

**UTTARAKHAND ELECTRICITY REGULATORY COMMISSION**  
**'Vidyut Niyamak Bhawan', Near I.S.B.T., P.O.-Majra, Dehradun-248171**

**Coram**

**Shri Subhash Kumar    Chairman**

**Statement of Reasons for Draft UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) (Sixth Amendment) Regulations, 2017.**

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**Statement of Reasons for Draft UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) (Third Amendment) Regulations, 2017**

**Statement of Reasons**

The Commission had issued UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2013 (hereinafter referred to as "Principal Regulations-1" or "RE Regulations, 2013") vide notification dated April 15<sup>th</sup>, 2013 which replaced the RE Regulations, 2010 which was issued by the Commission (hereinafter referred to as "Principal Regulations-2" or "RE Regulations, 2010") vide notification dated July 6<sup>th</sup>, 2010. The Commission vide its amendment dated 26.10.2013 to RE Regulations, 2013 reinstated the operating norms of RE Regulations, 2010.

1. To provide clarity on applicability of the Regulations, to introduce third party model under Grid connected Roof Top Solar PV plants and also for revision in % of RPO by obligated entities, the Commission made four amendments to the Principal Regulations (vide notifications dated October 15<sup>th</sup>, 2013, June 20<sup>th</sup>, 2014, July 21<sup>st</sup>, 2015 and September 9<sup>th</sup>, 2015). The Commission had vide notification dated 29.04.2016 issued Fifth amendment to these Regulations wherein, MSW & RDF based RE generating plants were also included under the Regulations. Moreover, revision in definition of inter-connection point and provision for tariff of canal based solar PV plants had also been made through Fifth amendment to the Regulations.
2. The Commission had also issued two amendments of RE Regulations, 2010 vide notifications dated 14.08.2012 and 20.06.2014.

**Relaxation in bidding process for implementation of Solar PV projects at Government owned premises**

3. The Commission had received a representation dated 08.02.2017 from Uttarakhand Renewable Energy Development Agency (UREDA), State Agency requesting permission for implementation of Solar PV Plants by it at premises owned by the Government organisations/agencies. In support of its proposal UREDA submitted as under:
- (i) The suitable potential land for deployment of Solar Power Projects in the State is limited and if it is available than it is in the form of the agriculture land. However, there are few patches of non-agriculture/un-utilized lands available with some Government owned agencies/Panchayats in the State. These lands could be efficiently utilized for generation of solar energy.
  - (ii) The development of solar power projects on the non-agriculture/un-utilized lands of Government owned agencies/Panchayat would not only facilitate UPCL in meeting their solar RPO, bridge the gap between demand and supply of electricity in the State but also help the state Government owned agencies to generate revenue and become self sustaining to some extent. This would in return reduce the financial burden on State Government.
  - (iii) UREDA is in the process of identification of such non-agriculture/un-utilized lands of Government owned agencies/Panchayats for development of solar power projects and the generated electricity would be sold to UPCL for compliance of their solar RPO.
  - (iv) Government Organizations (like Uttarakhand Sheep and Wool Development Board) and Panchayats (Gram Panchayat) have already approached UREDA and have shown their willingness for establishment of solar power projects on their un-utilized lands. These projects could only be taken, if the Commission relaxes in its UERC RE Regulations, 2013 and subsequently allows UREDA to develop solar power projects on Government land without going into tariff based bidding process.
4. The Commission observed that in general, Solar PV projects are being allocated based on the tariff based bidding process. Such bidding process involves participation of private developers. Since UREDA itself is volunteering for implementation of solar PV plants on the land owned by the Government Organisations and solar power generated from such projects shall be procured by distribution license for the purpose of compliances of RPO in

accordance with the Regulations, hence, in order to expedite the process of implementation of Solar PV project, implementation of the same may be exempted from on the land owned by the State Government organizations such as Uttarakhand Sheep and Wool Development Board and Panchayats (Gram Panchayat).

