



# REGULATORY INSIGHTS



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## Editorial

The cost of power procurement accounts for around 75-80% of the total cost of delivery of electricity to the consumers. The need to assess resource adequacy of the licensees becomes paramount to address the dynamics of demand-supply mismatch and the need to ensure secure and stable power system operation. CER has highlighted the important role of a separate regulatory process, prior to the ARR and tariff proceedings of a discom, to review and approve medium- to long-term electricity demand forecast, and the associated power purchase for the same. This would also require an appropriate regulatory framework (and hence Regulations for the same) that should be dynamic enough to accommodate growing role of renewable energy sources, as well as the emergence of new load in the form of EVs and green hydrogen production, and rise of grid-interactive prosumers and cost-effective storage solutions. Discoms need to do a great amount of homework to ensure that they archive the required data, and set up a dedicated cell with trained manpower to deliver on this important task.

Standards of Performance (SoP) Regulations across states identify a variety of performance parameters and mandate a certain level of compliance to the targets set therein. The SoP compliance is based on self-reporting by the discoms, leaving room for bias in data reporting. A regulatory framework should ensure that there is greater transparency amidst visibility of data across different stages of performance reporting, complaint handling and payment of compensation to the affected consumers. CER proposed such a framework based on IT intervention, greater data transparency and regular reporting to the Electricity Regulatory Commissions.

The country has set itself an ambitious target of achieving 50% non-fossil fuel based electricity generation capacity by 2030. Apart from Policies at the central level, state governments have also brought about Solar Policies to encourage investment in the respective states. It is noted that the Solar Policy documents often turn out to be a wish list and do not lead to the achievement of the set target. The target setting itself needs to be based on a techno-economic study. The updated Solar Policy often seems to be an extension of the older Policy instruments with additional targets and Policy incentives. Given that the previous set of instruments did not lead to achievement of the Policy, for example, UP Solar Policy, 2017 targeted 4300 MW for solar rooftop by 2022, whereas, only 258.7 MW was achieved till July, 2022. This highlights the need to identify Policy gaps and implementation issues from the experience of existing Policy and its implementation if the state plans to add solar capacity at 48% CAGR (including 40% CAGR for utility scale projects and 73% CAGR for rooftop solar). Detailed analysis of the draft Solar Policy and inputs thereof could guide other states proposing to draft a new Policy document for their respective states.

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## MPERC (Power Purchase and Procurement Process) Regulations, Revision-II, 2022 [Draft]

MPERC on 19<sup>th</sup> July, 2022 notified the draft MPERC (Power Purchase and Procurement Process) Regulations, Revision-II, 2022. The key highlights of the draft are mentioned below:

**Framework for Power Procurement Planning:** The distribution licensee shall submit the power procurement plan for a time period aligned with control period of MYT Regulations (5-year rolling plan) and every year after that, on or before 31<sup>st</sup> July, in the prescribed format.

Licensee shall carry out demand and energy forecasting using IT tools, such as AI through machine learning, deep learning by methods such as partial end use (PEUM) or other models like econometric analysis, etc. Other factors like storage capacities, sale to railways and open access consumers, renewables, etc. shall also be considered while forecasting the demand.

Assessment of availability of energy has to be carried out by the licensee and in categorised manner and shall develop resource plan with various sources with re-integration also to be considered as per the RPO trajectory set by MPERC.

**Variation in Power Purchase:** The distribution licensee may procure additional power during the year over and above the power procurement plan in case of unanticipated increase in demand or shortage in supply or in case of emergency conditions to maintain grid stability.

**Making Information Available to Public:** The monthly/ weekly/ day-ahead/ intra-day power procurements/ sale done by the licensees and generator schedule shall be made available on the websites of the licensees and SLDC within 30 days of such procurements/ sale with ease of access to the current as well as archived data. SLDC shall also publish the monthly MoD stack along with per unit variable cost of each generating station in their website.

**Dedicated Cell:** Around the clock dedicated cell shall be constituted by the distribution licensees within three months from the Regulation coming into force. The cells should have the requisite capability and tools for energy forecast. The cell shall have the power to purchase/ sell the energy in real-time, intra-day, day-ahead, week ahead or any longer duration through Power Exchanges or any other means. The licensees shall frame suitable guidelines for the modus operandi of the dedicated cell in line with the spirit of this Regulation and shall apprise the Commission for the same within 45 days from the coming into force of this Regulations.

## CER Opinion

**CER Need for Long-term Demand Forecasting and Power Procurement Planning:** Power procurement cost is a major part of the ARR of the distribution utilities. Power procurement plans and contracts typically have a long-term horizon and, hence, need to be worked out well in advance, based on reliable and dependable forecast. A reliable electricity demand projection cannot only help the distribution utilities to plan power procurement in advance, but also optimise the cost of the power purchase.

CER, IIT Kanpur carried out a research on the importance of these aspects and published a book on '*Regulatory Framework for Long-term Demand Forecasting and Power Procurement Planning*', highlighting the need for a regulatory framework for the same. Given the experience of CER and EAL in carrying out Long-term Demand Forecasting and Power Procurement Planning for the states of Uttar Pradesh and Chhattisgarh, we reinforce the need for a robust regulatory framework for the same. From these studies, it was inferred that significant economic benefits in terms of reduced private and social costs is possible through Long-term Demand Forecasting and Power Procurement Planning.

**CER Medium-term Power Procurement:** As per the definition in the draft, "*Medium-term Power Procurement*" means *Procurement of power under any arrangement or agreement with a term or duration exceeding three months and upto five years*". It is suggested that the time period for the medium-term power procurement should be defined as 3 months to up to 3 years instead of 5 years.

**CER Power Procurement Plan:** "*The Distribution Licensee shall prepare the power procurement plan comprising of resource planning to optimize supply resources economically for a period of 5 years with due regard to the*

<sup>1</sup> Regulatory Framework for Long-term Demand Forecasting and Power Procurement Planning, CER Monograph, Book ISBN:978-93-5321-969-7, [https://cer.iitk.ac.in/assets/downloads/CER\\_Monograph](https://cer.iitk.ac.in/assets/downloads/CER_Monograph)

requirement of electricity in its area of supply and submit a rolling 5-year plan every year duly revising the projections and plans for the ensuing years to the Commission". The term, "area of supply" may be elaborated as whether or not, the distribution licensee also needs to plan for the captive generators within its area of supply along with its own consumers. This does not seem to be the intention. Hence, the words "in its area of supply" may be replaced with "for its consumers".

Also, the timeline for submission of a rolling 5-year plan may be set for every 2 years instead of every year, as the process involves quite an extensive work and, the sufficient and updated data may not be available within a span of a year, and may not add significant value to the forecast. However, granularity of forecast should remain 1 year.

**CER Consideration of battery energy storage in Power Procurement Plan (Clause 3.2):** Storage, if implemented by a discom or generator having PPA with the discom, does not increase the supply of energy (MUs)<sup>2</sup> but may be able to supply power (MW) to meet higher demand during desired time blocks. Hence, it is suggested that the storage should not be considered as a part of power procurement plan.

**CER Planning Reserves:** From a resource adequacy<sup>3</sup> point of view, a long-term planning exercise should also consider planning reserves, as highlighted in the National Electricity Plan. While this has to be done at an integrated manner across the country, the Regulation should provide an enabling provision to implement the same so that adequate reserves can be maintained, in a cost effective manner.

**CER Availability of generation:** Forecasting the availability of various generation sources, apart from scheduled maintenance, is not feasible for the discom as each generation source may have its own uncertainties due to breakdowns, which cannot be forecasted. Hence, an assessment of the availability (rather than forecast) based on available information at the time of exercise being undertaken should be required as a more feasible alternative.

**Clause 4.2 (e),** which states "Forecast of monthly and yearly availability...", may, hence, be rephrased as "Assessment of monthly and yearly availability...".

**CER Artificial Intelligence tools Clause 4.7 (3):** Application of AI requires high frequency data and hence is not suitable for long-term forecasting (annual), but may be applied in the context of short/ medium-term forecast. The draft Clause may be appropriately modified to exclude AI's application for long-term forecast.

**CER Resource Availability (Clause 4.15):** For assessing the availability, while developing the cost optimal resource plan, variable cost and useful life of plant or till expiration of PPA should be used instead of the terms "coal cost" and "useful life of technology" respectively.

**CER Placing data on websites (Clause 6.1):** The data mentioned in the Clause should be placed on the respective websites within a week instead of 30 days. Since such an information is available with the SLDC/power procurement cell, it should be made available at the earliest.

**CER Constitution of dedicated cell (Clause 7.1):** The organisational structure of such dedicated cell would need to cater to the impending as well as emerging needs of the sector in the state. Apart from organisation structure, a training/onward education plan should be put in place so that adequate number of trained officers are available for the cell, even after certain proportion of churning within or without the organisation. The licensee may finalise the organisation structure, composition of the team and their required qualification/experience also share the same with the Commission, and also provide the same on its website. Given the nature of the responsibilities of the cell, continuity of the staff/officers and their capacity building need to be emphasised.

**CER Definition of "Month":** The "Month" means a calendar month as per the British Calendar". The term 'Gregorian Calendar' be used instead of the term "British Calendar".

**CER** The term "Co-gen" may be rephrased as "Cogen", a more often used term, in Clause 3.2(e).



<sup>2</sup> In fact, it would reduce MUs due to the efficiency factor.

<sup>3</sup> Resource adequacy is a broader concept that also lays emphasis on reliability of supply.

## UERC (Standards of Performance) Regulations, 2022 [Draft]

UERC on 8<sup>th</sup> June, 2022 notified the draft UERC (Standards of Performance) Regulations, 2022. The key highlights of the draft are mentioned below,

**Compensation:** In case the discom **fails** to meet **Guaranteed SoP** specified in **Schedule I**, it shall be liable to pay to the affected consumers as specified in **Schedule III**. Discom shall pay to the affected consumers **by way of adjustment in current/ future electricity bills** as specified in **Schedule III**.

### Compensation Mechanisms:-

- **Case of Stay Order from Court, Tribunal or Commission:** No payment until final decision from court. Also no payment in case of any arrears due to consumer.
- **Payment of Compensation:** Consumer bills adjustments or NEFT/ RTGS/ Cheque (permanent disconnection with no outstanding dues).
- **Intimation to the Consumer** regarding guaranteed time for registration of complaints and regarding guaranteed standards of performance (Schedule I) and compensation amount (Schedule III). The guaranteed SoP (Schedule I) and Compensation details shall be displayed also on websites and offices.
- **In Case of Delay in complaint resolution, claim compensation within 30 days of complaint resolution**
- Claim can be filed personally/ by email/ help desk/ online/ registered post/ help desk/ centralised customer care centre to the concerned officer. **Within 6 months from notification** of these Regulations, licensee shall create **online facility** for registering and claiming compensation and that should be widely circulated. Every claim application shall be given **unique complaint number** (and provided to complainer by mail/ mobile no.) and status of actions taken in particular should be reflected on website.
- **Licensee shall give compensation within 45 days** from the date of receipt of complaint application or else an order after hearing from parties from the commission in case of refusal of compensation payment and same shall be communicated to consumer and reflect on website. **Failure in compensation payment by licensee** or in case of **non-satisfaction** to consumer will lead to grievance and dealt by CGRF. Additional penalty may be levied on licensee in such case. Consumer approach CGRF **within 30 days** of order passed by licensee. Failure from CGRF, consumer can approach **Electricity Ombudsman**. **No fee** shall be charged from aggrieved consumer for approaching to Forum, licensee or Electricity Ombudsman.

**Schedule I: Guaranteed Standards of Performance:** Time limit is specified for each case in particular and in depth for every standard. Standards are w.r.t. following:-

1. Release of New Connections (LT & HT) and Enhancement/ Reduction of Load
2. Restoration of Power Supply
3. Quality of Power Supply- Voltage LT ( $\pm 6\%$ ), HT (+6% & -9%), EHT (+10% & -12.5%), Harmonics (I & V THD notified within 6 months of notification)
4. Complaints about the meter
5. Transfer of Consumer's Connection and Conversion of Services
6. Complaints about consumer bills
7. Issues Relating to Disconnection/ Re-connection of Supply
8. Other Service Chargeable to Consumer/ Applicant

**Schedule II: Overall Standards of Performance:** Maximum tolerance value is mentioned in Regulations for every case mentioned below:-

1. Normal Fuse off Calls
2. Line Breakdowns
3. Distribution Transformer Failures
4. Period of Scheduled Outages
5. Reliability Indices (SAIFI, SAIDI, MAIFI)
6. Computing Distribution System Reliability Indices
7. Voltage Imbalance
8. Billing Mistakes
9. Faulty Meters
10. NA/NR



**Schedule III: Guaranteed SOP and Compensation to Consumers in case of Default:** For every case in Schedule I, the compensation payable in case of violation of every standard is mentioned in particular in Schedule III. Compensation payable to single consumer if event affects single consumer and more consumers in case if event affects more than one consumer.

