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**To review the progress under UPERC (Rooftop Solar PV Grid Interactive System Gross / Net Metering) Regulations, 2015 (RSPV Regulations, 2015).**

**BEFORE  
THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION  
LUCKNOW**

**Date of Order: 29.06.2016**

**PRESENT:**

1. Hon'ble Sri Desh Deepak Verma, Chairman
2. Hon'ble Sri Indu Bhushan Pandey, Member
3. Hon'ble, Sri S. K. Agarwal, Member

**IN THE MATTER OF:** to review the progress under UPERC (Rooftop Solar PV Grid Interactive System Gross / Net Metering) Regulations, 2015 (RSPV Regulations, 2015).

**IN THE MATTER OF**

1. The Director, UPNEDA, Vibhuti Khand, Gomti Nagar, Lucknow – 226010.
2. The Managing Director, U.P. Power Corporation Ltd., 7<sup>th</sup> Floor, Shakti Bhawan, 14, Ashok Marg, Lucknow
3. The Managing Director, Purvanchal Vidyut Vitran Nigam Ltd., 132KV Substation, Bhikaripur, Vidyut Nagar, Varanasi.
4. The Managing Director, Pachimanchal Vidyut Vitran Nigam Ltd., Victoria Park, Meerut.
5. The Managing Director, Madhyanchal Vidyut Vitran Nigam Ltd., Prag Narain Road, Lucknow.
6. The Managing Director, Dakchinanchal Vidyut Vitran Nigam Ltd., Gailana Road, Agra.
7. The Managing Director, KESCO, Kesa House, Kanpur
8. The CEO, Noida Power Company Limited, H Block, Alpha II, Greater Noida.

**----- Respondent**

The following were present:

1. Sri Sanket Srivastava, Dy. Manager, NPCL
2. Sri A.K. Arora, Resident Manager, NPCL
3. Sri A.H. Salman, EE, UPPCL
4. Sri N.K. Mishra, SE, DVVNL
5. Sri S.K. Mahrotra, EE, KESCO
6. Sri C.P. Yadav, SE, LESA
7. Sri V.K. Sharma, CE, MVVNL
8. Sri S.A. Jain, CE, PVVNL
9. Sri P. Tripathi, SE. (Com), PVVNL



10. Sri Vijay Saluja, SE, UPPCL
11. Sri R.P. Prasad, EE, (Com), UPPCL
12. Sri Ram Kumar, PO, UPNEDA
13. Sri Ashok Srivastava, PO, UPNEDA

## **Order**

(Date of Hearing 16.06.2016)

1. To promote use of green energy UPERC (Rooftop Solar PV Grid Interactive System Gross / Net Metering) Regulations, 2015 (RSPV Regulations, 2015) was issued by the Commission in March, 2015.

The hearing was called by the Commission to review the progress made since then and issues faced by various stakeholders in implementation of RSPV Regulations.

2. It was informed by PuVVNL that so far applications for total capacity of 703 KW have been received by them and same are under process.
3. NPCL informed that in their DISCOM almost 17 MW capacity has been installed.
4. Other DISCOMs also informed that sensitization measures have been initiated in their area to promote rooftop solar systems.
5. UPNEDA , the SDA, informed that they have been actively working with various Government Institutions to install rooftop system under Net metering arrangement and in particular Lucknow area they have been able to get very good response.
6. However, UPNEDA and other stakeholders sought attention of the Commission on following issues to further promote the rooftop solar system in the state:

- i. **The limit of 15% capacity for DT:** It was pointed out that there are consumers having dedicated transformers but due to limit set on transformers for handling solar power under clause 6.2 of RSPV Regulations as given below they are not able to set up solar plant upto their contracted load.

### **“6 Capacity of Transformer**

6.1 .....