5. The Commission has accepted the proposal of the State Agency and has decided to amend the sub-Regulation (3) of Regulation 2 of the Principal Regulations as under:

**Existing Regulation:**

*“The generic tariff specified for Solar PV, Solar Thermal power projects under these Regulations shall be the maximum tariff and the distribution licensee shall invite bids from generators/developers for procurement of power from these generators/ developers. The distribution licensee shall enter into a PPA with the generators/developers bidding lower tariff.*

*Provided, implementation of Canal Bank and Canal Top Solar PV Plants by the eligible government organization (as specified by MNRE) may also be done through tariff based bidding process. In such cases PPA for sale of power from these plants, implemented through tariff based bidding process, shall be signed with distribution licensee at a tariff which shall be 10% higher than the tariff quoted by L-1 bidder.*

*Provided, in no case PPA for purchase of power by the distribution licensee shall be executed at a tariff exceeding the ceiling tariff as specified by the Commission in accordance with the regulations.”*

**Draft Amendment:**

*“The generic tariff specified for Solar PV, Solar Thermal power projects under these Regulations shall be the maximum tariff and the distribution licensee shall invite bids from generators/developers for procurement of power from these generators/ developers. The distribution licensee shall enter into a PPA with the generators/developers bidding lower tariff.*

*Provided, implementation of Canal Bank and Canal Top Solar PV Plants by the eligible government organization (as specified by MNRE) may also be done through tariff based bidding process. In such cases PPA for sale of power from these plants, implemented through tariff based bidding process, shall be signed with distribution licensee at a tariff which shall be 10% higher than the tariff quoted by L-1 bidder.*

*Provided implementation of Solar PV projects in the land owned by the State Government organizations such as Uttarakhand Sheep and Wool Development Board and Panchayats (Gram Panchayat) shall be exempted from the bidding process and tariff in respect of such projects shall be*

*in accordance with the capital cost approved by the Commission from time to time or the quoted capital cost by the EPC, whichever is lower.*

*Provided, in no case PPA for purchase of power by the distribution licensee shall be executed at a tariff exceeding the ceiling tariff as specified by the Commission in accordance with the regulations”*

### **Relaxation in demonstration of MCR for declaration of CoD for Solar PV projects**

6. With regard to “Date of commercial operation or Commissioning (CoD)” of Solar PV plants, the Commission had received representations from Solar power developers stating that their plants were ready for commissioning before the end of relevant financial year. However, due to voltage problem in the associated line of the distribution licensee, they could not demonstrate the Maximum Continuous Rating (MCR) of their respective project. Hence, distribution licensee was not remitting the energy bills in accordance with the tariff determined through bidding process. The Commission is of the view that after completion of solar PV plants in all respect generation of power to full capacity is not within the control of the solar power developers since for this purpose adequate solar radiation is essential. If sufficient solar radiation is not available where solar power plant has been installed it cannot generate power equivalent to its installed capacity. Moreover, availability of appropriate evacuation network of the licensee is also necessary for the purpose of determination of date of commissioning of solar PV plants. If there is any shortcoming in the evacuation network such as line voltage beyond the permissible level then it may also obstruct generation of power from such plants to full capacity. Accordingly, the Commission vide its Order dated 12.04.2107 at Para 3.8 had decided as following:

*“3.8 The Commission is of the view that instant case of determination of date of commercial operation of the solar power plants based on the demonstration of MCR shall lead to undue financial loss for such power developers inspite of the fact that they had completed their respective works for installation of the plants & putting them to use within the stipulated timeline of 31.03.2016. Notwithstanding any shortcoming on the part of distribution licensee’s system such as problem of voltage in associated line etc., one of the reason for failure to demonstrate MCR by the solar PV power plants could be inadequate solar radiations during the period when the solar PV power plant is ready for generation of power alongwith appropriate evacuation system of the distribution licensee. Accordingly, for determination of CoD for the purpose of availing tariff discovered through bidding process for the above referred projects, the Commission by exercising the powers available to it in accordance with the Regulation 50 of the RE Regulations, 2013 decides to relax the stipulation of demonstrating maximum continuous rating (MCR) for determination of date of commissioning*

