

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 16 of 2014

In the matter of:

Petition seeking clarification on various issues for implementation of "Uttarakhand Grid Interactive Rooftop and Small SPV Power Plants Scheme".

In the matter of:

Uttarakhand Renewable Energy Development Agency ...Petitioner

AND

In the matter of:

Uttarakhand Power Corporation Ltd. ...Respondent

CORAM

Shri C.S. Sharma Member

Shri K.P. Singh Member

Date of Hearing: August 14, 2014

Date of Order: November 07, 2014

This Order relates to the Petition dated 18.07.2014 filed by Uttarakhand Renewable Energy Development Agency (hereinafter referred to as "Petitioner" or "UREDA" or "State Agency") seeking clarification on certain issues in implementation of "Uttarakhand Grid Interacted Rooftop and Small SPV Power Plants Scheme" under UERC (Tariff and Other Terms for Supply of Electricity from Non-conventional and Renewable Energy Sources) Regulations, 2013 (hereinafter referred to as "RE Regulations, 2013"). UREDA vide the said Petition in addition to the clarification sought on various issues also requested the

Commission to allow third party model and exempt net metering based solar rooftop project from open access regulation (in terms of connected load, connectivity and open access charges) and to extend the prevailing benchmark capital cost and levelised tariff for excess energy fed into the grid for grid interactive small solar projects installed upto 31st March 2015.

1. Background

- 1.1 Vide its Petition, UREDA had submitted that MNRE and GoUK had approved /sanctioned the Uttarakhand Grid Interactive Rooftop and small SPV power plants Scheme. Under this scheme, UREDA was given a target to install cumulative 5 MW grid interactive Rooftop and small SPV power plants in Uttarakhand by the financial year 2015 based on net metering scheme. Under this scheme individuals, residential/commercial/Institutional/Govt. building owners, and Industrial units are eligible to set up Solar Power Plant within the prescribed capacity limit of upto 500 kW at one site. Capital subsidy is admissible from MNRE, Government of India, upto a maximum of 30% of the benchmark cost of the system as declared by MNRE or 30 % of the actual cost arrived through competitive bidding process, whichever is lower.
- 1.2 UREDA further submitted that it had invited applications under this scheme and had registered 16 numbers of projects of cumulative capacity 4567 kW on first come first served basis. UREDA as per the instructions from Ministry of New and Renewable Energy, GoI was also in the process of initiating the bidding process for determination of competitive cost of each registered project to decide the applicable central financial assistance.
- 1.3 UREDA submitted that the installation of Grid Interactive rooftop and small solar PV projects would benefit all the stakeholders in multiple ways. Further, it would help in harnessing solar energy, reducing carbon emissions and reducing investment in distribution infrastructure, therefore, these projects should be encouraged by incentivizing people for using these types of generating systems.
- 1.4 UREDA submitted that there were few issues which required immediate attention of the Commission and more clarity was required on such parameters for successful execution

of the “Uttarakhand Grid Interacted Rooftop and Small SPV Power Plants Scheme”. The issues raised by UREDA in its Petition are given hereunder:

1.4.1 Third Party Model

- 1.4.1.1 UREDA submitted that it had registered some of the applicants under the third party model wherein the third party implementing the solar facility enters into a lease agreement with the premise owner/consumer for medium to long term basis. UREDA also submitted that the facility would be entirely owned by the 3rd party and the premise owner/consumer was not required to make any investment in the generating system. As per the scheme, the excess power after meeting the captive load of premise owner/consumer would be injected into the grid and the PPA shall be signed with UPCL for billing and other purpose for the energy injected. UREDA has submitted that the third party owned system may result in an open access transaction with implication of open access charges. UREDA, while referring to UERC (Terms and Conditions of Intra-State Open Access) Regulations, 2010 submitted that open access was permissible to the consumers having a contracted load of 100 kVA & above and connected to the distribution system of licensee at 11 kV. UREDA further submitted that the system where captive loads are less than 100 kV and/or connected at less than 11 kV would not be eligible for open access.
- 1.4.1.2 UREDA submitted that RE Regulations, 2013 is silent on the applicability of third party model and requested the Commission to clarify whether the open access transaction with implication of wheeling charges and cross subsidy surcharge would be applicable in this case.
- 1.4.1.3 UREDA further submitted that MNRE under its “Off-grid and decentralized solar application scheme” in the 2nd phase of JNNSM envisaged the implementation of the scheme under 3rd party model. The Petitioner also referred to FOR’s “Draft Model Regulation for Rooftop Solar Grid Interactive systems based on Net metering” wherein, exemption from banking, wheeling and cross subsidy has been proposed to be allowed to such scheme.
- 1.4.1.4 UREDA also referred to the Punjab Electricity Development Agency (PEDA)