## Schedule II: Overall Standards of Performance

Service Area	Overall Standards of Performance
Normal Fuse off Calls	$\leq 99\%$ rectified within time limits
Line Breakdowns	$\geq 95\%$ resolved within time limits
DT Failure	$\geq 95\%$ replaced within time limits
Scheduled Outage Period	
$\leq 12$ hr/day in single stretch	$\geq 95\%$ cases resolved within time limit
Supply Restoration by 6PM	
Reliability Indices	Laid down by Commission (Licensee Target with ARR)
Frequency Variations	As per IEGC
Voltage Unbalance	3% at max at point of commencement of supply
Billing Mistakes (%)	$\leq 1\%$
Faulty Meters (%)	$\leq 2\%$
NA/NR Cases (%)	$\leq 2\%$

## Schedule III: Guaranteed Standards of Performance & Compensation

Service Area		Standard	Compensation to Single Consumer if Single Consumer Affected	Compensation to Single Consumer if Multiple Consumer Affected
1. Release of New Connection & Enhancement/Reduction of Load	1.1 Release of New LT Connection (Alteration - New/Extension Distribution Mains <b>DM</b> & New Substation S)	<ul style="list-style-type: none"><li>No Alteration <math>\leq 15</math> d</li><li><b>With Alteration:</b></li><li>DM <math>\leq 60</math> d</li><li>S 11/ 0.1kV <math>\leq 90</math> d</li><li>S 33/ 11kV <math>\leq 180</math> d</li></ul>	<b>Rs 5/ Rs 1000/ day</b> up to Rs 500/ day. [Compensation Limit – Applicant Amount Deposit]	NA
	1.2 Release of New HT/ EHT Connection (Commissioning New Substation S / Bay B)	<ul style="list-style-type: none"><li><math>\leq 60</math> d 11kV works with line</li><li><math>\leq 90</math> d 11kV works line + Independent feeder</li><li><math>\leq 180</math> d 33kV works with line</li><li><math>\leq 300</math> d 132kV &amp; above with line</li><li><b>With Alteration:</b></li><li><math>\leq 180</math> d S 33/ 11kV</li><li><math>\leq 120</math> d Augment S 33/ 11kV</li><li><math>\leq 45</math> d B extension at 33/11kV S</li><li><math>\leq 540</math> d S 132 kV &amp; above</li><li><math>\leq 90</math> d B extension at 132 kV &amp; above</li></ul>	Rs 500/ day of default	NA
	1.3 Load Enhancement/Reduction	<ul style="list-style-type: none"><li><math>\leq 15</math>d LT Connection</li><li><math>\leq 30</math>d HT/ EHT Connection (Alteration- 1.1 &amp; 1.2)</li></ul>	Rs 50/ day of default. Max Rs. 50000/-	NA
2. Restoration of Power Supply	2.1 Fuse Blown out or MCB/ MCCB tripped	<ul style="list-style-type: none"><li><math>\leq 4</math> h Urban Areas</li><li><math>\leq 8</math> h Rural Areas</li><li><math>\leq 12</math> h Hilly Areas (NM)</li></ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer

	2.2 Service line broken/ Service line snapped from pole	<ul style="list-style-type: none"> <li>• ≤ 6 h Urban Areas</li> <li>• ≤ 12 h Rural Areas</li> <li>• ≤ 24 h Hilly Areas (NM)</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.3 Fault in LT Distribution Line/ System	<ul style="list-style-type: none"> <li>• ≤ 12 h Urban &amp; Rural Areas</li> <li>• ≤ 24 h Hilly Areas (NM)</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.4 Distribution Transformer Fail/ Burnt	<ul style="list-style-type: none"> <li>• ≤ 24 h Urban &amp; Rural Areas</li> <li>• ≤ 48 h Hilly Areas (M)</li> <li>• ≤ 72 h Hilly Areas (NM)</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.5 HT mains failed due to fuse blown/ line snap/ others	<ul style="list-style-type: none"> <li>• ≤ 12 h Urban &amp; Rural Areas</li> <li>• ≤ 24 h Hilly Areas (NM)</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.6 Problem in 33/ 11kV Substation	<ul style="list-style-type: none"> <li>• ≤ 24 h Plains</li> <li>• ≤ 48 h Hilly Areas</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.7 Power Transformer Failure	• Rectification within 10 d	Rs 1000/ day of default	Rs 300/d of default to every consumer
	2.8 Fault in UG System Line/ Cable	<ul style="list-style-type: none"> <li>• ≤ 12 h for LT Connection</li> <li>• ≤ 48 h for HT Connection</li> </ul>	Rs 20/ h of default	Rs 10/ h of default to every consumer
	2.9 Fault in HT System	• ≤ 24 h Plains	Rs 20/ h of default	Rs 10/ h of default to every consumer
3. Quality of Power Supply	3.1 Local Problem (Voltage Vary, Flickering, etc)	≤ 4h	Rs 5/ h of default	Rs 2/ h of default to every consumer
	3.2 Transformer Tap Changing	≤ 3d	Rs 100/ d of default	Rs 50/ d of default to every consumer
	3.3 Repair of Distribution Line/ Xmer/ Capacitor	<ul style="list-style-type: none"> <li>• ≤ 15 d LT Dist. Line</li> <li>• ≤ 90 d HT Dist. Line</li> <li>• ≤ 30 d Dist. Xmer</li> <li>• ≤ 120 d Power Xmer</li> <li>• ≤ 30 d Capacitor</li> </ul>	Rs 200/ d of default	Rs 100/d of default to every consumer
	3.4 Installation & Upgradation of HT/ LT System	<ul style="list-style-type: none"> <li>• ≤ 90 d LT System</li> <li>• ≤ 180 d HT System</li> </ul>	Rs 200/ d of default	Rs 100/d of default to every consumer
	3.5 Damage to Consumer Apparatus due to Voltage Fluctuations	Immediate Isolation of Faulty Section	<ul style="list-style-type: none"> <li>• Repair Charges with max. Rs 100 per apparatus: Fan, B &amp; W TV, Mixy, Grinder, Toaster, other portable</li> <li>• Repair Charges with max. Rs 3000 per apparatus: Colour TV (43"), Semi Auto Washing Machine, Fridge (200L), Microwave.</li> <li>• Repair Charges with max. Rs 5000 per apparatus: Colour TV (&gt;43"), Fully Auto Washing Machine, Fridge (&gt;200L), Computer. AC, Dishwasher, Chimney</li> </ul>	
4. Complaints about meters	4.1 Complaint Lodged for Accuracy Test of Meter	<ul style="list-style-type: none"> <li>• ≤ 30 d for testing of meter</li> <li>• ≤ 15 d if meter replacement needed after above</li> </ul>	Rs 50/ d of default	NA
	4.2 Complaint Lodged for Defective/ Stuck Meter	<ul style="list-style-type: none"> <li>• ≤ 30 d for testing of meter</li> <li>• ≤ 15 d if meter replacement needed after above</li> </ul>	Rs 100/ d of default	NA

	4.3 Complaint Lodged for burnt Meter	<ul style="list-style-type: none"> <li>• ≤ 6 h for supply restoration by bypassing burnt meter</li> <li>• ≤ 3 d Install New meter</li> </ul>	Rs 100/ d of default	NA
5. Transfer of Consumer's Connection & Conversion of Services	5.1 Consumer Name Change due to Change in Ownership/ Occupancy for property	<ul style="list-style-type: none"> <li>• ≤ 2 M after application acceptance</li> </ul>	Rs 100/ d of default	NA
	5.2 Transfer of Consumer's Name to Legal heir	<ul style="list-style-type: none"> <li>• ≤ 2 M after application acceptance</li> </ul>	Rs 100/ d of default	NA
	5.3 Change of Category	<ul style="list-style-type: none"> <li>• ≤ 5 d Premise Inspection</li> <li>• ≤ 2 M Change of Category</li> </ul>	Rs 100/ d of default	NA
6. Complaint about Consumer Bills	6.1 First Bill	≤ 2M of release of connection	10% of billed amount to max. of Rs 500/ month	NA
	6.2 Billing Complaints	Complaint Resolution & Intimation to Consumer <ul style="list-style-type: none"> <li>• ≤ 15 days if no additional info required</li> <li>• ≤ 30 days if additional info required</li> </ul>	Rs 20/ d of default. Max. (Less among 10% of billed amount/ Rs 500)	NA
	6.3 Final Bill for vacation of premises/ change of occupancy	Final bill delivery at least 3 days before vacation of premises	Rs 20/ d of default	NA
	6.4 Billing after permanent disconnection on consumer's request	Same shall be liable for compensation	Rs 500/ d of default	NA
	6.5 Arrears appearing in Billing/ Wrongly raised Bills	Licensee should not raise any arrears that are already paid	1st Time: 10% of arrear amount. Max. Rs 500 2nd Time: 15% of arrear amount. Max. Rs 100 3rd Time: 10% of arrear amount. Max. Rs 2000	NA
7. Issues Related to Disconnection & Reconnection of Supply	7.1 Request for Reconnection	(Reconnection Request within 6 M of disconnection or before permanent disconnection whichever later) ≤ 5 d after payment of past dues & charges Otherwise- All formalities as for new connection case	Rs 100/ d of default	NA
	7.2 Consumer wanting disconnection	≤ 7 d of application submission of permanent disconnection	Rs 100/ d of default	NA
	7.3 Refund of Security Deposit After Adjustment	≤ 30 d of permanent disconnection	Rs 100/ d of default	NA

8. Other Services Chargeable to Consumer/ Applicant	8.1 Shifting of Lines/ Poles/ Transformers	<ul style="list-style-type: none"> <li>• ≤45 d for LT Connection</li> <li>• ≤120 d for HT Connection</li> </ul>	<b>LT Connection</b> Rs 100/ day of default Max. 20% of deposit <b>HT Connection</b> Rs 200/ day Max. 20% of deposit	NA
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## CER Opinion

**CER Measurement of Performance and Incentive/ Penalty Thereof:** The Regulations specify measurement of overall Standards of Performance provided in Schedule – II, but these Regulations don't specify the level at which these standards will be measured, calculated and reported. Furthermore, it is also not clear how these measurements will be used in the overall regulatory framework. From a regulatory perspective, it is important that the **performance of the licensee measured in terms of these indices should be linked either to their return or to the recovery of O&M costs**. The linkage to the O&M costs will give appropriate incentive to the licensee to ensure that such expenses are efficiently deployed improvement of these performance indices by maintaining the equipment adequately.

**CER Information sharing through Discom's Website and App:** Draft Clause no. 9 (3) states "...licensee shall intimate the prescribed guaranteed time as per Schedule-I of these regulations to the individual complainant...", Clause no. 9 (4) states "The licensee shall also display the guaranteed Standards of Performance as per Schedule-I and compensation payable as per Schedule-III on its websites and its sub-division/division/circle/zonal offices", Clause no. 10 (4) states "Licensee should publish the guaranteed Standards of Performance along with compensation structure, information on procedure for filing of complaints, on their website...", Clause no. 10 (5) states "...licensee shall arrange to give due publicity through media, TV, newspaper, website and by displaying in boards at its subdivision/ division/ circle/ zonal offices to bring awareness of consumer rights...". All these 4 clauses may be rearranged in a way that the same information doesn't repeat multiple times. Publicity has a connotation that the utility has done its part in informing the consumer of their rights. Utilities must make an effort to go beyond publicity, thus these SoPs should be easily accessible and visible in an informed matter to the consumer through the homepage of the licensee. The given statements also do not mention sharing the information through the app of the licensee. It is suggested that **SoP related information may be displayed on the discom's website and mobile app in a separate section named 'Standards of Performance' for ease of viewing and consumer awareness**. This section should be available as a dedicated tab on the homepage of the website and app, and should be clearly visible on the site map as well. This information must also be visible on the consumer's login dashboard and a QR code with link to the SoP page should also be printed on the back of the consumer's monthly bill.

**CER Complaint handling/ Claim application Tracking System:** Draft Clause no. 9 (6) states "...Such claim can be filed either personally/e-mail/registered post/online/mobile app/Help Desk/Centralized Customer Care Centre to the concerned officer..." and Clause no. 9 (7) states "Every Claim Application shall be given a registration number which will be different from the Unique Complaint Number...". It is not advisable to create an independent **claim application registration number, but this should be linked to the Unique Complaint Number (and hence to the consumer number)** against which the claim is to be made. The **complaint handling/ claim application may be made online through the licensee's website and mobile app for tracking the complaint/ claim status** through the claim registration number made through the consumer's account linked through its Consumer Number. This will enable live tracking of the complaint/ claim status to the consumer.

**CER Sharing of Consumer Claim Data:** The licensee must **report the compensation amount, type of consumer, and other associated data linked to complaints made by consumers and complaint status to the Commission on a quarterly basis**. The website of the licensee should also provide for a mechanism to search the complaint/ compensation status upon entering the Unique Complaint Number.

**CER Data sharing and Transparency:** Draft Clause no. 10 (6) states "The distribution licensee shall annually arrange to display feeder wise outage data, efforts made for minimizing outages, prevention of theft or unauthorized use of electricity or tampering, distress or damage to electrical plant, electric lines or meter and results obtained during the year, on its website." **Such data should be archived and be available for ease of access and may be made available for public viewing for research and data analysis** in order to enrich the environment for open source regulatory research and, to assist improvement of the relevant Policy and Regulation.