*of solar PV power plants. Date of first injection of power into the licensee's grid after completion of project as certified by the Executive Engineer of the licensee and UREDA, the State nodal agency, shall be reckoned as commissioning of plants. Accordingly, rate of sale of power for all the above referred solar PV plants shall be the tariff mentioned in the LoA issued by the UREDA, State Agency for allotment of solar plant capacity to such solar power developers in accordance with the tariff based bidding process."*

7. In light of the above and so as to avoid dispute with regard to date of commercial operation or commissioning of the Solar PV plant and corresponding tariff, the Commission has decided to amend the definition of date of commercial operation or Commissioning (CoD) of Solar plants in the Sub-Regulation 3(1)(l) of the Principal Regulations as follows:

**Existing Regulation:**

*"Date of commercial operation or Commissioning (CoD)" in relation to a unit means the date declared by the generator on achieving maximum continuous rating through a successful trial run and in relation to the generating station, the date of commercial operation means the date of commercial operation of the last unit or block of generating station and expression 'commissioning' shall be construed accordingly. In case of Small Hydro Plants the date of commissioning shall, however, not be linked to achieving maximum continuous rating, but the generator will have to demonstrate the same within three years of commissioning.*

**Draft Amendment:**

*"Date of commercial operation or Commissioning (CoD)" in relation to a unit means the date declared by the generator on achieving maximum continuous rating through a successful trial run and in relation to the generating station, the date of commercial operation means the date of commercial operation of the last unit or block of generating station and expression 'commissioning' shall be construed accordingly. In case of Small Hydro Plants the date of commissioning shall, however, not be linked to achieving maximum continuous rating, but the generator will have to demonstrate the same within three years of commissioning.*

*Provided further that in case of Solar plants, date of commercial operation or Commissioning (CoD) shall be considered as the date of first injection of power into the licensee's grid after completion of the project in all respect subsequent to compliance of all the following pre-requisites:*

- (a) Installation of energy meter as certified by the concerned Executive Engineer of the distribution licensee.*
- (b) Project completion report as verified by UREDA, the State nodal agency.*

(c) Issuance of Clearance Certificate by the Electrical Inspector.

Further, such generator has to demonstrate MCR of the project within six month from the date of commissioning."

### **Revision in RPO trajectory**

8. Ministry of Power, Government of India had issued an Order no. 23/3/2016-R&R dated 22<sup>nd</sup> July, 2016 notifying the long term growth trajectory of RPO for Non-Solar as well Solar, uniformly for all States/Union Territories.
9. Further, UPCL, State Distribution Licensee had also filed an Application seeking revision of the Renewable Purchase Obligation of FY 2016-17 & FY 2017-18 as per the provisions of the Uttarakhand Electricity Regulatory Commission (Compliance of Renewable Purchase Obligation) Regulations, 2010. The Commission vide its Order dated 05.10.2016 while holding that the Petition was not maintainable directed as follows:

*"The Commission directs its staff to examine the issue and, if required, frame an appropriate draft amendment to RE Regulations, 2013 for inviting comments from all stakeholders in accordance with the provisions of the Electricity Act, 2003 and Regulations made thereunder."*

Accordingly, proceedings in the matter had been initiated to review the revision in Non-Solar & Solar RPO. It was observed that the Ministry of Power, Government of India has vide its Order dated 22.07.2016 proposed revision in RPO as follows:

<b>Long Term Trajectory</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	<b>FY 2018-19</b>
Non-Solar	8.75%	9.50%	10.25%
Solar	2.75%	4.75%	6.75%
Total	11.50%	14.25%	17.00%

The above mentioned Order of the MoP also specifies that the revision in RPO shall be applicable on total consumption of electricity by an obligated entity excluding consumption met from hydro sources of power.