guidelines on “Net Metering For Grid Interactive Roof-Top Solar Photovoltaic Power Plants in the State Of Punjab” which allowed exemption from open access regulation to the third party scheme.

- 1.4.1.5 Accordingly, UREDA requested the Commission to allow third party model and exempt roof top solar system installations set up under net metering model from open access regulations in terms of capacity, connectivity and open access charges.

1.4.2 Tariff Issues

- 1.4.2.1 UREDA submitted that RE Regulations, 2013 has specified levelled tariff for the Grid Interactive rooftop and small solar PV plants commissioned on or after 01.04.2013 as Rs 9.20/kWh considering the capital cost of Rs. 1025 Lakh per MW. UREDA further submitted that the Commission did not revise the benchmark cost after the notification of the RE Regulation, 2013. UREDA informed that it had initiated Bid Process Management, as per the guidelines of MNRE and already registered the applicants and that it was in the process of release of Request for Selection (RFS) for selection of EPC contract based on competitive bidding for determination of actual project cost, as per the guidelines of MNRE.
- 1.4.2.2 UREDA requested the Commission to extend the applicability of prevailing benchmark cost & tariff for roof top and small solar PV projects commissioned by 31st March 2015 as the revision of the Benchmark cost/Tariff in the middle of bid process would lead to uncertainty in the applicable tariff which in turn would lead to difficulty in financial closure of the projects.

1.4.3 Interconnection Point, Evacuation Infrastructure, Energy and Accounting

- 1.4.3.1 The Petitioner also raised issue of interconnection point, evacuation infrastructure, energy accounting and settlement period in respect of energy & payment. UREDA submitted that it was not clear from the regulations that who was responsible for erection of the evacuation infrastructure and who would operate & maintain the evacuation line. UREDA also requested the Commission for clarification on the issue that whether owner of the solar system would be having first right to construct the evacuation infrastructure.

1.4.3.2 UREDA also referred to regulation 44 of RE Regulations, 2013 and requested clarification regarding responsibility of raising the bill in case net energy is fed into the grid, energy settlement period, financial settlement period and realisation of payment. UREDA further proposed that interconnection point should be at the generating side and UPCL should provide interconnection point at the premises of the consumer and net metering should be done at the interconnection point. UREDA also proposed that solar roof top owner should be given first right to create evacuation infrastructure and normative levelised tariff of Rs 0.12/unit may be allowed over & above gross tariff of Rs 9.20/unit. UREDA also requested the Commission to provide detailed process of energy accounting and payment settlement.

1.5 The Commission forwarded a copy of the Petition to UPCL for submission of its reply /comments latest by 11.08.2014. UPCL vide its reply dated August 13, 2014 submitted the following:

- a. Under the proposed third party model, electricity would be directly delivered to the owner of the premise without using the network of the distribution licensee, hence, open access regulation shall not be applicable in this case. However, UPCL submitted that under the said scheme premises owner shall be receiving the supply from the third party for its own consumption, therefore, third party would be liable to become distribution licensee for the premises owner. UPCL requested the Commission to consider this aspect of the scheme. Additionally, UPCL also requested the Commission to allow it to be insulated from third party and UPCL's consumer may make internal arrangements, if any, for getting power from third party upto their satisfaction.
- b. With regard to applicability of prevailing benchmark cost & tariff for the solar roof top and small solar PV projects commissioned by 31.03.2015, UPCL submitted that the interested prospective solar generators are expected to be aware of the prevailing regulation and may plan their finances in accordance with the current rules/regulations therefore, it would not be correct to freeze the review of the capital cost till March 2015. UPCL also submitted that the Commission may issue

necessary directions in this matter so as to avoid the uncertainty in the financial closure for the prospective bidders.