**CER Time limit for adjustment of compensation through consumer's bills:** Draft Clause no. 9 (2) states "...payment of compensation shall be made only by adjustment against current and immediate future bills...". The duration of 'immediate future bills' may be mentioned in these definitions. It is suggested **that adjustment of compensation of**



**bills must not exceed more than 3 months** (and that too in case the compensation amount is higher than the bill of the proceeding months). In case the total claim is less than the total billed amount even after 3 months, the outstanding compensation due to the consumer must be made through Cheque/ NEFT/ RTGS on the 3<sup>rd</sup> month.

**CER Enabling Digital Customer Service Interface:** In the modern era of social media, discoms should be encouraged to adopt technology platforms (like WhatsApp) for customer service experience. A customer would easily be able to share the picture of an incident (if required) or the equipment needing attention allowing the discom officials to send appropriate response team with necessary technology support and replacement parts. This will enable the response staff to understand beforehand the incident before visiting the site in order to carry the necessary equipment thus saving the precious time, and allowing the discom to meet its SoP.

**CER Recurrence of Events:** The recurrence of the same event multiple times at the same point/ area of service needs to be resolved with greater scrutiny from the Licensee's engineering side and requires greater scrutiny from the regulatory perspective. These events must be reported separately. The Commission may later take a call on a separate SoP criteria for such events if required.

**CER Uncontrollable Weather Conditions:** The SoP for snow bound hilly areas during winters should be addressed separately. Also, uncontrollable weather conditions such as Heavy Snowfall, Avalanches aren't specified in Force Majeure Conditions under Regulation No. 12. It is suggested that such issues should be addressed in these Regulations.

**CER Supply through Micro grids:** In case the discom provides new connections through micro/ mini grids in remote areas, due to unavailability of the distribution network in the area, the provisions of these Regulations do not provide for such arrangements. It is suggested that the SOP for micro grids be specified separately.

**CER Lack of Compensation for under-performance:** In **Schedule-III**, for the *"Release of new connections and Enhancement/Reduction of Load"* the *"Compensation payable to individual consumer if the event affects more than one consumer"* is marked as *"Not Applicable"*. This would let the **discom avoid compensation in those cases**, where more than one consumer is affected by a fault in the distribution network. This means that scope of the SoP excludes a major component of what forms part of the key indices like SAIFI, SAIDI etc. Non-payment of compensation should be limited to force majeure conditions only.

**CER Compensation Mechanism (Clause No. 9):** The mechanism for awarding compensation is clearly in the favor of the licensee as the burden to claim compensation lies with the consumer who is essentially the affected party. To ensure that the licensee has incentive to adhere to the SoP and to provide adequate, timely and effortless compensation to the consumers, the process of payment of compensation should be automatic and be adjusted in the forthcoming bill(s) of the consumer. The licensee should make an online portal wherein a consumer should be able to review its historical consumption and payment history. This portal should also allow for cross checking the automatic payment of compensation and its adjustment in the consumer's bill as per these Regulations. In case of a failure of a licensee to make automatic payment of compensation, this portal should allow raising the complaint against the same, a copy of which should also be forwarded to the appropriate CGRF.

**CER Record of Delay:** The audit trail for the record of number of days of delay should be mentioned in these Regulations. It may also be specified in these Regulations, that which entity will mark and keep a record of the delay. The date of completion of complaint application should also be specified in order to record the delay time.

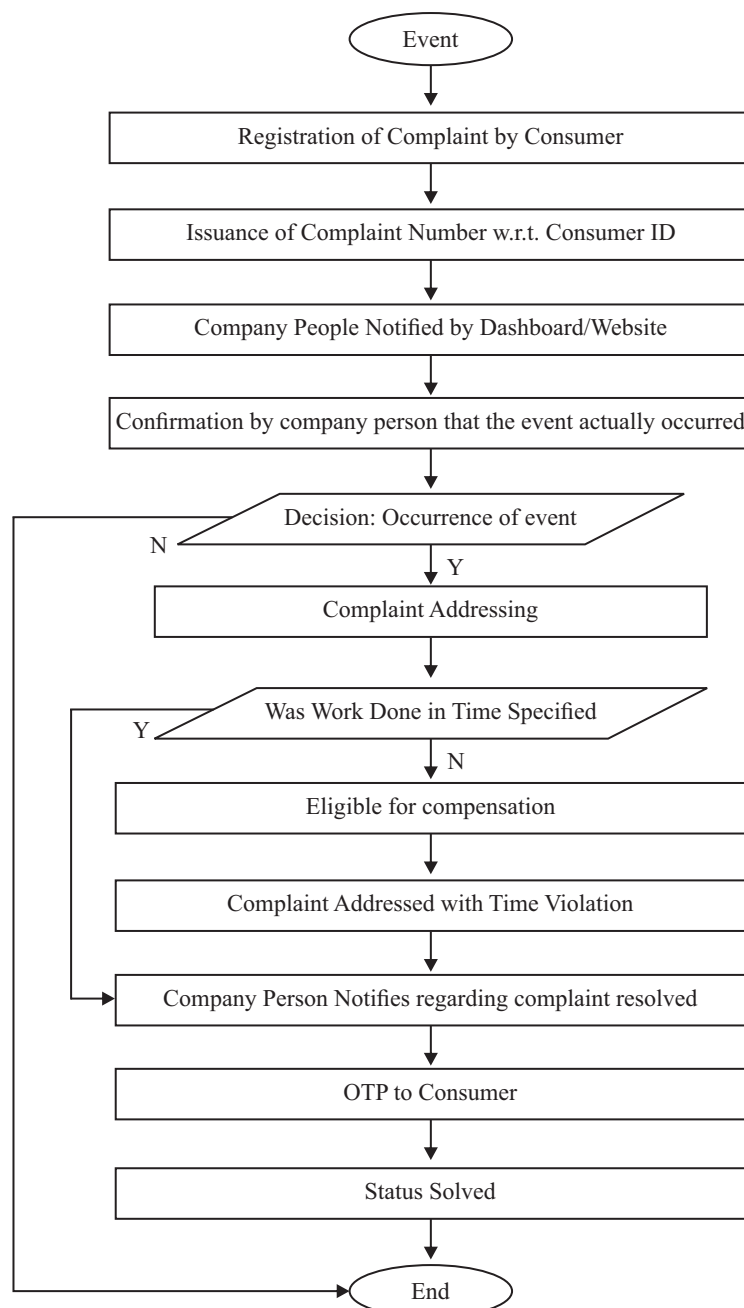
**CER Pass-through of IT Infrastructure costs in ARR:** A reasonable and efficient investment required for achieved the aforementioned objectives be provided for through the ARR by the Commission. This should also ensure that the investment made lead to the desired outcome identified for the investment.

**CER Framework for Regulatory Compliance:** The words *"shall seek to achieve"* used in Draft Clause no. 6(2) and the words *"shall arrange to give due publicity"* used in Draft Clause no. 8 (2) seem to leave **gaps in the framework for regulatory**, and needs to be amended.

**CER Faulty meters:** In **Schedule – II** Clause no. 1 (9) mentions 3 types of faulty meters, namely *"Appears to be Defective (ADF), Reading Defective (RDF) & Identified Defective (IDF)"*. The definition of these terms may be mentioned in these Regulations or be referred to in case a definition already exists in the prevailing rules.

**CER Lack of Standards for Harmonics:** Although the draft Regulations provides for Voltage Unbalance under **Schedule – II** clause no. 1 (7), these Regulations do not provide for Harmonic Standards. It is suggested that Harmonic Standards may be incorporated in these draft Regulations (or separately) since these influence the grid operation. Further suggestions and readings can be accessed from EAL's comments on the draft amendments to the Tamil Nadu Electricity Supply Code stipulating Harmonic Limits in its newsletter 'Power Chronicle: Volume 4, Issue 2', accessible from [https://eal.iitk.ac.in/assets/docs/power\\_chronicle\\_vol\\_4\\_issue\\_2.pdf](https://eal.iitk.ac.in/assets/docs/power_chronicle_vol_4_issue_2.pdf).

**CER IT based implementation of SoP:** Implementation of SoP and its enforcement, including payment of compensation as applicable would be significantly influenced by the process implemented by the discom for the same. To ensure that such a process is efficiently implemented, an IT-based platform should be integrated with the existing system to ensure that the consumers get timely compensation. Otherwise, the physical process to claim compensation or even to verify whether the SoP have been breached or not would defeat the purpose of design of the SoP and the compensation mechanism by the Commission. This will also improve overall transparency and empower consumers. The mechanism for verification of rectification of a fault (event) is currently based on the self-reporting by the licensee. This should involve the consumer through appropriate IT intervention through an app based system. The parallels for an example of such mechanism can be drawn from eCommerce companies, which deliver products only after the package delivery is confirmed through an OTP. The confirmation of this OTP (to be received directly by the consumer) to the delivery person closes the delivery process and ensures that the task has been completed. A similar process involving **OTP based confirmation of 'satisfactory rectification of the fault/ error' be introduced, wherein the consumer would receive the OTP and share it with the visiting discom team or 'close' the complaint through the app** once the task is completed. This would incentivise the discom to address the fault/ error within the SoP limit, and would ensure consumers' participation. A first cut for the proposed approach is outlines in the flowchart below.



## Uttar Pradesh Solar Energy Policy, 2022 [Draft]

Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) on 9<sup>th</sup> August, 2022 notified the draft UPNEDA (Uttar Pradesh Solar Energy Policy), Regulations, 2022. The key highlights of the draft are mentioned below:

### Introduction:

To meet the global commitment Government of India has fixed a national target of 500 GW installations from Non Fossil Fuels. Out of which as per CEA report on "*Optimal Generation Capacity mix for 2029-30*", 280 GW will come from Solar Energy. This will reduce dependence on conventional sources of energy by promoting non-conventional energy sources.

The State has vast and largely untapped potential and availability of vast barren/ un-cultivable unutilised government/private land in Bundelkhand. This has potential to make Uttar Pradesh a highly preferred destination for solar energy at the global level.

Although Solar Energy is a day time energy it becomes necessary to promote storage systems to ensure round the clock power supply at the same time this is also necessary to ensure grid stability in a long run. Uttar Pradesh values the commitment to develop round the clock power using non-conventional energy sources.

To align with India's ambitious solar PV capacity expansion program, the State envisages to accelerate the deployment of solar power by means of implementation of large-scale projects, small scale distributed systems, establishment of ultra-mega solar parks and Rooftop solar PV projects. These targets will be achieved by introducing new mechanism that will support consumers, businesses and developers in the sector.

Accordingly, State Government of Uttar Pradesh hereby declares and adopts Solar Energy Policy, 2022, with a target of 16000 MW solar power projects up to 2026-27 distributed according to the following table and, shall remain in operation for a period of 5 years.

S No.	Particulars	Capacity
1.	Utility/ Grid Scale Solar Projects/ Parks	10000 MW
2.	Solar Rooftop	4,000MW
3.	Distributed Solar Generation	2000 MW
4.	Employment Generation	10000 No's

UPNEDA will be the Nodal Agency for implementation of this Policy.

### Vision & Objective:

- Low cost and reliable power.
- Reduce the dependence on fossil fuels and achieve optimal energy mix and energy security in the State.
- Provide hassle free conducive environment for private sector investment in the field of solar Energy generation and storage.
- Human resource development particularly to renewable energy skill enhancement and generation of employment opportunities.
- Awareness about solar power technologies amongst all the electricity consumers

The Policy provide the timelines and conditions for installation of Roof top Solar Systems, off-grid solar applications, utility scale grid connected solar projects, solar power projects with storage, solar parks and the details of incentives and facilities applicable for the said different types of the installation.

## CER Opinion

**CER Basic Design Feature of Solar Policy:** The draft Solar Policy is largely similar to the UP Solar Policy, 2017. Given that most of the key objectives of the Policy were unmet (till its target year 2022), it should be noted that something was inherently flawed in the basic design of the previous Policy. Feedback from stakeholders (who have invested and who did not) is necessary to address lacunae in the previous Policy, which is largely been followed in its design as well as content. Answers to the following questions should help identify areas for improvement and, hence, help design of the solar Policy.

Why was there slippage in the targets? Is it because the targets were very ambitious or there was something missing in the enabling environment for investment?

How did various stakeholders perform in their respective domain to help meet the Policy target? What was the experience of the empowered committee and up to what extent they were able to address the bottlenecks?

Which type of sub-sectors fared well in solar rooftop implementation? What were the factors for limited participation of the others?

**CER Policy Target (Clause 5.I):** The draft Policy seems to justify almost all the possible ways of promoting solar, without a relative assessment of strength and weaknesses of sub - components of the target. This is likely to be economically inefficient and, would most likely be reflected in slippages across sub-targets to a variable degree. The draft Policy targets to achieve 16000 MW solar capacity, up from about 2244 MW now. Required growth of solar capacity is highlighted in the table below.