The Commission, on UPCL's request had initiated the proceedings for revision of the RPO in line with above mentioned trajectory specified by the MoP. However, due to lack of clarity in applicability of the MoP's order dated 22.07.2016 the Commission had discussions with the Regulatory Commissions of other States also. It was inferred that none of the Commission had adopted the trajectory of RPO in line with the MoP's above mentioned Order dated 22.07.2016. Accordingly, the Commission had vide its Order dated 28.12.2016 decided not to carry out any revision in RPO trajectory in line with MoP's Order dated 22.07.2016 and, had accordingly, continued with the then existing RPO

targets. The Commission vide its above referred Order dated 28.12.2016 decided as follows:

*“8. Based on the above, prima facie there appears to be ambiguity in application of the MoP’s Order in the matter, accordingly, the Commission has decided to continue with the existing RPO targets for the current financial year, i.e. 8% non-Solar RPO & 1.5% Solar RPO as a percentage of total consumption of electricity by the obligated entity for FY 2016-17. Further, any revision in RPO targets for subsequent financial year shall be carried out by way of finalization of draft amendment to RE Regulations, 2013 in accordance with the prevailing law after taking due cognizance of development and availability of power from renewable energy sources to the State of Uttarakhand. “*

10. In the meantime State Commissions of Himachal Pradesh, Andhra Pradesh and Assam have vide their respective notifications dated 24.03.2017, 31.03.2017 & 14.03.2017 revised the RPO Trajectory in accordance with the MoP’s Order wherein, percentage of RPO to be complied by the obligated entities have been specified as percentage of total electricity consumption by an entity excluding the consumption met through Hydro source of power.
11. The Commission also noted that despite the efforts for procurement of RE based power by way of long-term tie-up with the generating stations within the State as well as short-term/medium-term tie-up with traders or other related RE based sources, Uttarakhand Power Corporation Ltd. (sole of Distribution Licensee in the State) is consistently falling short of RPO compliances primarily on account of inadequate and delayed development of non-solar RE based generating stations as was envisaged at the time of fixing RPO targets. Considering the existing scenario of sluggish development of non-solar RE power resulting in persistent shortfall in compliances by the obligated entities, the Commission has decided to revise RPO targets in accordance with the trajectory specified by Ministry of Power, Govt. of India as mentioned above.
12. The intent of the GoI was to have uniform RPO targets for all State/Union Territories and the same has been specified initially for three years for FY 2016-17 to FY 2018-19. However, the existing RE Regulations, 2013 have Control Period till 31<sup>st</sup> March 2018. Since procurement of power for ensuing years and corresponding procurement of RE power has to be planned well in advance by the Distribution Licensee and other obligated entities therefore, the Commission is of the opinion that it would be pragmatic to specify RPO targets upto FY 2018-19. Further, FY 2016-17 is already over, accordingly, the Commission has decided to consider revision in the RPO for FY 2017-18 & FY 2018-19 only so that all

the obligated entities may be able to plan their power purchase and RPO compliances. Any revision in RPO targets subsequent to FY 2018-19 and onwards shall be considered alongwith the forthcoming RE Regulations for the next Control Period, hence to this account applicability of the Principal Regulations shall be extended up to 31.03.2019. Accordingly, the Commission has decided to amend the Regulation 1(2) & Regulation 9(1) of the Principal Regulations as follows:

**Existing Regulation 1(2):**

*“(2)These regulations shall come into force with effect from the date of notification, and unless reviewed earlier or extended by the Commission, shall remain in force for a period of 5 years from the date of commencement.”*

**Draft Amendment Regulation 1(2):**

*“(2)These regulations shall come into force with effect from the date of notification, and unless reviewed earlier or extended by the Commission, shall remain in force for a period of 5 years from the date of commencement of Principal Regulations.*

*Provided that Regulation 9(1) of the Principal Regulations shall continue to be valid upto 31.03.2019”*