- c. UPCL also submitted that in accordance with the RE Regulations, 2013, a solar generator has an option to construct the evacuation system upto the point of connectivity. However, UPCL also submitted that the additional charges of 12 paise per unit over the generic tariff may not be allowed to all such prospective solar generator as this scheme would be used by the embedded consumers and additional charges (on account of dedicated transmission line/evacuation system), if any, may be calculated on the actual basis.

1.6 The Commission also held a hearing on admissibility of the Petition filed by UREDA on August 14, 2014 wherein both UREDA and UPCL were heard. During the hearing, UREDA raised the issue of point of interconnection and submitted that UPCL in its system study report had proposed the 11 kV or 33 kV sub-station as an interconnection point for some of the above mentioned solar rooftop projects which, in some cases, are around 2-5 km from the said projects. UPCL expressed its concern about practical problem which might crop-up while providing interconnection facility to all such upcoming projects. The Commission vide its Order dated August 14, 2014 directed both UREDA and UPCL to meet and come up with an agreed position on interconnection point and submit the same jointly by August 25, 2014. UPCL was also directed to make further submissions, if any, to the issues raised by UREDA on or before August 25, 2014.

1.7 In response to the Commission's directions, UPCL vide its letter dated 25.08.2014 submitted that a meeting was held with the officers of UREDA and the issue of point of interconnection was discussed. UPCL submitted that a common view in this regard was arrived at and it was agreed that the interconnection point for Solar Roof Top model shall be considered as a line isolator on outgoing feeder on HV side of generator transformer, in accordance with the RE regulation, 2013. UREDA vide its letter dated 06.09.2014 also consented upon the definition of interconnection point as submitted by UPCL.

1.8 UPCL in its reply dated 25.08.2014 also submitted that:

- (i) Further strengthening of system such as conversion of single phase system to three

phase system, enhancement of DTRs etc. shall be required in case of consumer intending to supply power and having contracted load much less than the proposed installed capacity.

- (ii) The obligation for providing the necessary evacuation for such plants may clearly be defined. If UPCL is directed to undertake such work then the corresponding cost may be allowed in ARR. If the generator is allowed to undertake the construction of evacuation network then the additional charges over the tariff may be reimbursed only on the basis of actual cost incurred on such work.
- (iii) UPCL also proposed that the billing for Solar Roof Top consumers may be done as per the existing billing cycle of the corresponding consumer while the netting off of the energy may be allowed once in six months. The bill shall be raised by the UPCL in both the cases (when the net off energy is exported into the grid and when net off energy is imported from the grid).
- (iv) UPCL also requested for having discussion with UREDA in presence of officers of the Commission regarding technical issues such as metering arrangement, working of DTR in step up mode, protection/safety scheme etc.

2. Commission's views and decision

The issues raised in the Petition and UPCL's replies on the same have been discussed and decided as follows:

2.1 Third Party Model

2.1.1 The Petitioner had requested the Commission to allow third party model and to exempt net metering based solar rooftop project from open access regulation in terms of connected load, connectivity and open access charges.