S. No.	Particulars	All India- Installed Capacity	UP - Installed Capacity	UP- Proposed Capacity Target	UP- Growth Multiple (CAGR)
1.	Utility/ Grid Scale Solar Projects/ Parks	47765.87	1851.5	10000	5.4 (40%)
2	Solar Rooftop	7083	258.7	4000	15.5 (73%)
3	Off-Grid /Distributed Solar Generation	1744.24	134.28	2000	14.9 (72%)
4	Solar Hybrid	1380.4	0.00		
5	Total	57973.80	2244.56	16000	7.1 (48%)

So: Physical Progress Report MNRE 31<sup>st</sup> July, 2022 and Draft Solar Policy, 2022

The capacity growth target has a CAGR of 48%, with that for various sub-heads ranging from 40% to 73% (see table above). Given the historical experience and the fact that Policy design is largely similar to the previous ones, with additional features, the identified targets are very ambitious. For example, Solar Policy, 2017 targeted 4300 MW for solar rooftop by 2022, whereas, only 258 MW was achieved. This highlights the need to identify Policy gaps and implementation issues from the experience of UP Solar Policy, 2017.

Furthermore, the Policy should highlight RE generation i.e., actual (MWh) while keeping capacity addition in mind. This would ensure that efficient technology is deployed and utilised at locations where it can generate more energy, and it can be operated and maintained in a sustainable manner. Historical experience suggests that capacity based targets (especially for rooftop/off-grid installations) do not translate to contribution to MWh as effectively due to lack of an institutional framework to ensure sustained operation, maintenance and its monitoring.

**CER Need for a Study to assess VRE Absorption Capacity in UP:** Each state's power system's capability to absorb variable renewable energy (VRE) depends a variety of factors including the current energy mix, RE resource profile of the state, expected growth of conventional generation capacity, expected load profile and its mix, cost of various sources of power, transmission capacity etc. Target for RE capacity addition potential in the state should be based on a techno-economic study and its economic impact on the cost of power procurement and consumers tariff. A study of such kind needs to be undertaken for the state to identify the RE capacity potential and need for regulatory and policy interventions.

**CER Vision and Objectives (Clause 2.a):** The draft Clause states *"To provide low cost and reliable power to the people of Uttar Pradesh"*. The objective of the Solar Energy Policy to *'provide low cost and reliable power'* have an inherent trade-off as the two objectives cannot be attained at the same time given the current technological status and their economics. Costs associated with the system imbalance and cost of storage, due to variability and uncertainty associated with solar energy would lead to higher costs. The overall objectives of the Solar Policy should link up with the nation's commitments under the Policy framework for Climate Change (as recently drafted for the NDC). Apart from this, solar energy plays an important role in reducing variable cost of power purchase<sup>4</sup>, to supplement clean energy access and to improve reliability in case solar rooftops/ mini- grids (with storage) also function in the islanded mode.

**CER Optimal Energy Mix (Clause 2.b):** Draft Clause states *"To reduce the dependence on fossil fuels and achieve*

<sup>4</sup> Limit to integration of variable renewable energy including solar in a power system



“optimal energy mix” of conventional and renewable power...” The ‘optimal energy mix’ is neither defined nor justified and hence does not add any clarity to the objective. The term “optimal energy mix” may be substituted with ‘low carbon/ greener/ cleaner energy mix’.

**CER Environment for Investment (Clause 2.c):** Draft Clause states “To provide hassle free conducive environment for private sector investment....”. This seems to exclude a role of discoms/ public sector entities to make investment. As per the draft Policy, the latter is also expected to play a crucial role to achieve the objectives of the Policy. Hence, the Clause should make room for ‘public sector’ investment as well.

**CER Segregated Agriculture Feeders (Clause 5.b):** Draft Clause states “Promotion of small Decentralized Grid Connected Solar Power Projects by solarization of segregated agriculture feeders”. It is highlighted that ‘hard feeder segregation’ is much costlier than ‘soft feeder segregation’ or ‘Virtual Feeder Segregation’<sup>5</sup> in an economical manner. Given that there is significant lack of financial resources, cost effective options should be adopted. Further, the relevance of feeder segregation is on wane if availability of power has improved across the state. Virtual Feeder Segregation rather than the physical segregation should be implemented as physical segregation is very costly, time consuming and complex. RoW issues make it even more complex to implement. MNRE has commissioned 11 KV Manota feeder on 9<sup>th</sup> December, 2021 as a pilot for IoT based virtual feeder segregation.

**CER Solar Installations along expressways and Railway tracks (Clause 5.c):** Draft Clause states “Promotion of solar installations along expressways and Railway tracks...”. The Policy should focus on areas presenting comparative advantage. Significant dust load along railway tracks and roads, and demand for water for its cleaning should be weighed. Access to transmission line and solar radiation should also play an important role in such a selection. Limited pilots should be planned for such capacity before scaling up in areas with high insolation, low dust and adequate water availability.

**CER Storage Systems (Clause 5.e):** Given the high cost of energy storage (read battery) and lack of potential for pumped storage in the state, high reliance on costly storage systems should be weighed against the benefit it would bring to the power system of the state (this re-emphasises need for a study as mentioned above). Hence, the Policy should emphasise ‘cost effective’ storage systems based on their own economic merits.

**CER Home Lighting Systems (Clause 5.g):** Draft Clause states “Promotion of Off-Grid Solar applications like Solar Water Pumps, home lighting systems, water heater, etc...”. If electricity access has reached nearly 100% in the state, the merit for home lighting system is very limited. Scarce financial resources should instead be utilised for applications that merit attention especially solar water pumps, public tube wells, lift irrigation etc. which can operate during the day and utilise solar energy during the day.

**CER Online Portal and Registration of Solar Projects (Clause 6.1.1):** Draft Clause states “UPNEDA will act as a single window to cater all type of solar Projects on behalf of the Govt. of Uttar Pradesh”. Given the awareness of use of online platforms/App, a centralised portal should make the process of registration, monitoring and follow-up, requiring least human intervention. A portal should be developed for information dissemination, registration, follow-up, monitoring and feedback. It is suggested that the nodal agency should be more proactive in the virtual space than physical space.

**CER E-Bidding /Reverse e-bidding for Solar Power Projects (Clause 6.1.2):** Draft Clause states “Approval of Solar Power Projects includes facilitation of Projects for competitive bidding, PPA, statutory clearances, coordination with MNRE and other central Agencies, facilitation for approval of Power evacuation Plan and allocation of Bays”.

Solar Policy should adopt e-bidding/ reverse e-bidding for development of solar capacity in the state. Electronic platform based approach would also attract more bidder and thus contribute to the achievement of solar capacity targets. An approach similar to ultra-mega power projects needs to be adopted (even though it aims to cater to projects of various size). The identified companies/ nodal agency should acquire land, obtain necessary approvals, seek connectivity and then offer the project sites for bidding. Since most of the risks would have been addressed prior to bidding, one should expect lower bids and lesser room for rent seeking. The bidding document should be pre-approved by UPERC ensure that adoption of tariff (under section 63 of Electricity Act 2003) for such solar projects is faster and smoother process. The bid document and power purchase agreements used by SECI, and which follow the Competitive Bidding Guidelines, should be a starting point for the same so as to ensure a faster rollout of the Policy.

**CER Facilitation for Government Land/Space (Clause 6.1.4):** Draft Clause states “Facilitate allotment of suitable land/space in control of State Government or its agencies”. The proposed companies (in draft Policy) or a new company may be floated by UPNEDA to acquire the land and create a land bank. A transparent and non-discriminatory

<sup>5</sup> Virtual feeder segregation is implemented through application of IoT and requires significantly less investment.

Experience of deployment of the technology on 11 kV Manota Feeder (Rajasthan) in December, 2021 should provide more insights to the same.

process should be followed for land transfer to successful bidders.

**CER ‘Solar Cities’ vs ‘Solar Villages’ (Clause 7):** Draft Clause states *“It proposes to establish ‘...Solar Cities’ across the State with emphasis on Solar Rooftops and other allied off-grid solar installations...”*. While Solar Cities may be the ultimate long-term goal of the Policy, it should begin with targeting limited localities of identified cities (especially new developments/sectors) as well as semi-urban areas. In fact, Solar Village should be the primary target of the Policy as it would reduce the subsidy burden. It would also be relatively easy to develop few villages as modal solar villages with 24x7 assured power, thus leading to a greater adoption across the state.

New urban area developments as well as sectors/ schemes developed by local authorities may be mandated to ensure adoption of Solar Thermal or Solar PV as an integral plan of housing approval. This should go hand-in-hand with the nodal agency ensuring that all the approvals as well as financial incentives are made accessible in a streamlined fashion.

**CER Solar Cell:** Draft Clause states *“In order to facilitate Solar Rooftops and net metering, a committee (Solar cell) is being established...”*. This committee may be renamed as ‘Solar Energy Development Cell’ or other suitable name as the term “Solar cell” is largely associated with the technology.

**CER Promotion of MSME and Startups:** This is dependent on organisations other than those in the energy sector. A mechanism should be established, involving the relevant departments/ ministry/ SIDBI etc., which should provide an enabling framework for incubation of startups/ MSME. Portal of the nodal agency should provide necessary details for the process flow and contact persons in the respective organisations.

**CER Government/ Govt. owned Public Institutions/ Educational Institutions (Clause 7.1.iii):** Draft Clause states *“Secondary schools, Govt. colleges, Technical Institutions and Universities across the State shall be covered in phased manner with Solar Rooftops”*. The targeted universal solarisation of schools should be evaluated against the sustainable maintenance and security of the assets, and be carried out in a phased manner so as to ensure that public funds are used efficiently. This would allow to build upon the experience and scale up the scheme in phases. Institution/ School-level committee should be established to ensure that projects are implemented in consultation with the, who also have sufficient buy-in in sustained operation of the same. For effective monitoring and evaluation, following information should be archived and publicly available for each project on the nodal agency’s portal

- Month and Year of sanction
- Month and Year of installation
- Total sanctioned load of the institution
- SPV capacity installed
- Type of technology (e.g. Mono/ poly crystalline, with/ without storage)
- Storage capacity and technology
- Daily/ weekly generation and utilisation data
- Total cost of each project
- Subsidy/ funding provided by each agency (state/ central)
- Name of implementing agency/ company etc.
- Name, designation and contact information of the nodal official at the institution
- Name, designation and contact information of the nodal official of the discom

This should also be accompanied by responsibility chart for each project so that any issue leading to sub-optimal operation and maintenance of the plant are reported and addressed. This would enable effective monitoring and, would also support associated research studies evaluating effectiveness of such deployments. This should be an integral part of the design of the scheme and be mandatorily followed. Lack of such detailed information on previously implemented projects with public funding support, especially on their effectiveness does not enthuse confidence in efficient use of scarce funds.

**CER Nagar Nigam (Clause 7.1.iv):** Draft Clause states *“Nagar Nigam assets will be solarised using Solar Rooftops”*. Selected Nagar Nigam assets, which have sufficient and secure space, should be identified for implemented this in the 1<sup>st</sup> phase. Given that many dilapidated Nagar Nigam buildings may not be suitable for mounting Solar PV on the rooftop and storing associated balance of plant, a phased approach should be followed where by such buildings are selected based on a pre-defined set of criteria and those meeting a minimum criteria across all the desirable heads be solarised. This would also allow the local authorities sufficient time to address the gaps to make the Nagar Nigam premises more suitable for rooftop installation. For effective monitoring and evaluation, following information should be archived and publicly available for each project on the nodal agency’s portal

- Month and Year of sanction

- Month and Year of installation
- Daily/ weekly generation and utilisation data,
- Total sanctioned load of the Nagar Nigam
- SPV capacity installed
- Type of technology (e.g. Mono/ poly crystalline, with/ without storage)
- Storage capacity and technology
- Total capital cost
- Subsidy/ funding provided by each agency (state/ central)
- Name of implementing agency/ company etc.
- Name, designation and contact information of the nodal official at the Nagar Nigam
- Name, designation and contact information of the nodal official of the discom

This should also be accompanied by responsibility chart for each project so that any issue leading to sub-optimal operation and maintenance of the plant are reported and addressed. Sharing of this information should be an integral part of the design of the scheme and be mandatorily followed.

**CER An Index Based Approach to Identify Sites for SPV Installations:** An index based approach, considering site preparedness, solar radiation (including shading), safety of assets, connectivity, and local institutional mechanism for operation, maintenance and monitoring etc. Only sites rated above a minimum threshold should be identified for implementation of SPV projects on rooftops of schools/ institutions/ Nagar Nigam<sup>6</sup>. The excluded sites, based on the index sub-components, would also be able to identify areas for improvement.

**CER Revenue Model (Clause 7.1.vi):** Draft Clause states “A revenue model is being developed whereby Nodal Agency, UPNEDA will play an active role in collection of demand for installation of Grid connected Solar Rooftop Power Plants from Government departments.” It is not clear as to which ‘revenue model’ is being referred to. Is UPNEDA expected to get a share of revenue? UPNEDA should follow the competitive bidding based model applied by SECI in award of capacity for institutional rooftop SPV installations across the country.

**Net Metering (Clause 7.2.2.iv):** Draft Clause states “Net Metering Facility will be given to residential consumers as per regulations as notified by Uttar Pradesh Electricity Regulatory Commission from time to time.” The Policy should not limit reference to ‘Net Metering’, as the regulatory environment for rooftop SPV may change as per the prevailing Regulations of Uttar Pradesh Electricity Regulatory Commissions (UPERC). A number of State Electricity Regulatory Commissions (SERCs) have adopted gross metering/ net billing/ virtual metering or group metering

**Time Period of Installation (Clause 7.2.2.v):** Draft Clause states “Time Period of Installation of Residential Rooftop Solar Systems will be” A portal should be developed for submission and instantaneous acknowledgment of application.