**Existing Regulation 9(1):**

*“In line with the provisions of the Act, National Electricity Policy and the Tariff Policy, to promote development of renewable and non-conventional sources of energy, all existing and future distribution licensees, captive users and open access customers, hereinafter referred to as “Obligated Entity”, in the State shall be obliged to procure minimum percentage of their total electricity requirement for own consumption, as indicated below, from eligible renewable energy sources as defined under Regulation 4. The same shall be called the Renewable Purchase Obligation (RPO) of the Obligated Entities.*

Year	Renewable Purchase Obligation -Non-Solar	Renewable Purchase Obligation – Solar
2013-14	6.00%	0.050%
2014-15	7.00%	0.075%
2015-16	8.00%	0.100%
2016-17	8.00%	1.500%
2017-18	8.00%	2.500%

*Percentage RPO as stipulated above denotes Minimum Quantum of purchase from non-fossil fuel based co-generation and generation of electricity from renewable energy sources’ as a percentage of total energy purchased from all sources/generated by the Obligated Entity during the year for own consumption.*



*Provided that if energy from renewable and non-conventional sources of energy becomes available in the State, over and above the specified RPO, the generator or the distribution company of the State can approach the Commission for permitting procurement of such energy in excess of specified RPO."*

**Draft Amendment Regulation 9(1):**

*In line with the provisions of the Act, National Electricity Policy, the Tariff Policy to promote development of renewable and non-conventional sources of energy, all existing and future distribution licensees, captive users and open access customers, hereinafter referred to as "Obligated Entity", in the State shall be obliged to procure minimum percentage of their total electricity requirement for own consumption, as indicated below, from eligible renewable energy sources as defined under Regulation 4. **Error! Reference source not found.** The same shall be called the renewable Purchase Obligation (RPO) of the Obligated Entities.*

Year	Renewable Purchase Obligation -Non-Solar	Renewable Purchase Obligation – Solar
	Revised	Revised
2013-14	6.00%	0.050%
2014-15	7.00%	0.075%
2015-16	8.00%	0.100%
2016-17	8.00%	1.50%
2017-18	9.50%	4.75%
2018-19	10.25%	6.75%

*Percentage RPO as stipulated above denotes Minimum Quantum of purchase from non-fossil fuel based co-generation and generation of electricity from renewable energy sources' as a percentage of total energy purchased from all sources/generated by the Obligated Entity during the year for own consumption.*

*Provided, Non-Solar & Solar RPO for FY 2017-18 and FY 2018-19 shall be applicable on total consumption of electricity by an obligated entity excluding consumption met from hydro sources of power.*

*Provided that if energy from renewable and non-conventional sources of energy becomes available in the State, over and above the specified RPO, the generator or the distribution company of the State can approach the Commission for permitting procurement of such energy in excess of specified RPO."*

**Revision in O&M expenses of SHPs**

13. The Commission had also received representations stating that normative capital cost of SHPs and corresponding normative O&M expenditure specified in the RE Regulations, 2013 are lower as compared to actual capital cost and O&M expenditures incurred on

SHPs in the State. They requested the Commission for reviewing of RE Regulations, 2013. M/s HUPL made a detailed presentation before the Commission in the matter of normative capital cost and O&M expenses allowed in respect of SHPs under the RE Regulations, 2013. M/s HUPL submitted that earlier, O&M expenses norms specified for SHPs in the RE Regulations, 2008 were based on the percentage of normative capital cost which were to the tune of 5% to 4% of Capital Cost. However, vide subsequent Regulations normative O&M expenses have been reduced to the range of 3.37% to 2.66% of the capital cost of SHP.

