of the capacity of generating set) shall meet the quantum of renewable energy not less than the percentage specified in table 1. above., of its total captive consumption.*

- **5.0 Renewable Purchase Obligation of the Captive Consumer**
- *Provided further that the solar energy generated **and consumed** by the captive consumer in excess of solar renewable purchase obligation may be accounted towards its non-solar renewable purchase obligation.*

Our Suggestion

- “Provided further that the solar energy generated by the captive consumer in excess of solar renewable purchase obligation may be accounted towards its non-solar renewable purchase obligation **and vice versa.**”
- This is in line with the guidelines of MoP.
- Our justification: It is always economical for an investor to invest in a high capacity generator. He can decide to investment in any RE generation system based on economical viability (either solar or non-solar). Hence 100% flexibility in fulfilling RPO among nor-solar and solar is a necessity of the industry and investor.

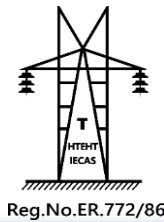
- **6.0 Renewable Purchase Obligation of the Open Access Consumer**
- The Clause 6.2 stated that *“The renewable purchase obligation shall be inclusive of the purchases, from renewable sources of energy being made by the open access consumer”*
 - Renewable power purchased shall not be considered for RPO. This is against promoting renewable energy generation.
- We suggest that If the Renewable Energy producer is not claiming / selling Renewable Energy Certificate then it should be adjusted in *The renewable purchase obligation of the Open Access Consumer in the desired category*

- **13.0 General Conditions**

- Clause 3 of Sec 13.0 is reproduced below
- *3) The grid interactive renewable energy system so installed at the premise of the eligible individual consumer shall utilize the same service line and installation for injection of excess power into the grid.*
- *Provided that the maximum capacity that can be installed by a single phase domestic consumer shall be limited to 5 kW.*
- **Our Suggestion**
- **“Provided that the maximum capacity that can be installed by a single phase domestic consumer shall be limited to 5 kW on the AC Side .”**

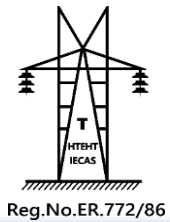
- **16.0 Metering Arrangement**
- Clause 2 of Sec 16.0 is reproduced below
- *All meters shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006 and subsequent amendments thereof. Provided that, all meters shall have Advanced Metering Infrastructure communication port.*
- **We submit that the condition “ provided that , all meters shall have advanced metering infrastructure communication port “ may be excluded for each generation stations having RE system of cumulative capacity less than 1MW.**

Suggestions / Objections on Renewable Energy and Net Metering



- **17.0** Use of excess electricity generated from renewable sources in another premise
- Clause 5 of Sec 17.0 is reproduced below
- *The eligible consumer has to bear the applicable wheeling charges and distribution losses . As approved by the commission from time to time for the quantum of excess renewable energy wheeled from one of his premises to another premise.*
- **The above clause is contradictory to the below provisions of Kerala state solar Policy 2013 clause No. 12c reproduced below**
- **C. *Wheeling charges and T&D losses***
- *Wheeling charges and T&D losses will not be applicable for the Captive Solar Generators within the state.*

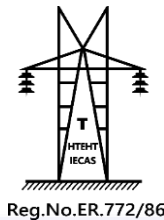
Suggestions / Objections on Renewable Energy and Net Metering



- **19.0 Procedure for grant of connectivity to the renewable energy system**
- Clause 5 from Sec 19 is reproduced below
- *(5) The eligible consumer shall obtain from the Electrical Inspector having jurisdiction over the area, necessary sanction for commissioning the renewable energy system, in accordance with the provisions of the Central Electricity Authority (Technical Standards for Connectivity of Distributed Generation Resources) Regulations, 2013 and produce the sanction to the distribution licensee.*
- **Our suggestion is that respect to the above clause, Electrical installations up to 150KW (all LT consumers) can be inspected and approved by KSEB, hence it may be clarified that approval from Electrical Inspectorate is required for Installation of capacity greater than 150KW.**