- Maximum Time Period for rooftop solar installations should be 30-45 days, in place of 90 days.
- Installation of rooftop Solar System and required testing of the meter may run in parallel to save time.
- Current scheme proposes that each consumer would be provided assistance from the respective scheme after the installation. This passes on risk to the consumers, who would have made partial/ full payment for the installation. In case of any delay or shortcoming on part of the vendor, the consumer would be left to fend for itself. This would raise the uncertainty for the consumers and may make the scheme less attractive to consumers. As an alternative, assistance may be disbursed to the vendors after satisfactory installation and its validation by the consumer through a two-layer OTP based verification mechanism with physical record. This will allocate the risk of delay, satisfactorily installation and testing to the vendor, who should rightfully be bearing that risk.

**CER Monitoring framework:** Based on the installed capacity, following operational monitoring should be implemented. Cost associated with the same should be included in the overall capital cost of the plant.

- i. 1 MW & Above: - Block wise (15 min) monitoring of solar radiation, generation, utilisation and injection to the grid. Weekly report.
- ii. 20 kW -1 MW: - Block wise (15 min) monitoring of generation, utilisation and injection to the grid for a sample of units<sup>7</sup>. Weekly report.
- iii. Below 20 kW: - Monthly report on generation, utilisation and injection to the grid.

The above information should be archived and accessible publicly through discom/ nodal agency’s portal.

**CER RPO target (Clause 9.1):** To justify the targeted solar capacity addition, UPERC would have to raise RPO for the

<sup>6</sup> Separate threshold for index for each type of applications.

<sup>7</sup> Additional cost for such units, if any, to be borne by the discom/nodal agency.



state to more than 20% by 2026-27 (Refer to calculations in Table below). This would have financial implications for the discoms and would be reflected in final tariff to be paid by the consumers. An assessment of the same should be carried out to ensure that the financial stress faced by the discoms is not exacerbated, which would have implications for the final consumers as well.

FY	Installed capacity (GW)	CUF	Generation from Solar (BU)	(Projected) Energy Requirement (BU)	Solar RPO (%)	Target Solar RPO (%)
2021-22	2.24	20	3.93	106.57	3.69%	4%
2026-27	16	20	28.03	133.76*	20.64%	-

\*Assuming 20% CUF.

Above calculations are based on data from Draft Solar Policy, 2022, UPERC Tariff order 2021-22 and MNRE, Physical Progress Report, 31<sup>st</sup> July, 2022. Growth in energy requirement is 25.51% (as per CEA report on Long Term Demand Forecasting published on August, 2019).

**CER Normative Cost of Transmission Infrastructure for Utility Grid Power Projects of capacity 5 MW and above (Clause 9.1b):** Draft Clause states “For grid connectivity of Standalone Solar Power projects of capacity 5 MW and above proposed to be set up in Bundelkhand and Purvanchal region, State Government will bear the cost for construction of maximum transmission line length...”. The draft document proposes cost verification for the transmission line by executives of UPPTCL. The Policy should adopt a **normative cost based structure for the transmission line**. This would not only bring cost efficiency in its deployment but also avoid any room for cost padding and rent seeking. Benchmark transmission line cost as per prevailing UPERC/ CERC Regulations may be adopted for the purpose. Reimbursement of the cost of the transmission line should be limited to the efficient benchmark cost, any cost over and above the same should be borne by the developer. Such cost disbursement should be done only after the plant has achieved COD, to ensure that the developer has the incentive to complete the project in time. All such costs reimbursed, along with name of the project, voltage level, location, line length, date of approval, and COD and date of reimbursement etc., should be reported on the nodal agency’s website. This would provide confidence to the future investors as well.

**CER Solar Power Projects for sale of power to Third party or Captive use (Clause 9.2):** Draft Clause states “Many power guzzler industries require solar energy to reduce their thermal demand”. The context of the statement is not clear and seems a misfit here.

**CER Exemption on wheeling charges/ transmission charges (Clause 9.2.1):** Draft Clause states “Exemption of 50 % on wheeling charges/ transmission charges on Intrastate Sale of Power to third party or in case of Captive use”. Since this is in the context of solar power only, reference to the same may be added for clarity and avoiding legal disputes later. The applicable wheeling/ transmission charges are determined by UPERC. The draft Policy can propose to reimburse 50% of those charges but cannot exempt this as determination and applicability of the tariff falls within the jurisdiction of UPERC.

**CER Solar power projects set up of floating/ reservoir/ canal top (Clause 9.3):** Draft Clause states “The State will promote setting up of floating/ reservoir top/ canal top Solar Power Projects for sale of power to DISCOMs through competitive bidding or for captive use/third party sale”. Since most of water bodies are public properties or are common property resources, how could these be exploited by private individuals for captive generation and third party sale? Such applications would thus be limited to the owners of the water bodies, e.g., the irrigation dept. The policy should provide an enabling framework with a transparent Policy for award of such spaces for SPV applications.

**CER Ground mounted solar PV Systems in Open Spaces (Clause 9.4):** Draft Clause states “State will promote setting up of Ground mounted solar PV systems on open spaces across the state. Open spaces is defined as any unused land available within buildings premise, campus where connectivity can be provided through the grid under UPERC regulations...”. It is unclear as to which kind of open spaces (as defined in this Clause), can accommodate SPV installations of 600 MW and beyond, and that too at 765 kV! Has any such open space been identified in the state?

**CER Development of Solar Parks by Private Sector (Clause 9.4):** Solar parks, particularly in the Bundelkhand and other regions with high solar potential can provide a conducive environment for setting up large size grid interactive solar PV plants. Such parks may be developed in coordination with SECI and central sector entities, which have experience in setting up the same across the country.

**CER Solar Power Projects with Storage Systems and RECs (Clause 11.2):** Draft Clause states “The minimum rated energy capacity of an energy storage system shall be equal to 4 hour storage capacity of the installed capacity of the project in MW.” The Policy should promote energy storage on its value proposition. The competitive bidding process should be adopted for supply of solar energy during evening peak hours. Appropriate technology may be allowed to be



selected by the bidders to meet the supply requirements. Renewable Energy Certificate Mechanism may be adopted to ensure guarantee of origin for such stored energy. Some of the related suggestions<sup>8,9,10,11,12</sup> on the same in response to CERC/POSOSO's draft Regulations/process may be referred for further clarity.

**CER Research and Development Solar Power Projects with Storage Systems (Clause 11.3):** The Policy should focus on creating an enabling environment for investment in solar energy development in the state. Research and development should be best left to the private sector who would make efficient use of financial resources with a clear objective targets for the same. The Policy can promote the same by mandating a component for **Solar Research Park** within identified Solar Parks to be developed by the private sector. The scarce public funds can thus be efficiently allocated elsewhere to meet the objectives of the Policy.

**CER Solar Power Projects on Private Land (Clause 12.1.1):** Draft Clause states *"The State shall provide facility of deemed land conversion from Agriculture use to Non Agriculture use on approval by the State Nodal Agency"*. Easy conversion of agricultural land should be balanced with loss of arable land to avoid food security concerns over a long run. There should be a provision to monitor and review the extent to which private agricultural land has been converted to non-agricultural usage.

**CER Solar Power Projects on Private Land (Clause 12.1.3):** Draft Clause states *"The price of land lease will be determined at market rates on a yearly basis up to thirty years"*. A market rate for land lease in most of the rural and remote areas may not be available. A minimum benchmark, which may be linked to circle rate, may be specified so as to address concerns of the landowners.

**CER Stamp Duty Land (Clause 13.2):** The 100% exemption on stamp duty on the land used for setting up of Solar Power Plant/ Solar Park would encourage investors. The exemption should be notified at the very outset to address uncertainty for the investors.

**CER Capital Interest Subsidy (Clause 13.3):** Draft Clause states *"The State Government shall provide capital Interest subsidy to the extent 5 % per annum for five years in the form of reimbursement on loan taken for procurement of plant and machinery subject to annual ceiling of 50 Lakhs"*. It is suggested to replace the existing text with *"The State Government shall provide capital Interest subsidy to the extent 500 BPS/ annually for the 1<sup>st</sup> 5 years in the form of reimbursement interest paid to the lender"*. Draft Clause states *"This subsidy will be applicable to Utility scale Solar Power Projects with a capacity more than 5 MW"*. Capacity of **5 MW or more** should be used.

**CER Infrastructure subsidy (Clause 13.3):** Draft Clause states *"The State Government shall provide a capital subsidy for transmission systems to evacuate solar power..."*. It is suggested that all incentives should be listed in competitive bidding document and capital subsidy should be discouraged as this incentivises overcapitalisation and inefficient use of funds. Instead, higher interest rate subvention can be considered as a superior alternative.

**CER Energy Banking (Clause 13.3):** Draft Clause states *"Banking of energy in every financial year shall be permitted, subject to verification by the officials..."*. Banking of energy should be permitted as per the UPERC Regulations.

**CER Environmental Clearance (Clause 13.8):** Draft Clause states *"Solar PV projects shall be exempted from obtaining Environmental clearance"*. Need for environmental clearance would arise especially in case of a project's impact on forest, biodiversity and those located near ecologically sensitive areas.

**CER Pollution Control Board (Clause 13.9):** Draft Clause states *"Grid connected Solar PV Projects will be given NOC/ Consent for establishment and operation on application to U.P. Pollution Control Board"*. It is suggested that an appropriate notification regarding the same should be issued by U.P. Pollution Control Board at the very outset to address uncertainty for the investors.

**CER State Action Plan for climate change (Clause 15):** Draft Clause states *"...to meet its commitments under the State Action Plan for climate change for Renewable energy sector"*. State Action Plan for Climate Change (SAPCC) and Solar Policy should be coherent in their objectives as far as development of solar energy is concerned. SAPCC should

<sup>8</sup> Anoop Singh, Comments on MoP Discussion paper on Redesigning the Renewable Energy Certificate (REC) Mechanism, June 2021, cer.iitk.ac.in/blog

<sup>9</sup> Singh, A. 2010. "Economics, Regulation and Implementation Strategy for Renewable Energy Certificates in India" in India Infrastructure Report 2010, Oxford Univ. Press. -[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3440253](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440253)

<sup>10</sup> Anoop Singh, Comments on "CERC (Terms and conditions for recognition and issuance of Renewable Energy Certificate for renewable energy generation) (Second Amendment) Regulations, 2013"

<sup>11</sup> Anoop Singh, Comments on "WBERC (Co-generation and Generation of Electricity from Renewable Sources of Energy) (First Amendment), Regulations, 2020"

<sup>12</sup> Anoop Singh, A market for Renewable Energy Credits (REC) in the Indian Power Sector: Renewable and Sustainable Energy Reviews, [www.researchgate.net/profile/Anoop-Singh-28](http://www.researchgate.net/profile/Anoop-Singh-28)

be highlighted at the very outset in the Solar Policy, if the aim is to garner international development funding for the same.

**CER Time frame for completion of solar Projects (Clause 16):** Draft Clause states “....In case of any delay in project execution penalty would be imposed as per the contract”. Instead of loosely referring to ‘any delay’, delay with respect to CoD is crucial and be referred to. Penalty for delay beyond CoD should be incorporated in the Bid document.

**CER Employment Generation & Skill Development (Clause 16):** Draft Clause states “10000 youth to be trained as Surya Mitra at UPNEDA training center, U.P. Skill development Mission & National Institute of Solar Energy certified Training centers in the next 5 years...”. The proposed training should be brought near to the people. Access to the mentioned training would otherwise be limited to those in the nearby areas. Each project developer should be tasked with the training needs for the development of solar energy sector in the state in general, and as per the need of the project site in particular. Hosting training workshops ONLY at UPNEDA centres would limit their reach to people in need.

**CER Timeline and Task Ahead for Nodal Departments:** To ensure that the identified Policy steps are notified and implemented at the earliest and the investors have clarity and assurance of these Policy steps, each of the identified departments should have a checklist of tasks to be undertaken along with their timeline. These should be updated at the webpage specially designed for implementing the Solar Policy. The page can be hosted at UPNEDA portal with clear visibility through its home page.

## POSOCO (Detailed Procedure for REC Mechanism in compliance of CERC (Terms and Conditions for Renewable Energy Certificates for Renewable Energy Generation) Regulations, 2022) [Draft]

The POSOCO on 15<sup>th</sup> Feb, 2022 notified the draft CERC (Terms and Conditions for Renewable Energy Certificates for Renewable Energy Generation) Regulations, 2022. The key highlights of the draft are mentioned below:

**Introduction:** The draft defines the roles, responsibilities and functions of the different entities involved in the process of issuance of the certificates along with the complete process of issuance, validity of the certificate, denomination of the certificate, etc.

The procedure is made defining the step-wise process for accounting of generation in respect of eligible entities, accreditation of REGS including CGP under REC Mechanism, their accreditation & registration of eligible entities, issuance and redemption of the certificate.

### Functions of Agencies:

- **NLDC** will be responsible for registration of projects of eligible entities, issuance of certificates, maintain accounts of registry along with other functions as mentioned in the Regulations.
- **State Agency** is the agency designated by the concerned State Commission for accreditation of eligible entities connected to the intra-state transmission system for the grant of RECs.
  - **RLDC** shall undertake accreditation to the eligible entities connected to the inter-state transmission system and issuance of Energy Injection Report (EIR).
  - **SLDC** shall take up issuance of EIR on the basis of electricity generated and injected to the grid.