Considering the above referred representation, the Commission observes the trend of O&M expenses specified vide RE Regulations as follows:

**Details of O & M Expenses as a percentage of Capital Cost in accordance with the Regulations:**

Regulations – »	RE Regulations, 2008				RE Regulations, 2010									RE Regulations, 2013		
	Before 01.04.2007		On or after 01.04.2007		1.1.2002 to 31.3.2007			FY 2007-08 to 2008-09			On or after 01.04.2009			On or after 01.04.2013		
	Cap. Cost	O&M	Cap. Cost	O&M	Cap. Cost	O&M	Cap. Cost	O&M	Cap. Cost	O&M	Cap. Cost	O&M	Cap. Cost	O&M		
Norms	Rs. Lakh /MW	% of Cap. Cost	Rs. Lakh /MW	% of Cap. Cost	Rs. Lakh /MW	Rs. Lakh/ MW	% of Cap. Cost	Rs. Lakh /MW	Rs. Lakh/ MW	% of Cap. Cost	Rs. Lakh /MW	Rs. Lakh/ MW	% of Cap. Cost	Rs. Lakh /MW	Rs. Lakh/ MW	% of Cap. Cost
Upto 5MW	550.00	5.00%	600	5.00%	550.00	15.9	2.89%	600.00	18.79	3.13%	700.00	21	3.00%	785.00	26.43	3.37%
5 to 10 MW	550.00	4.75%	600	4.75%	550.00	14.77	2.69%	600.00	17.45	2.91%	685.00	20	2.92%	750.00	22.73	3.03%
10 to 15 MW	550.00	4.50%	600	4.50%	550.00	13.63	2.48%	600.00	16.1	2.68%	670.00	18	2.69%	750.00	22.73	3.03%
15 to 20 MW	550.00	4.25%	600	4.25%	550.00	12.49	2.27%	600.00	14.76	2.46%	650.00	17	2.62%	715.00	19.03	2.66%
20 to 25 MW	550.00	4.00%	600	4.00%	550.00	11.36	2.07%	600.00	13.42	2.24%	630.00	15	2.38%	715.00	19.03	2.66%

*Note: The percentage of the O&M expenses shown in the regulation of 2010 onwards is computed based on the normative capital cost as adopted in the regulations.*

The Commission observed that with the passage of time normative capital cost specified in the Regulations have increased from Rs. 550 Lakh/MW in the year 2007 to Rs. 785 Lakh/MW in the year 2013 (around 43% increase), however, normative O&M expenses have been reduced from Rs. 24 - 30 Lakh/MW in the year 2007 to Rs. 19 - 26.43 Lakh/MW in the year 2013 (decrease of around 21%). Considering inflation of market indices increase in O&M expenses should also be allowed following the trend of increase in capital cost of SHPs. Infact, for new LHP's having capacities less than 200 MW, MYT Regulations, 2015 specifies that O&M expenses shall be fixed at 4% of the actual capital cost. Moreover, LHP's are subject to truing up also and if there is some savings in the O&M costs the benefit is passed on to the consumers & vice versa. Whereas, no truing up is envisaged for SHP's and the RE Regulations provide them only two options on tariffs, i.e. levellised generic tariff or levellised project specific tariff. In this regard, Section 61(c), (e) of the Electricity Act, 2003 stipulates as under:

“(c) the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;

...

(e) the principles rewarding efficiency in performance;”

Thus, O&M expenses being normative, the generators should strive to keep it as low as possible and bring in efficiency.

14. In light of the submissions made by M/s HUPL, and as discussed above the Commission observed that the above mentioned O&M expenses have been specified in the Regulations following the normative O&M expenses considered by CERC in its Regulations. The Commission noted that the above provision of normative O&M expenses for large hydro power projects had also been specified following the CERC (Terms and Conditions of Tariff) Regulations, 2014. By allowing O&M expenses to the tune of 2.66% to 3.37% in respect of small hydro projects in the State appears to be on lower side as compared to 4% normative O&M expenses as a percentage of actual capital specified for large hydro projects in accordance with the MYT Regulations, 2015. In a way, lower normative O&M cost to SHP may lead to shortfall in recovery of actual O&M expenditure considering the fact that large hydro plants with apparent economies of scale are allowed higher normative O&M expenses. This depicts inequity between the LHPs and SHPs in so far the allowed operating cost is concerned.