- **20.0 Banking facility for prosumers under these Regulations.**
- Clause (1) from above section is reproduced below
- *“(1) In case the electricity injected by the prosumer from his renewable energy system exceeds the energy consumed by him from the distribution licensee during the billing period, such excess energy is allowed to be banked with the distribution licensee and to be carried forward to the subsequent billing periods of the settlement period, as excess energy,*
- *Provided that, only 95% of the energy so banked shall be allowed to be adjusted during the subsequent billing periods of the settlement period and 5% of the banked energy shall be accounted towards grid support charges of the distribution licensee.”*
- The above proposal has an effect of demotivating renewable energy production in the state instead of promoting the same.

Suggestions / Objections on Renewable Energy and Net Metering



- **20.0 Banking facility for prosumers under these Regulations.**
- Clause (2) from above section is reproduced below
- *“(2) The distribution licensee is permitted to account the electricity generated from the renewable energy system installed by the prosumer towards its RPO”*
- The above regulation is extremely unfair since, the prosumer is investing in RE generator to meet his RPO requirement. But, by this regulation, unfortunately, the Licensee becomes beneficiary of the RPO and investment of prosumer.
- Further, it is contradictory to the first and second proviso of Draft regulation 5 and first and second provisos of 6 (1). The relevant provisos are reproduced below.
- Draft Regulation 21 (7) and 26 (7)
- The mistake pointed out above is repeated in the above regulations. For reasons sited above, both the draft regulations may please be deleted.

- **20.0 Banking facility for prosumers under these Regulations.**
- We suggest that the prosumer should have an option to avail REC benefits against renewable energy generated by them,
- If the RE generator is not claiming the REC benefit and Licensee avails REC benefit, at least 50% of the REC benefit availed by the licensee shall be credited to the prosumer.
- Since RPO benefits against excess renewable energy generation over and above his captive requirement, by the prosumer are being availed by the licensee, it is unfair to account another 5 % of the banked energy as grid support charges for the distribution licensee.

- **21. Net metering, Energy Accounting , Banking and Settlement**
- **4.0 Accounting and settlement of electricity generated, drawn and injected by prosumer having connected load above 20 kW**
- Clause ii from above section is reproduced below
- *(ii) Any excess generation over consumption in that time block during the billing period shall thereafter be set-off against other time blocks, subject to the following.*
- *(a) During peak hours, 80% of the energy generated in blocks other than peak hours, shall be allowed to be adjusted against peak hour consumption.*
- *(b) In other time blocks, except during peak hours, 100% of the energy generated in other blocks will be allowed to be adjusted against the consumption.*
- The above proposal is not logical and time block adjustment shall be based on the prevalent TOD Tariff pattern.

- **21. Net metering, Energy Accounting , Banking and Settlement**
- The provisions of Kerala State Electricity Regulatory Commission (Renewable Energy) Regulations, 2015 with regards are reproduced below for reference.

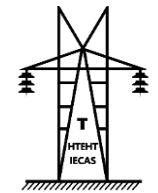
26. Facility to consume the electricity generated by a prosumer using renewable energy generating system with capacity above one megawatt and injected into the grid.- The distribution licensee shall, on application by a prosumer generating electricity using renewable energy generating system of capacity above one megawatt, afford to the prosumer the facility to consume such electricity injected into the grid of the licensee during the settlement period in the manner as specified hereunder,-

(a) accounting of such electricity shall be separate for normal hours, peak hours and off peak hours;

(b) the prosumer shall be allowed to consume electricity from the grid on any day the quantum of which shall be determined applying the quantitative relation as specified in the Table below,-