2.1.2 The Commission observes that MNRE has issued operational guidelines dated 26.06.2014 for grid connected Rooftop and small solar PV plant wherein, Clause 7(b) of the same refers to the possible business models under third party model and is reproduced below:

“(b) Solar installations owned, operated and maintained by 3rd Party

If the 3rd party implements the solar facility and provides services to the consumers, the surplus electricity may be injected to the electricity grid. The combinations could be:

i) Arrangement as a captive generating plant for the roof owners

The 3rd party implements the facility at the roof or within the premise of the consumers; the consumer may or may not invest as equity in the facility as mutually agreed between them. The 3rd party may also make arrangement of undertaking operation and of maintenance of the facility. The power is then sold to the roof owner.

ii) Solar Lease Model, Sale to Grid

The 3rd party implementing the solar facility shall enter into a lease agreement with the consumer for medium to long term basis on rent. The facility is entirely owned by the 3rd party and consumer is not required to make any investment in facility. The power generated is fed into the grid and the roof top owner gets a rent."

2.1.3 The existing RE Regulations, 2013 do not cover the third party model and as such the third party model is outside the ambit of the RE Regulations, 2013. The RE Regulations, 2013 specifies tariffs and other conditions for a consumer of a distribution licensee in the State, i.e. UPCL who installs a solar roof top plant.

2.1.4 Section 10(2) of the Electricity Act, 2003 stipulates as under:

"A generating company may supply electricity to any licensee in accordance with this Act and the rules and regulations made thereunder and may, subject to the regulations made under sub-section (2) of section 42, supply electricity to any consumer."

A plain reading of the above referred provision of the Act, makes it amply clear that a generator is free to sell power to any licensee or supply electricity to any consumer through open access. However, if electricity is sold to UPCL, then the Commission, in exercise of its functions laid down under Section 62(1)(a) read with Section 86(1)(b) of the Electricity Act, 2003, need to regulate electricity purchase and procurement process of distribution licensees including the price at which electricity is procured from the generating company. Further, if the generator sells power to a consumer, then either the generator or the consumer is required to take open access from the distribution licensee in accordance with the above provisions of the Act including payment of open access charges to the concerned licensee in accordance with

the provisions of the UERC (Terms and Conditions of Intra-State Open Access) Regulations, 2010 as amended from time to time.

Accordingly, in case of implementation of solar roof top project under the aforesaid scheme by the person/party, other than the owner of the premises/consumer, such person/party shall not be eligible for availing preferential tariffs in accordance with the RE Regulations, 2013. However, the tariffs at which electricity would be procured by UPCL would be regulated by the Commission and will have to be got determined by the Commission.

2.1.5 UPCL in its comments has submitted that as the owner of the premise would get supply from third party for its own consumption, therefore, third party would be liable to become distribution licensee for the owner of the premise (consumer). The third party model proposed by UREDA has provision of sale of power by solar PV project developer both to the owner of the premise and also to the distribution licensee. As already discussed, Section 10(2) of the Electricity Act, 2003 allows a generator to sell power to any licensee or to any person for which it does not require a licence for sale of power, hence, UPCL's contention that third party would be liable to become a distribution licensee has no merit.

2.2 Tariff

2.2.1 UREDA in its Petition had requested the Commission to extend the prevailing benchmark capital cost and levelised tariff for excess energy fed into the grid for grid interactive small solar projects installed upto 31st March 2015. UREDA also submitted that revision of the benchmark cost/tariff in the middle of bid process would lead to uncertainty in the applicable tariff which would lead to difficulty in financial closure of the projects. UPCL, on the contrary, submitted that the interested prospective solar generators are expected to be well aware of the prevailing regulation and may plan their finances in accordance with the current rules/regulations, therefore, it would not be correct to freeze the review of the capital cost till March 2015. However, UPCL also submitted that the Commission may issue necessary directions in this matter so as to avoid the uncertainty in the financial closure for the prospective bidders.

2.2.2 Regulation 11(1) of the RE Regulations, 2013 stipulates that:

“11. Control Period or Review Period

(1) The Control Period or Review Period under these Regulations shall be of five years, of which the first year shall be the financial year 2013-14.

Provided that the benchmark capital cost for Solar PV, Solar thermal and grid interactive roof top and small solar PV projects may be reviewed annually by the Commission.

....”