The Commission has decided to amend the Regulation 28 of the Principal Regulations as under:

**Existing Regulation:**

**“Small Hydro Generating Plant**

*The technology specific parameters for determination of generic tariffs for Small Hydro Generating Stations shall be as below:*

**Projects Commissioned on or after 01.04.2013**

Project Size	Capital Cost	O&M Expenses for year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	785	26.43	40%	1%
> 5 MW & upto 15 MW	750	22.73		
> 15 MW & upto 25 MW	715	19.03		

NOTE:

*For the purpose of this Regulation, normative CUF is based on Energy Sent Out at interconnection point and for tariff purposes energy net of free power to the home State, if any, committed by the developer shall be factored. For generic tariff determination, home State share has been taken as 18% from 16th year onwards."*

**Draft Amendment:**

***"Small Hydro Generating Plant***

*The technology specific parameters for determination of generic tariffs for Small Hydro Generating Stations shall be as below:*

***Projects Commissioned on or after 01.04.2013***

<b><i>Project Size</i></b>	<b><i>Capital Cost</i></b>	<b><i>O&amp;M Expenses for the year of commissioning</i></b>	<b><i>Capacity Utilization Factor</i></b>	<b><i>Auxiliary Consumption</i></b>
	<b><i>(Rs. Lakh/MW)</i></b>	<b><i>(Rs. Lakh/MW)</i></b>	<b><i>(%)</i></b>	<b><i>(%)</i></b>
<i>Upto 5 MW</i>	785	35.33	40%	1%
<i>&gt; 5 MW &amp; upto 15 MW</i>	750	30.00		
<i>&gt; 15 MW &amp; upto 25 MW</i>	715	25.03		

NOTE:

*For the purpose of this Regulation, normative CUF is based on Energy Sent Out at interconnection point and for tariff purposes energy net of free power to the home State, if any, committed by the developer shall be factored. For generic tariff determination, home State share has been taken as 18% from 16th year onwards.*

15. In line with the amendment as proposed above and so as to ensure consistency in applicability of normative O&M expenses in respect of all the SHPs, the Commission also decided to amend Regulation 29 of the UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2010.

**Existing Regulation:**

***"29. Small Hydro Generating Plant***

*The technology specific parameters for determination of generic tariffs for Small Hydro Generating Stations shall be as below:*

**Projects Commissioned after 01.01.2002 to 31.03.2007**

Project Size	Capital Cost	O&M Expenses for year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	550	15.90	40%	1%
5 MW to 10 MW		14.77		
10 MW to 15 MW		13.63		
15 MW to 20 MW		12.49		
20 MW to 25 MW		11.36		

**Projects Commissioned during FY 2007-08 to 2008-09**

Project Size	Capital Cost	O&M Expenses for year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	600	18.79	40%	1%
5 MW to 10 MW		17.45		
10 MW to 15 MW		16.10		
15 MW to 20 MW		14.76		
20 MW to 25 MW		13.42		

**Projects Commissioned on or after 01.04.2009**

Project Size	Capital Cost	O&M Expenses for year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	700	21	40%	1%
5 MW to 10 MW		20		
10 MW to 15 MW		18		
15 MW to 20 MW		17		
20 MW to 25 MW		15		

**Draft amendment:**

***"29. Small Hydro Generating Plant***

*The technology specific parameters for determination of generic tariffs for Small Hydro Generating Stations shall be as below:*

**Projects Commissioned after 01.01.2002 to 31.03.2007**

Project Size	Capital Cost	O&M Expenses for the year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	550	24.75	40%	1%
5 MW to 10 MW		23.38		
10 MW to 15 MW		22.00		
15 MW to 20 MW		20.63		
20 MW to 25 MW		19.25		