### Process for implementation of REC Mechanism

Accreditation of the eligible entities → Registration of the eligible entities → Issuance of Renewable Energy Certificates (RECs) → Exchange and redemption of REC(s).

### Eligibility for issuance of Certificates

Following entities shall be eligible for issuance of Certificates.

- a) Renewable energy generating stations (REGS) – Tariff not determined by Section 62 or 63 of EA, 2003 or electricity sold to fulfil the RPO of obligated entity
- b) Captive generating stations (CGP) based on renewable energy sources
- c) Distribution licensees whose RPO have been already met
- d) Open access consumers

## Denomination of the Certificate

- Each Certificate represents 1MWh of electricity injected or deemed to be injected in to the grid.
- Certificate to be issued in multiple of certificate multiplier. Multiplier will be reviewed 3 years.

Renewable Energy Technologies	Certificate Multiplier
On-shore Wind and Solar	1
Hydro	1.5
Municipal Solid Waste (MSW) and non-fossil fuel-based cogeneration	2
Biomass and Biofuel	2.5

## Certificate Multiplier for different RE Technologies

The certificate multiplier once assigned to the REGS/CGS shall remain valid up to 15 years from date of commissioning beyond which, the multiplier shall be 1.

## Fees and charges

The applicable fees and charges payable by the eligible entities is as below:

- Accreditation of Eligible Entities (connected to the inter-state network) by RLDCs:
  - Application Processing Fee
  - One-time Accreditation fee
  - Annual Accreditation fee
- Registration under REC Mechanism:
  - Application Processing Fee
  - One-time Registration fee
  - Annual Registration fee
- Issuance of RECs
  - Transaction fee and charges for issue of Certificate

SERC may notify separate fees and charges for Accreditation of Eligible Entities (connected to inter-state).

In case separate fees and charges for accreditation are not notified by the respective SERC, then the fees and charges notified by CERC will be applicable.

Further, the Commission, based on the proposal from the Central Agency, may revise the fees and charges payable by the eligible entities for accreditation, registration, issuance of Certificates, and other connected matters.

Monitoring of purchase of RECs will be done by CERC and SERCs through REC web application.

## CER Opinion

**CER REC as a guarantee of origin (Clause No.7.4):** As per the Clause, “An obligated entity being a distribution licensee or an open access consumer, which purchases electricity from renewable energy sources in excess of the renewable purchase obligation as determined by the concerned State Commission will be eligible for issuance of Certificates to the extent of purchase of such excess electricity from renewable energy sources.” It is suggested that all RE generator in the country be issued REC, which can be issued as guarantee of origin and can be used as proof of compliance with the respective SERCs. To implement this, the eligibility for issue of REC should be extended to all the RE projects,

<sup>13</sup> Comments by Dr. Anoop Singh, Statement of Object and Reasons, “CERC (Terms and conditions for recognition and issuance of Renewable Energy Certificate for renewable energy generation) Regulations, 2010.” - [https://cercind.gov.in/Regulations/Statement-of-Reasons\\_SOR\\_for-CERC\\_REC\\_regualtions\\_2010.pdf](https://cercind.gov.in/Regulations/Statement-of-Reasons_SOR_for-CERC_REC_regualtions_2010.pdf)

<sup>14</sup> Singh, A. 2010. “Economics, Regulation and Implementation Strategy for Renewable Energy Certificates in India” in India Infrastructure Report 2010, Oxford Univ. Press. - [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3440253](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440253)

<sup>15</sup> Comments by Dr. Anoop Singh, Statement of Reasons, “CERC (Terms and conditions for recognition and issuance of Renewable Energy Certificate for renewable energy generation) (Second Amendment) Regulations, 2013” - <https://cercind.gov.in/2013/regulation/sor15.pdf>

<sup>16</sup> Comments by Dr. Anoop Singh on “WBERC (Co-generation and Generation of Electricity from Renewable Sources of Energy) (First Amendment), Regulations, 2020.” - <https://wberc.gov.in/sites/default/files/SOR71.pdf>

<sup>17</sup> CER comments on “Discussion paper on Redesigning of Renewable Energy Certificate (REC) Mechanism on 7th June, 2021” by Ministry of Power - [https://cer.iitk.ac.in/blog/new\\_blog/?id=ODQ1ue](https://cer.iitk.ac.in/blog/new_blog/?id=ODQ1ue)

which should now be registered with REC registry. This draft document, is a partial implementation of recommendation which has been given earlier<sup>13, 14, 15, 16, 17</sup>. It is recommended that this philosophy be further extended as per the suggestion given herein.

**CER Eligibility for plants participating in non-green products of Power Exchanges:** The condition for eligibility of the entities to participate in REC mechanism is as stated “.....not having entered into any power purchase agreement for full or part capacity related to such generation to sell electricity, with the obligated entity for the purpose of meeting its renewable purchase obligation, at a tariff determined under section 62 or adopted under section 63 of the Act by the Appropriate Commission for which participation in REC scheme is sought as per the REC Regulations...”. The current design of REC mechanism provides for sale of non-green product at APPC. To encourage significant RE capacity addition under REC Mechanism, such projects may also be allow to sell the grey electricity into non-green segments of power exchanges (e.g. DAM, RTM etc).

**CER REC Multiplier (Clause No. 8.2):** The certificate multiplier set as per the procedure is as follows in Clause 8.2: “...The Certificate Multiplier for the period of three years from the date of effect of REC Regulations is as under ... the Commission may, from time to time, based on the review of the maturity level and cost of various renewable energy technologies, revise the Certificate Multiplier.” A relatively medium-term projection of multiplier (as a sunset Clause) would provide a trajectory for cost reduction for the investors as well as technology<sup>18</sup>.

**CER REC Multiplier for Hydro (Clause No. 8.2):** As per MNRE notification, hydro power plants of capacity greater than 25 MW, commissioned after the 8<sup>th</sup> March 2019 would be considered as renewable energy projects, and hence will also now be eligible for registration under the REC mechanism and issue of RECs thereof. A clarification to this regard may be added. Also, if the same multiplier would be applicable for all types of hydro projects, larger hydro project would likely to have cost advantage over small ones and would gain accordingly.

**CER Denomination of Certificate (Clause No. 8.4):** As per Clause 8.4, “The Certificate Multiplier once assigned to a REGS/CGP will remain valid for a period of fifteen years from the date of commissioning. Beyond this period the REGS/CGP shall be issued one Certificate for one MWh of electricity generated and injected or deemed to be injected into the grid.” The issuance of the 'Certificate Multiplier' should be reduced gradually keeping in view the philosophy of the Sunset Clause<sup>14</sup>, as illustrated.

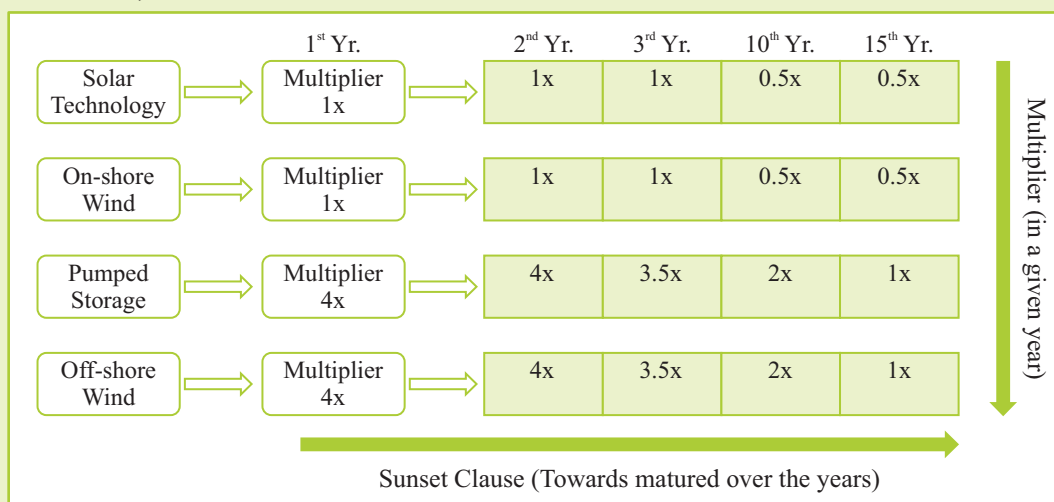


Figure: Sunset Clause

**Validity of Certificates (Clause No. 9.2):** In case an eligible entity has obtained accreditation or registration on the basis of false information or by suppressing material information and the accreditation or registration of such entity is revoked at a later date, the Certificates already issued to such entity, but not redeemed, shall stand extinguished from the date of issue of such Certificates and in respect of Certificates already redeemed, such entity shall deposit in the Central Agency, the amount realized from sale of such Certificates along with the interest at the rate of two hundred (200) basis points above the State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) of one year tenor..”

Words “shall deposit” may be replaced with “shall pay the penalty” as the connotation of deposit carries a meaning that it can be claimed later.

**Procedure for Accounting of Generation in respect of eligible entities (Clause 1.0):** “REGS based on Hybrid technology i.e. renewable energy generation based on combination of two or more source of technology shall require separate energy accounting for capacity linked to each source of technology”.



In case a hybrid RE plant generates electricity from multiple RE technologies, the RECs to be issued with respect to each technology need to be based on apportioned electricity generated from the respective technology. The approach for such apportionment needs to be specified. The following alternate methodologies may be adopted<sup>18</sup>:

- a. **Gross metered generation method** – In case, separate metering arrangements are available for the respective technology, the same may be used.
- b. **Normative CUF based energy injection** – In the absence of separate metering, normative CUF (for the location) can be used to apportion the respective technology-specific RECs. The REC registration process and the issue of RECs should thus allow for multiple technologies with differential multipliers.

In case of hybrid technologies with battery energy storage system, similar approach be used and applied for the energy to be supplied from the battery.

**Cross-border trading of RECs:** The process should include the cross border trade and the mechanism and functions should be specified for cross border as well as international trading of RECs. RECs can thus be exported through international trading mechanism. Provision for the same needs to be incorporated in the Regulation as well.

**Energy accounting and issue of RECs for in-firm power:** It should be clarified whether the energy injected on account of in-firm power of the eligible REGS/ CGP registered under REC Mechanism will be considered for issuance of RECs or not.



<sup>18</sup> CER opinion on National Wind-Solar Hybrid Policy of MNRE announced on May 14, 2018, published in its newsletter Issue-03 of Volume 01. [https://cer.iitk.ac.in/newsletters/regulatory\\_insights/Volume01\\_Issue03.pdf](https://cer.iitk.ac.in/newsletters/regulatory_insights/Volume01_Issue03.pdf)

## Regulatory Updates

### Tariff



GERC decided to adopt the tariff discovered through the competitive bidding process conducted by PGVCL, bidding won by JJ PV Solar Pvt. Ltd., for the capacity of 1.206 MW at a tariff of Rs. 2.4/kWh.

GERC has approved the following method for determination of additional surcharge and has ordered that GUVNL shall submit the below data and GERC will determine the additional surcharge method to be made applicable from 1<sup>st</sup> October, 2022.

Sr. No.	Particulars	Unit
1.	Available Energy for the six monthly periods under consideration	MUs
2.	Scheduled Energy for meeting the requirement of the general body of consumers	MUs
3.	The energy supplied to the general body of consumers out of Sr. No. 2 net off of lower of (i) normative T&D losses approved by the Commission for the year pertaining to data at Sr. No. 1 & 2 above, and (ii) latest trued up T & D losses for the four State Discoms as a whole.	MUs
4.	Stranded Generation (1-2)	MUs
5.	Fixed Cost actually paid to conventional energy Generators against the capacity tied up on a long-term basis	Rs. Cr.
6.	Fixed Cost attributable to Stranded Capacity (4 x 5/1)	Rs. Cr.
7.	Open Access Scheduled Energy at DISCOM periphery	MUs
8.	Stranded capacity directly attributable to open access customers (7)=(A)	MUs
9.	Balance stranded energy to be apportioned between open access customers and the general body of consumers on a proportionate basis (4-8). If (4-8) works out to be negative, then it will be considered equal to stranded	MUs
10.	Stranded balance energy apportioned to open access customers in proportion to open access quantum $(7 \times 9) / (3 + 7) = (B)$	MUs
11.	The aggregate quantum of stranded energy attributable to Open Access (A) +(B)	MUs
12.	The fixed cost on a per unit basis corresponding to available Energy (5 /1)	Rs./Unit
13.	Stranded fixed cost attributable to open access users (11 x 12)	Rs. Cr.
14.	Demand charges recovered from open access consumers	Rs. Cr.
15.	The network-related cost paid by open access consumers through demand charges (14* percentage of Network related cost built into the demand charge for the consumers of contract demand more than 1000 kVA by the Commission in the tariff order for the financial year of the period under consideration)	Rs. Cr.
16.	Stranded fixed cost recoverable from open access users (13-15)	Rs. Cr.
17.	Additional Surcharge on a per unit basis to be levied from open access customers (16 / 8)	Rs/Unit



KSERC ordered to revise the computation of IOWC of SBU-T of KSEB Ltd. for FY 2017-18 at Rs. 15.12 crore against Rs. 8.04 crore. approved in the impugned order dated 25<sup>th</sup> June, 2021.