6.2 *Provided that the capacity to be allowed in the area fed from the distribution transformer or any other transformer from which power is fed to the eligible consumer shall not exceed 15% or any other percentage as may be fixed by the Commission of the rated capacity of such transformer(s).*

6.3.....  
”



**Commission's view:** It is to clarify that the intent of the above clause is to put restriction due to technical reasons for the safety of system. Considering this point the Commission has put a restriction of 15% of the capacity of the transformer which comes in the system before the consumer's meter. In case of dedicated transformers, power transformer comes before the consumer's meter, hence, 15% of the capacity of power transformer should be taken.

So far as % capacity of transformer earmarked for solar load is concerned, present limit of 15% was kept considering that local generation to cater local demand in respect of transformer. However, after due diligence the Commission decides that the limit to be increased to 25% of the transformer capacity. The change in the RSPV Regulations to this effect shall be brought later on.

- ii. **Voltage level:** There are consumers having lower capacity load connections at higher voltage level or vice versa e.g. below 1MW connection is issued at 33 KV or 80 KW load is connected at 415 V . The RSPV Regulations allows establishing upto 1MW capacity solar rooftop plant with the provision for metering at 11 KV. The voltage levels provided in the RSPV Regulations under clause 8.2 as given below are in sync with the prevailing Distribution Code:

**“ Interconnection with the distribution system**

8.1 .....

8.2 *The connectivity levels at which the rooftop solar PV system shall be connected with the distribution system are as specified below:*

<b>S.No.</b>	<b>Connected Load / Contract Demand of Eligible Consumer</b>	<b>Connectivity Level</b>
<b>1.</b>	<i>Up to 5 kW</i>	<i>Single phase at 230 V</i>
<b>2.</b>	<i>5 kW and above up to 50 kW / 63 kVA</i>	<i>3 Phase, 4 wire at 415 V</i>
<b>3.</b>	<i>Above 50 kW and up to 1 MW</i>	<i>3 Phase at 11 kV</i>

8.3 .....

8.4 .....

”

**Commission's view:** The connectivity levels mentioned in the table are in-line with the Distribution Code, which clearly specify these voltage levels as minimum voltage level at



which load has to be connected with the grid. Therefore, this is amply clear that the connectivity and metering is allowed at any voltage level as prescribed in the table or higher voltage level than prescribed. It is also to make it clear that there shall be only one point of interconnection for each consumer.

However, a higher capacity connection at lower voltage is violation of Distribution Code which cannot be allowed.

- iii. **Reconciliation for excess power fed in the grid:** Under clause 10.4 (iii) of RSPV Regulations as given below, the consumers under Net Metering arrangement get monetary compensation for the surplus energy after the end of settlement period @ Rs. 0.50/unit.

**“ 10 Energy Accounting and Settlement**

**10.4 ...**

(iii) .....Provided also at the end of each settlement period, any electricity credits, which remain unadjusted, shall be paid at a rate of Rs 0.50/kWh by the Distribution Licensee or as notified by the Commission from time to time.

..... ”

However, it is submitted by UPNEDA that the rate of Rs. 0.50/unit is too low and requires to be revisited.

**Commission’s view:** In case of net metering, though the facility of carry forward to next billing cycle has been provided, it is basically to support self-consumption and to decongest the local grid and it is envisaged there shall be hardly any unit left for financial settlement at the end of settlement period. However, considering the demand of UPNEDA and to make rooftop solar system more attractive to consumers, the Commission decides that present rate of Rs. 0.5/unit to be increased to Rs. 2/unit. The change in the RSPV Regulations to this effect shall be brought later on.

7. The Commission directed all the DISCOMs to promote rooftop solar systems, which is environmentally benign way of meeting the demand, so that its benefit could reach the mass, like it has been in the case of LED.
8. The matter is disposed of with directions/views as contained in this order.

(S.K.Agarwal)  
Member

(Indu Bhushan Pandey)  
Member

(Desh Deepak Verma)  
Chairman

Place: Lucknow  
Dated: 29.06.2016