**Projects Commissioned during FY 2007-08 to 2008-09**

Project Size	Capital Cost	O&M Expenses for the year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	600	27.00	40%	1%
5 MW to 10 MW	600	25.50		
10 MW to 15 MW		24.00		
15 MW to 20 MW		22.50		
20 MW to 25 MW		21.00		

**Projects Commissioned on or after 01.04.2009**

Project Size	Capital Cost	O&M Expenses for the year of commissioning	Capacity Utilization Factor	Auxiliary Consumption
	(Rs. Lakh/MW)	(Rs. Lakh/MW)	(%)	(%)
Upto 5 MW	700	31.50	40%	1%
5 MW to 10 MW	685	29.11		
10 MW to 15 MW	670	26.80		
15 MW to 20 MW	650	24.38		
20 MW to 25 MW	630	22.05		

”

However, the Commission would like to mention that tariffs & Regulations cannot be revised retrospectively. Hence, it is made clear that the proposed O&M expenses as on the date of commissioning would be escalated by the escalation factor specified in the Regulations to arrive at the O&M expenses for FY 2017-18, which will replace the previously specified O&M expenses from FY 2017-18 onwards.

**Revision/clarification for applicability of tariff for injection of energy more than 95% of generation by the Rooftop and Small Solar PV Projects**

16. UPCL had vide its letter dated 16.03.2017 submitted that UREDA had selected 103 project developers for setting up Solar Rooftop plant in the State through reverse bidding process wherein some of the project developers have quoted tariff @ Rs. 1/unit for sale of power to UPCL which is even lower than the lowest base slab in the retail tariff of UPCL. Further, in accordance with Regulation 35(3) of the RE Regulations, 2013, if the net energy exceeds 95% of the actual energy generated, then such excess energy shall be paid at the lowest slab of energy charges prescribed in the retail tariff for the said eligible consumer. UPCL has requested clarification regarding the billing of such projects having tariff quoted as Rs. 1/unit.
17. In this regard, the Commission noted that billing for net energy exceeding 95% of the actual energy generated has been allowed since FY 2015-16 when lowest base energy charges for domestic consumers was around Rs. 2.40/unit against the approved tariff of

Rs. 5.70/unit for Solar Rooftop plant under net metering mechanism. This provision had been brought in the Regulations so as to maintain financial equilibrium of both UPCL as well as project developers under the scheme. With advancement of technology and development of solar market over the passage of time tariff for such projects is showing declining trend as low as Rs. 1/unit as discovered in the last bidding, therefore, provision of billing of net energy exceeding 95% of the actual energy generated from such projects at the lowest base energy charges as per Retail Tariff Schedule for the eligible consumers is being reviewed keeping in view of the UPCL's above referred submission. Accordingly, the Commission has decided to amend the Sub-Regulation 35(3) of the Principal Regulations as follows :

**Existing Regulation:**

*"Injection from roof-top solar PV sources owned by the Eligible consumer(s) or by third party shall be settled on net energy basis at the end of each Billing period.*

*Provided, such net energy shall not be more than 95% of the actual energy generated in the said Billing Period.*

*Provided, where the net energy injected exceeds 95% of the actual energy generated in a Billing Period, such excess net energy (net energy - 95% of actual energy generated) shall be paid at the lowest base slab of energy charges prescribed in the Rate Schedule for the said Eligible Consumer."*

**Draft Amendment:**

*"Injection from roof-top solar PV sources owned by the Eligible consumer(s) or by third party shall be settled on net energy basis at the end of each Billing period.*

*Provided, such net energy shall not be more than 95% of the actual energy generated in the said Billing Period.*

*Provided, where the net energy injected exceeds 95% of the actual energy generated in a Billing Period, such excess net energy (net energy - 95% of actual energy generated) shall be paid at the lowest base slab of energy charges prescribed in the Rate Schedule for the said Eligible Consumer or at the rate discovered through tariff based bidding process whichever is lower."*

By the order of the Commission

(Neeraj Sati)  
Secretary