(Emphasis added)

2.2.3 However, in view of submissions made by UREDA and UPCL in this regard, with a view to remove any uncertainty and also with an intent to promote the installations of grid interactive solar rooftop projects in the State which as of now is in initial stage, the Commission decides not to review or amend the benchmark capital cost for grid interactive roof top and small solar PV projects specified in the RE Regulations, 2013 till March 31, 2015 and consequently the tariffs for the same. Accordingly, if any consumer installs a grid interactive roof top and small solar PV plants by the end of March 31, 2015, and injects surplus power into the distribution system of UPCL he shall be eligible for tariffs as specified in RE Regulations, 2013 for such surplus injection into the grid.

2.2.4 However, in case of a third party model, as already discussed in the preceding Paras, such scenario has not been covered in the RE Regulations, 2013 and, accordingly, their tariffs will have to be determined by the Commission.

2.2.5 Furthermore, selection of projects under the model proposed by UREDA is based on competitive bidding of the capital cost/tariff. It is understood that the capital cost likely to be proposed by the project developers shall be lower than the normative capital cost specified in the RE Regulations, 2013. Further, the tariff being a function of capital cost is liable to undergo change with respect to that specified in the RE Regulations, 2013. With reduction in capital cost, the tariffs are also bound to reduce. During the course of the proceedings, UREDA had requested the Commission to provide some range of tariff so that the prospective bidders may have an idea regarding the tariff that they

would be eligible for. Accordingly, in line with the principles of costs and other norms specified in the RE Regulations, 2013, the tariff in Rs./kWh works out to around 80% of the capital cost expressed in Rs. Crore/MW (i.e. for instance for a project with a capital cost of Rs. 8 Crore/MW, the tariff shall be Rs. 6.40/kWh). This proposition may be considered by the Petitioner as well as other developers while submitting their bids under the Third Party model. However, the final tariffs for supply of power to the distribution licensee in the third party scenario will be the tariff as approved by the Commission in accordance with the norms and principles specified under the RE Regulations, 2013.

2.3 Interconnection Point, Evacuation Infrastructure, Energy Accounting

2.3.1 UREDA has requested clarification on the issue of responsibility of erection and O&M of the evacuation infrastructure. However, it has proposed that the point of interconnection should be at the generating side and it should be the responsibility of the UPCL to provide the interconnection point at the premises of the consumer and net metering should be done at the point of interconnection. It has also proposed that Solar roof top owner should be given first right to create evacuation infrastructure, if evacuation infrastructure is constructed by the developer from point of interconnection to the nearest sub-station of distribution licensee, than normative levelised tariff of Rs 0.12/unit may be provided on the net energy injected into the grid over the gross tariff of Rs 9.20/unit.

2.3.2 In response, UPCL has accepted the proposal of UREDA for construction of evacuation infrastructure by the developer, however, it submitted that the additional charges of Rs 0.12/unit over the generic tariff may not be allowed to all such prospective solar generator as this scheme would be used by the embedded consumers and additional charges (on account of dedicated transmission line/evacuation system), if any, may be calculated on the actual basis.

2.3.3 In this regard, Regulation 15(1)(b) of the RE Regulations, 2013 stipulates that:

“(b) In case, the generating company opts to construct the evacuation infrastructure from point of inter-connection to the nearest sub-station of transmission or distribution licensee to which the generating station is connected, it shall be allowed a normative levelised tariff of 5 paise/unit

over and above the generic tariff determined at the point of inter-connection. However, in case of a solar generating company a normative levelised tariff of 12 paise/unit over and above the generic tariff determined at the point of inter-connection shall be allowed. The said normative tariff for evacuation infrastructure has been arrived at considering the cost of normative line length of 10 kms. (including cost of terminal equipments) for different capacities of generating stations as per normative cost given below:

..."