The transfer cost of SBU-T to SBU-D of KSEB Ltd. for FY 2017-18 is also revised from Rs.765.77 crore to Rs. 772.85 crore The overall revenue gap for FY 2017-18 was revised to Rs. 91.21 crore from Rs.84.13 crore.

KSERC approved the income, total expenditure, and revenue deficit after the Truing-Up of accounts Infopark for FY 2019-20 as Rs. 747.78 lakh, Rs. 1297.42 lakh, and Rs. 549.64 lakh respectively. The cumulative revenue deficit of Infopark up to FY 2018-19 was Rs. 115.20 lakh. The cumulative deficit as of 31<sup>st</sup> March, 2020 will be Rs. 664.84 lakh.

KSERC approved the reduced tariff from Rs. 2.97/ kWh to Rs. 2.77/ kWh, for the procurement by NTPC Ltd. of 90 MW of Solar Power for 25 years from the SCOD from NTPC Ltd.

KSERC ordered KSEB that the amount admissible for recovery as fuel surcharge for the first and second quarter of FY 2020-21 is Rs. 30.58 crore and Rs. 34.12 crore respectively. KSERC observes that there is no requirement to allow recovery of fuel surcharge over and above the approved revenue gap FY 2020-21.



MPERC observed that the restructuring of the loan referred to by JP Ventures (Bina Thermal) is temporary and may not be applicable for the balance life of the project since no specific timeline has been provided under the Framework

Agreement. Hence, a lower rate of interest applicable cannot be considered for sharing of benefits. JP Ventures may approach MPERC as and when such an amount is paid to the lenders under the right to recompense Clause along with all supporting documents.

MPERC has allowed East Discom, West Discom and Central Discom to service new connections and replace existing stopped/ defective and burnt meters with normal meters/ non-smart meter and to serve new service connection for consumer in low consumption/ low revenue areas with prepaid meter without AMI in OPEX mode. Also, MPERC has directed MPPMCL, East Discom, West Discom and Central Discom to adhere to the timelines prescribed by the Central Govt for the same. MPPMCL, East Discom, West Discom and Central Discom are allowed to carry out the works under the scheme feeder-wise. MPERC has directed MPPMCL to furnish consolidated information regarding targets and achievement on a quarterly basis to MPERC within

## Regulatory Updates

15 days from the end of respective quarters for the aforesaid meterisation programme.

MPERC has determined the applicability and levy of various SLDC fees and charges for FY 2022-23, applicable from 1<sup>st</sup> April, 2022 till 31<sup>st</sup> March, 2023. MPERC directed MPPTCL to take steps to implement this order after giving 7 days of public notice and calculate the bills of SLDC charges to the Long-term Open access customers other than renewable sources w.e.f. 1<sup>st</sup> April, 2022 onwards and shall also provide information to MPERC in support of having complied with this order.



RERC considered that there is no requirement for additional LHS for JSW Energy (Barmer) Ltd. and the existing LHS is sufficient to meet the requirements at the present level of Sulphur content.

RERC considered 5 years repayment period to allow Jaipur Vidyut Vitran Nigam Ltd. (JVVNL), Ajmer Vidyut Vitran Nigam Ltd. (AVVNL) and Jodhpur Vidyut Vitran Nigam Ltd. (JdVVNL) to recover the amount of Rs. 7438.58 crore (5996.40 crore principal amount & 1442.18 crore interest component), on account of special FSA at the rate of Rs. 0.14/ kWh from the consumers being billed on a bimonthly basis in 30 equal installments and at the rate of Rs. 0.07/ kWh from the consumers being billed on monthly basis in 60 equal installments.

RERC decides the threshold limit of Rs. 250.00 crore for the development of intra-state transmission projects through the TBCB process without any exemption. However, in exceptional circumstances, RERC may grant exemption to this limit on a case-to-case basis.



TNERC directs TANTRANSCO to submit the year-wise actual capital expenditure incurred along with a detailed justification for delay, at the time of approval of actual capital expenditure and capitalization, for transmission schemes commencing during the control period from 1<sup>st</sup> April, 2016.

TNERC directs TANTRANSCO to submit details of monthly revenue earned from Transmission Charges along with the number of transactions on a quarterly basis.



UPERC directed UPPCL to liquidate Rs. 30 crore due towards transmission charges to R.K.M Powergen Pvt. Ltd. (RPPL).



UERC directed UPCL to submit an action plan/ proposal for carrying out necessary modifications in the ToD metering slots as approved in the Tariff Order dated 31<sup>st</sup> March, 2022 along with the next tariff filing for FY 2023-24 which would be due by 30<sup>th</sup> November, 2022.

## Power Procurement



DERC approved the optimal requirement of 500 MW based upon the Demand-Supply Analysis for BRPL and BYPL and all deviations are accepted except deviation Model Bidding Documents filed by BRPL and BYPL.

DERC allows the prayers of BRPL and grants approval for procurement of Short-Term Power and LOIs for the first and second fortnight of September, 2022 and for the first fortnight of October, 2022 and has not allowed the same for the second fortnight of October, 2022.

DERC approves the procurement of power by TPDDL of 100 MW RTC power at Rs. 5.10/ kWh with Delivery Point at Northern Region Periphery including all charges i.e., Capacity Charge, Energy Charge, Trading Margin, applicable charges/ loss up to delivery point during 16<sup>th</sup> August, 2022 to 31<sup>st</sup> August, 2022.



KSERC grants approval for procuring 400 MW from Talibara Power Plant of NLCIL at Odisha with a condition that the electricity tariff generated shall be determined by CERC as per Section 62 of the Act. KSEB will actively participate and file its comments before CERC during the determination of the tariff.

KSERC orders that, while truing up of accounts of FY 2021-22, the excess amount over and above the L1 rate at Kerala periphery paid in the provisionally approved/ unapproved PSAs, if any, for the purchase of power from the above provisionally approved/ unapproved DBFOO contracts shall not be considered in the process of Truing up of accounts of KSEB Ltd. for FY 2021-22.



MPERC hereby accords approval to the draft Supplementary Agreement, to PPA dated 5<sup>th</sup> January, 2011, filed by MPPMCL with the subject petition. The approved draft Supplementary Agreement shall come into effect from the date it is executed by all the parties who signed PPA on 5<sup>th</sup> January, 2011.

MPERC is of the view that the provision to claim



## Regulatory Updates

compensation for part load operation as provided under DOP and MPEGC, 2019 is necessary to be incorporated in the PPA through a supplementary agreement between MPPMCL and Jaypee Bina Thermal Power Plant. Therefore, MPPMCL is directed to draft an appropriate agreement in this regard in accordance with the provisions under MPEGC, 2019 and DOP issued by MPERC and approach MPERC for its approval after the concurrence of MPPMCL and Jaypee Bina Thermal Power Plant.

MPERC has found that the reasons/conditions for invocation of the Force Majeure clause by MPPMCL are not in accordance with the provisions of the PPA dated 5<sup>th</sup> January, 2011. Therefore, MPPMCL is directed to pay the charges from April, 2020 to May, 2020 along with LPS in accordance with the provisions under the MPERC Tariff Regulations, 2020 and the PPA executed between the parties read with order dated 5<sup>th</sup> April, 2020 regarding the reduction of LPS.



MERC allows the prayer of Kharghar Vikhroli Transmission Pvt. Ltd. to change the Acquisition Price of Special Purpose Vehicle by Rs. 71.70 Cr without any carrying cost. Kharghar Vikhroli Transmission Pvt. Ltd. will be entitled to

recover the impact of the Change in Law after declaring the Date of Commissioning of the project in accordance with the provisions of the TSA without any carrying cost.

MERC directs that the scheduled commercial operation date of 100 MW Solar Project of TP Kinali Ltd. is extended to 26<sup>th</sup> May, 2022 without any penalty.



UPERC allows UPPCL for seeking approval of a long-term battery energy storage purchase agreement and bidding document for the invitation of e-tender for the installation of the energy storage system of 10 MW x 4 Hrs. with the

following conditions:

- UPPCL shall select revenue surplus locations, as this is the first project so viability is important, subject to availability.
- UPPCL shall specify the location of the project in the bid.
- Performance Parameters:
  - UPPCL shall specify a minimum RtE of 90% instead of 97.5% on monthly basis.
- No tariff would be payable for BESS monthly availability of less than 70%
- Legally validate the term "Liquidated damages" in the bid document.

- Specify treatment of DSM for charging/discharging schedule for the BESS.

## Renewable Energy, RPO and REC

MPERC has decided to consider and approve the capacity additions as proposed, MPPMCL is directed to ensure appropriate capacity addition in a timely manner so that there is no default in meeting Renewable Purchase Obligations in Madhya Pradesh. It is also reiterated that for any future capacity addition towards power procurement including renewable energy sources for meeting RPO compliance, prior approval of MPERC will have to be necessarily sought.

MPERC accords approval for deviation in the wind-solar Hybrid Bidding Guidelines and has given approval of the guidelines for TBCB Process for procurement of power from Grid Connected wind-solar Hybrid Power Projects notified by MNRE on 14<sup>th</sup> October, 2020 under Section 63 of the Act. MPPMCL is directed to file a separate petition for approval of PPA to be entered with the successful bidders.

MERC adopts the voluntarily offered tariff of Rs. 2.56/kWh for the supply of 300 MW RE Wind Solar Hybrid power by T.P. Saurya Ltd. to MSEDCL. Both are directed to sign PPA within 31<sup>st</sup> July, 2022 and submit a copy of the same for record.

MERC notes that MSEDCL has suggested consideration of tariff discovered in its tender for procurement of 500 MW grid-connected solar projects. Utility-scale projects often have lower per kW installation and maintenance costs due to the economics of scale. Project capacity tied up under MSKVY is between 2 MW to 10 MW. Surplus solar power is available at the consumer end as against grid-scale projects whose power is available at the Maharashtra STU periphery, therefore if the impact of transmission charges, transmission and distribution losses is added, the effective rate of grid-scale project will come around that of MSKVY project. MERC thus adopts the tariff of projects discovered in MSKVY instead of 500 MW utility-scale projects.

MERC directs MSEDCL to purchase and make payment of the surplus over-injected units from FY 2016-17 to FY 2020-21 for Wind World (India) Ltd., with applicable interest after verification based on submission of necessary/ required documents and as per the applicable provisions of DOA Regulations.

MERC directs that Cogen Sugar factories, without an EPA with MSEDCL can install Solar projects and its applicability for a net-metering arrangement shall be decided based on the total grid interactive RE generating



## Regulatory Updates

capacity installed within the premises.

MERC approves the procurement of 14 MW on a long-term basis from solar generators. Ashutosh Valmik Rajput, Laxmikant Narayanrao Loharekar, Majid Rafik Shaikh, Manda Maruti Sanap, Pandurang Shankar Gajare, Prasen Hemantrao Vinchurkar, Rahul Pritamsingh Upwasani, Rajesh Uttamrao Vitekar, Ramhari Vyankatrao Mantri, Sadashiv Vyankatrao Mantri, V.D Electricals and Varad Electricals & Engineering are directed to sign the PPA based on documents published during the bidding process. This signing shall be completed by 21<sup>st</sup> August, 2022. MSEDCL shall submit a copy of the PPA to MERC within 15 days of entering it. The Solar Power procured from these projects shall be eligible for the fulfillment of RPO for the respective periods.

MERC approves the procurement of 535 MW on a long-term basis from the Solar power projects connected to MSEDCL under 'Mukhyamantri Saur Krishi Vahini Yojana' and allows MSEDCL to enter into a PPA with the successful bidder for a period of 25 years. The Solar Power procured from these projects shall be eligible for the fulfillment of RPO for the respective periods.

PSERC observes that PSPCL has requested to carry forward a shortfall of 898.70 MUs of Non-Solar and 92.26 MUs of Solar RPOs for FY 2021-22 to FY 2022-23. PSERC notes that RE is available at very reasonable rates in the market and thus directs PSPCL to ensure that renewable power purchase is preferred while procuring the short-term power while keeping in mind commercial considerations to reduce the carry forward of RPO obligations requested by PSPCL.

RERC recognized certain events as change in law for quantum of compensation payable on account of the above change in law events shall be considered at the appropriate stage in terms of the formula provided at Article 12.2.3 of the respective PPAs. Rajasthan Urja Vikas Nigam Limited (RVUNL), AEW India North One Pvt. Ltd. However, Hon'ble APTEL vide its orders dated 12<sup>th</sup> October, 2021 and 28<sup>th</sup> January, 2022 has held that the proceedings to be treated as incomplete and inchoate because of non-consideration of all Order in Petition No. 1905/ 2021 & 1933/ 2021 declarations sought by the SPDs for change in law.

RERC considered all the claims of the SPDs, hence the adoption of Tariff proceedings is complete with the issuance of this order. Accordingly, it is clarified that respondents will be entitled to consequential relief on account of the delay in tariff adoption in terms of Articles 2.1.3 and 2.1.4 of the PPA of RERC RE Tariff Regulations, 2020

## Others

DERC has considered after keeping in the view of current scenario on account of impact of blending of Imported Coal in Gas Prices in Power Purchase Cost reallocation of 500 MW of Dadri-II Power from Delhi to Haryana by Ministry of Power, GoI, it is prudent to continue the PPAC applicable as on 31<sup>st</sup> August, 2022 till further orders, to maintain 24x7 supply of power to the Consumers of Delhi and enable discoms to make timely payments.