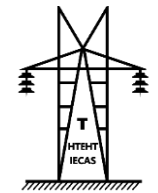
Table

Time zone of injection of renewable energy to grid	Quantum of renewable energy injected (kWh)	Quantum of electricity allowable for consumption (kWh)		
		Normal Hours	Peak Hours	Off-Peak Hours
Normal hours	1.00	1.00	0.66	1.33
Peak Hours	1.00	1.50	1.00	2.00
Off-Peak Hours	1.00	0.75	0.50	1.00



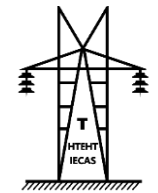
- **21. Net metering, Energy Accounting , Banking and Settlement**
- The current proposal has an effect of demotivating renewable energy production in the state instead of promoting the same. The proposal also seems to be skewed in workings towards solar renewable while not considering the effect of current proposal on renewable energy systems which could provide excess generation during peak hours such as wind power systems.
- Clause 7 from above section 21 is reproduced below
- *“(7) The quantum of electricity generated from the renewable energy system of the prosumer, shall qualify for accounting towards the Renewable Purchase Obligation (RPO) of the distribution licensee, as specified elsewhere in these Regulation. ”*
- The above clause is in principle against the promotion of renewable energy which generally is a policy followed across the country.

Suggestions / Objections on Renewable Energy and Net Metering



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- **26. General Conditions and charges applicable, for the use of the transmission and distribution system by a prosumer, having a Renewable Energy Plant with capacity more than 1 MW at his premises for his own use,-**
- *Clause 1 form above section is reproduced below*
- *“(1) 5% of the energy generated and injected in to the grid of the transmission and/or the distribution licensee shall be accounted towards ‘grid support charges’.”*
- We submit that grid support charges should not be paid to the licensee , if licensee is availing REC benefits on the power generated by the prosumer or else 50% of REC benefits availed by licensee shall be shared with the prosumer.
- Clause 26 (3) (1) is reproduced below
- (3) The prosumer is permitted to account the renewable energy injected in a time block (normal hours, peak hours and off-peak hours) during the billing period, against the consumption in a different time block during the same billing period, subject to the following conditions.
- (i) During peak hours, 80% of the net energy injected in blocks other than peak hours, be allowed to adjust against peak hour consumption.

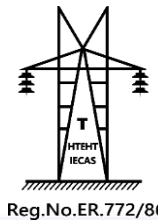


- **26. General Conditions and charges applicable, for the use of the transmission and distribution system by a prosumer, having a Renewable Energy Plant with capacity more than 1 MW at his premises for his own use.**

We propose the following change

- **100% of the net energy injected in be allowed to adjust against same time block, for such quantum of renewable energy, the prosumer is exempted from the payment of transmission charges, wheeling charges and, losses in transmission system and distribution system approved by the Commission.**
- *The Board is enjoying the REC for these energy and hence shall not demand further charges from a prosumer.*
- *Clauses 26 and 27 describe the management of banked power. We request a simpler and straight forward method of calculations The tariff based on Time-of-Day is widely followed in India and we suggest the same methodology.*

Suggestions / Objections on Renewable Energy and Net Metering



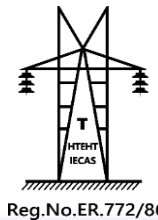
Summary:

- The proposals in the draft regulation are totally against the Kerala Solar Policy, 2013. All benefits to an investor are withdrawn. In short, the investor is deprived off the benefits of his investments and Licensee gain more benefits. This is against the investor friendly policies of The Govt. and we request the Hon Commission to take an industry friendly approach. It is also the responsibility of regulators, to protect the investors who invested based on a policy and after few years, the policy does not take a "U" turn. This will damage the confidence of investors. In many cases, the project itself may become unviable and lead to a closure.
- The grid support charges is totally against an investor and has to be withdrawn.
- The proposed calculation of management of banked energy may not be accepted. The R E Regulation, 2015 clearly spells out the usage of banked energy. This is simple and do not have any ambiguity.
- The REC benefit enjoyed by the Licensee shall be shared with the Prosumer.