- 2.3.4 The above mentioned existing regulation provides option to the project developer that evacuation infrastructure may be constructed by it. However, the same has not been bestowed as a right on the project developer.
- 2.3.5 Primarily the construction of evacuation infrastructure is the responsibility of the licensee, however, in order to avoid undue loss of generation due to commercial constraints on the part of licensees, the project developer has been given an option to construct the dedicated line. Furthermore, since the size of the projects that have been laid down in the Scheme ranges from 3 kW to 500 kW and would mainly be located in the premise of the consumer of UPCL already having adequate lines, hence, there may not be any requirement for construction of separate evacuation infrastructure for off-take of power from such projects. However, the developer has the option to construct the evacuation infrastructure, if required. Further, in accordance with the provisions of the RE Regulations, 2013, the cost of switch gear, metering and protection arrangement at generator end shall have to be borne by the owner of solar generators.
- 2.3.6 As already spelt in the preceding Para, tariffs of any consumer installing the grid interactive roof top and small solar PV plants by March 31, 2015 shall be as specified in RE Regulations, 2013, hence they would be entitled to get a separate generic tariff of Rs. 0.12/kWh for construction of evacuation infrastructure. However, for third party model, since the Commission would determine the project specific tariffs for such plants and, hence, this dispensation would not be required and the tariffs would be based on the actual capital cost of the plant including expenditure incurred on installation of any protection arrangement or construction of dedicated evacuation infrastructure.

2.3.7 Further, Regulation 40 of RE Regulations, 2013 specifies as under:

“

- (1) *The generating station shall be responsible for the maintenance of terminal equipment at the generating end and the dedicated transmission lines owned by such generating stations. However, transmission/distribution licensees, as the case may be, may carry out maintenance of the dedicated transmission line, if so desired by the generating company, on mutually agreed charges.*
- (2) *The distribution licensee or the transmission licensee or the state transmission utility, as the case may be, shall be responsible for maintenance of the terminal equipment(s) at the sub-station of the concerned licensee.”*

Accordingly, in accordance with the provisions of the RE Regulations, 2013 the owner of the terminal equipments and the transmission lines is required to carry out the maintenance of such assets. UPCL had submitted that if it is required to undertake works for construction of evacuation infrastructure, then the corresponding cost may be allowed in ARR. In this regard, UPCL should be aware that all the capital works carried out by it forms part of the capex considered by the Commission and related servicing costs of the same forms part of the ARR approved by the Commission for UPCL in accordance with the Tariff Regulations.

2.3.8 UREDA had also requested the Commission for issuance of detailed procedure on energy accounting & payment settlement. In this regard, UPCL submitted the billing for Solar Roof Top consumers may be done as per the existing billing cycle of the corresponding consumer while the netting-off of the energy may be allowed once in six months.

2.3.9 In this regard, Regulation 35(3) to (5) of the RE Regulations, 2013 specifies the manner in which billing and energy settlement would be carried out and the same is reproduced hereunder:

“(3) Such injection from roof-top solar PV sources of the above mentioned consumer(s) shall be settled on net energy basis at the end of each billing period.

(4) The tariff, as per tariff orders of the Commission, in respect of the supply of electricity to the consumers by the distribution licensee shall be applicable for the net energy supplied by the

licensee in a billing period if the supplied energy by the licensee is more than the injected energy by the roof-top solar PV sources of the consumer(s).

(5) If in a billing period the supplied energy by the licensee is less than the energy injected by the roof-top solar PV sources of the consumer(s), the licensee would be billed at the generic tariff specified in these Regulations for excess energy supplied by the consumer.”

2.3.10 The above referred Regulations clearly provides for the settlement of energy during the billing period. In case the energy supplied by UPCL in a billing period is in excess to the energy injected by the consumer/generator, UPCL will bill the same in accordance with the the relevant tariff, as per the tariff orders of the Commission. However, in case the energy supplied by UPCL in a billing period is less than the energy injected by the consumer/generator, UPCL will have to make payment as it does to other generators for the excess energy supplied at the tariffs approved by the Commission. Hence, it is apparent that the proposal of UPCL is against the provision of the Regulations, and accordingly, the same has not been considered by the Commission.

2.4 The Petition is disposed-off as above.

2.5 Ordered accordingly.

(K.P. Singh)
Member

(C.S. Sharma)
Member