HERC ordered that the percentage of self-consumption for Orbit Resorts Ltd. shall be computed after excluding generation and consumption from April to July in 2020. Generation quantity shall be reckoned with the net auxiliary consumption and losses. If auxiliary consumption is above 51%, the notice of Rs. 1,80,85,253/- shall be set aside. Any amount that has been deposited against the demand notice shall be refunded and adjusted in the next bill.

MPERC directed MPPMCL to pay all legitimate dues along with a delayed payment surcharge to Oil India Ltd. in terms of PPAs within 27<sup>th</sup> August, 2022. MPPMCL is directed to pay a penalty of Rs. 1,00,000/- to MPERC within 27<sup>th</sup> August, 2022 for non-compliance with MPERC's order dated 6<sup>th</sup> October, 2021.

MERC directs MSEDCL to provide credit adjustment from April, 2018 to October, 2018, for Mahindra Sanyo Special Steel Pvt. Ltd. within 25<sup>th</sup> August, 2022 and submit the compliance report to MERC within 1<sup>st</sup> September, 2022

MERC directs that the scheduled commercial operation date 300 MW Solar Project of ACME Heergarh Powertech Pvt. Ltd. is extended to 19<sup>th</sup> April, 2022. For delay in commissioning beyond this date, MSEDCL can raise a claim for Liquidated Damages as per provisions of PPA.

MERC directs that the SCOD of the 350 MW solar project of Avaada Sunce Energy Pvt. Ltd. is extended to the actual commissioning date i.e., 8<sup>th</sup> April, 2022.

MERC directs that Ambuja Intermediates Pvt. Ltd. is eligible to receive late payment surcharge from April, 2017 onwards. MSEDCL is directed to pay the same as per the provisions of the Energy Purchase Agreement (EPA), within 60 days from receipt of the bill. In case, MSEDCL fails to pay the LPS amount as per the given timelines, then penal interest will be imposed at 1.25% per month on any outstanding LPS.

MERC directs MSEDCL to make interest payments from December, 2019 to May, 2021 to Viraj Profile Ltd. & Bebitz Flanges Works Pvt. Ltd. at the RBI Bank Rate

## Regulatory Updates

as per the provisions of DOA Regulations, 2016 within 1<sup>st</sup> October, 2022.

MERC directs MSEDCL to release the agriculture connection to Shri. Gulab Chand Shaha within 26<sup>th</sup> September, 2022. MERC further directs MSEDCL to pay compensation as per the Supply Code and SoP Regulations, for the delay in the release of connection in the first energy bill after releasing the connection, as directed by the CGRF vide Order dated 27<sup>th</sup> January, 2022. The compliance report shall be shared with Shri. Gulab Chand Shaha and shall also be submitted to MERC within a week, thereafter.

MERC approves the bidding process of MSPGCL for Ideal Energy Projects Ltd. MSPGCL shall approach MERC separately showing the actual benefits due to the Coal Tolling arrangement with complete details and its impact on tariff for power supplied under the coal tolling arrangement after the conclusion of the Agreement period with Ideal Energy Projects Ltd.

MERC allows the claim of MSPGCL for Rs. 7.821 Crore for the period of FY 2018-19 as Change in Law for Dhariwal Infrastructure Ltd. Case IV Bidding Phase -I coal tolling arrangement. MSPGCL may include this amount in its ARR during the upcoming Mid-Term Review (MTR) Petition.

MERC observes that of the principal amount of Rs. 75.69 lakh, MSEDCL has paid Rs. 65.71 lakh to Hercules Hoists Ltd. For the balance of Rs. 9.98 lakh Hercules Hoists Ltd. is required to submit invoices for the months of April, September, November and December of 2018 within 17<sup>th</sup> August, 2022 and MSEDCL is directed to make payment as per due date mentioned in the contract document. MERC further directs MSEDCL to pay delayed payment charges to Hercules Hoists Ltd. on the outstanding principal amount from 15<sup>th</sup> March, 2017 onwards within 2<sup>nd</sup> September, 2022.

MERC observes that of the principal amount of Rs. 52.88 lakh, MSEDCL has paid Rs. 44.76 lakh to Morris Energy Ltd. The balance Rs. 7.90 lakh should have been paid in June, 2022. In case the payment has not been made, MSEDCL must pay the same within 2<sup>nd</sup> September, 2022 including the delayed payment charges amount of Rs. 6,25,000/-. In case, MSEDCL fails to pay the delayed payment charges as per the given timeline, penal interest will be imposed at 1.25% per month on any outstanding delayed payment charges.

PSERC determined the additional surcharge applicable from 1<sup>st</sup> April, 2022 to 30<sup>th</sup> September, 2022 for full open access consumers availing open access beyond the contract demand at Rs. 1.10/kWh, and Rs. 0.70/kWh for partial open access consumers availing open access up to the contract demand.

TNERC directs SLDC to maintain separate Trial Balance, Accounts, Asset, etc., for SLDC and submit them with the subsequent tariff petition.

TNERC directs SLDC to provide information on the monthly revenue earned from Scheduling Charges and System Operation Charges on a quarterly basis.

TNERC directs TANGEDCO to study the hourly consumption of HT IA category based on ABT metering, to identify which category is contributing to peak consumption, off-peak hours. Based on this study, TANGEDCO will upgrade the ToD tariff dispensation.

UERC allows UPCL to recover the FCA amount to the extent claimed by it from various consumer categories at the rates submitted by it and is directed to maintain a separate record for such recoveries and submit the details of the quarter-wise FCA recovered as FCA allowed by UERC.



## Tariff Orders

State/Union Territory (SERC)	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
JERC (A&N)	EDA&N		FY 2021-22	FY 2022-23 to FY 2024-25	FY 2022-23
JERC	EWEDC	FY 2020-21	FY 2020-21	FY 2022-23 to FY 2024-25	FY 2022-23
Madhya Pradesh (MPERC)	MSPGCL	FY 2020-21			
Madhya Pradesh (MPERC)	MPPTCL	FY 2020-21			
Madhya Pradesh (MPERC)	Jaiprakash Power Ventures Ltd., Singrauli	FY-2020-21			
Maharashtra (MERC)	MADC	FY 2014-15 to FY 2019-20		FY 2020-21 to FY 2024-25	FY 2020-21 to FY 2024-25
Rajasthan (RERC)	JVVNL, AVVNL, JdVVNL, RVPNL	FY 2020-21			FY 2022-23
West Bengal (WBERC)	HEL		FY 2016-17		FY 2020-21 to FY 2022-23
	WBSEDCL		FY 2016-17 to FY 2019-20		FY 2020-21 to FY 2022-23
	WBSETCL		FY 2018-19 to FY 2019-20		FY 2020-21 to FY 2022-23
	DPL		FY 2015-16		
	CESC		FY 2014-15 to FY 2017-18		FY 2020-21 to FY 2022-23
	IPCL		FY 2014-15		FY 2018-19 and FY 2019-20

## Regulations

Title	Date of Approval/Notification
JERC Goa & UT (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations 2019 – Extension regarding	25 <sup>th</sup> August, 2022
KERC (Procurement of Energy from Renewable Sources) (Eighth Amendment) Regulations, 2022	12 <sup>th</sup> July, 2022
KERC (Conditions of Supply of Electricity of Distribution Licensees in the State of Karnataka (CoS) (Tenth Amendment) Regulations, 2022	1 <sup>st</sup> July, 2022
KSERC (Renewable Energy and Net Metering) (First Amendment) Regulations, 2022.	15 <sup>th</sup> July, 2022
KSERC (Conditions of License for Existing Distribution Licensees) (Amendment) Regulations, 2022	30 <sup>th</sup> June, 2022
MPERC (Recovery of Expenses and other Charges for providing Electric Line or Plant used for the purpose of giving Supply) Regulations (Revision-II), 2022	31 <sup>st</sup> May, 2022
PSERC (Electricity Supply Code and Related Matters) (Eleventh Amendment) Regulations, 2022	8 <sup>th</sup> September, 2022
UPERC (consumer Grievance Redressal Forum), Regulations, 2022	21 <sup>st</sup> July, 2022
WBERC (Open Access) Regulations, 2022	3 <sup>rd</sup> August, 2022



**\*Disclaimer:** The information provided herein is extracted/reproduced from Order/ Regulation/ Document etc, of the respective Commissions. This is for information purpose only and does not in any matter reflect opinion or analysis thereon.

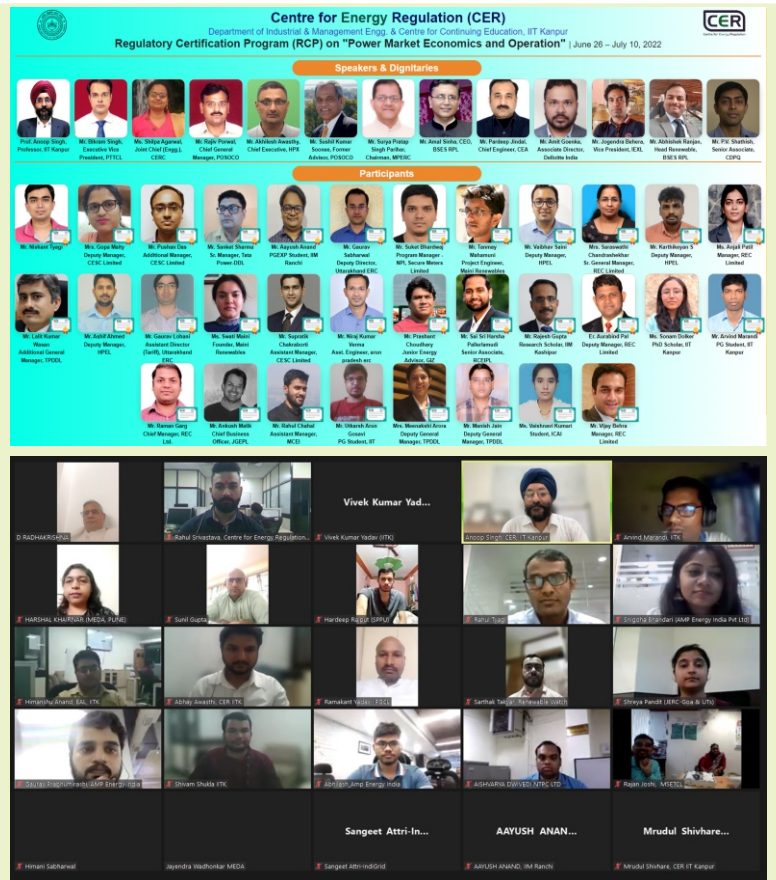


## Regulatory Certification Programme

CER organised 2<sup>nd</sup> **Regulatory Certification Program on "Power Market Economics and Operation"** from 26<sup>th</sup> June 2022 to 10<sup>th</sup> July 2022. The program was designed to provide insights into the economic and operational aspects of the power market, its products, and its role in the Indian power market. This program was conducted under the aegis of the Centre for Continuing Education, IIT Kanpur. Mr. Surya Pratap Singh Parihar, Chairman, MPERC graced the valedictory session on 14<sup>th</sup> July 2022 along with other eminent speakers. The speakers included Mr. Sushil Kumar Soonee (Former Advisor, POSOCO), Dr. Anoop Singh (Professor, IITK), Ms. Shilpa Agarwal (Joint Chief (Engg.), CERC), Mr. Jogendra Behera (Vice President, IEX), Mr. Pradeep Jindal (Chief Engg, CEA) amongst many more.

CER's 1<sup>st</sup> **Regulatory Certification Program (RCP) on "Renewable Energy: Economics, Policy and Regulation"** commenced on 7<sup>th</sup> October 2022 and was inaugurated by Mr. D. Radhakrishna, Chairman, TERC. The program is focused on the regulatory and policy frameworks for renewable energy development. Built on economic foundations, the program is enabled to provide a better understanding of evolving regulatory and policy frameworks for Renewable Energy (RE) to the participants, along with the opportunity to learn best practices from academic professionals, leading national and global experts, and to develop the ability to deal with practical problems such as RE generation forecasting, scheduling and dispatch. Further details about the program and other upcoming RCPs are available at <https://cer.iitk.ac.in/olet/rcp>.

The registration for the next batch of eMasters Degree Program in 'Power sector Regulation, Economics and Management' is open till 12<sup>th</sup> November, 2022. It is a multi-disciplinary program approved by the Senate, IIT Kanpur and the session for cohort – II will commence from 9<sup>th</sup> January, 2023. The program will provide a conceptual understanding of power sector regulation from economic, legal, environment and regulatory perspectives. Further details about minimum qualification, admission criteria, application process and course fee structure are available at <https://emasters.iitk.ac.in/powersector>.



We invite readers to register at CER's web portal to access CER's publications and resource material. This would also help us design CER's activities and deliver a more relevant output by engaging with stakeholders. We also request your inputs on the newsletter and the activities of the Centre.

*Regulatory Insights Team*

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### Other Initiatives



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