Comments of the Association to suggestions presented by M/s KSEBL.

- The Board has requested to waive Grid support charges and banking charges for the projects under 'SURYA' scheme. Our request is natural justice, and equality of rights for all investors. Banking charges / grid support charges shall be waived for all RE generators.
- The generator shall replace faulty meter with in 2 months – Since the Board will have a good stock of such meters, the generator may be exempted from the sole responsibility of replacing the meter.
- Infirm power – the tariff for the energy injected during commissioning is prevailing deviation settlement rates. The justification is that the this is a facility extended by the Licensee. But, with out connecting to the grid, these inverters can not be tested and commissioned. Hence this is not a facility but a requirement of the situation.

Suggestions / Objections on Renewable Energy and Net Metering



M/s KSEBL has requested for **Modifications in 20 (1)**, :

- *To begin with 5% of the energy **generated** may be considered as the grid support charges (instead of 5% of banked energy) and may be gradually enhanced to completely offset the cost incurred for integration of renewable energy.*

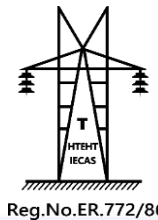
We do not understand the logic of changing the grid support charges for the energy not flowing to grid. Hence this may be rejected.

- M/s KSEBL has requested for modification in Regulation 23, to include

The grid interactive renewable energy system shall be capable of supplying dynamically varying reactive power support as per the grid requirement to maintain power factor within the range of 0.95 lagging and 0.95 leading

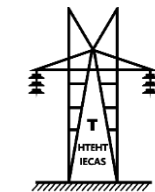
Majority of the inverters are capable of supplying reactive power to grid. But the generator has to be suitably compensated. Guidelines may be issued in this regards after detailed studies and hearing the stake holders.

Suggestions / Objections on Renewable Energy and Net Metering



- KSEBL has requested for change in duration of 'Peak hours' and 'Off Peak hours'
- 2(aq) 'Off-peak Hours/Period' means the period from **23.00 hours** to 06.00 hours on the next day.
- 2(at) 'Peak Hours' mean the period from 18:00 hours to **23:00 hours** on the same day.
- We strongly object this for mainly two reasons viz:
 1. Renewable energy regulation is not the regulation to address this point. This matter has to be discussed in detail during finalising Tariff regulations.
 2. If this is accepted, this will end up in 3.125% tariff hike for a 110kV consumer
 3. Can't we relook at ToD tariff considering the its purpose of curtailing consumption in peak hours?
 - India is energy surplus
 - Open access tariff show marginal difference in tariff

Suggestions / Objections on Renewable Energy and Net Metering



Reg.No.ER.772/86

Open Access Energy charges - Monthly average – Available to 110kV consumer in day ahead market

2017-18

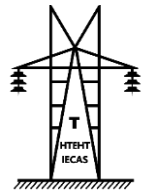
Avg. Rate	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Normal	2.43	2.3	2.14	2.24	2.4	1.02	0.89	0.32	1.18	1.17	1.46	0.17
Peak	3.68	3.39	3.11	3.49	3.67	2.91	2.46	3.81	3.4	3.74	3.11	4.27
Off peak	0.91	0.04	0.24	0.54	0.24	0.09	0.05	0.16	0.47	0	0	0

2018-19

Avg. Rate	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Normal	0	0.48	2	1.56	1.01	0.8	0	0.15	0.46	0.26	1.62	1.13
Peak	3.35	2.84	3.61	3.63	3.41	1.9	1.62	3.52	3.71	3.27	2.74	2.86
Off peak	0	0	0	0	0	0.06	0	0.11	0.35	1.16	0.62	0

2019-20

Avg. Rate	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Normal	1.23	1.63	2.09	2.46	2.41	2.11	1.74					
Peak	2.62	3.69	3.46	3.73	3.62	3.25	3.2					
Off peak	0	0	0.05	0.11	0.13	0.12	0.25					



Thank you.