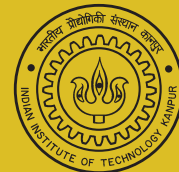




# REGULATORY INSIGHTS



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## Editorial

COVID-19 pandemic has immediate as well as long-term concerns for the regulators and the policy makers. Its impact on power system is reflected in general decline of energy sales and, a change in composition of energy sales and demand profile. Given the higher proportion of fixed cost component in costs as compared to the proportion of revenue from fixed charges in total revenue, a decline in energy sale, particularly those of subsidizing categories, would widen the revenue gap. The need for tariff revision and/or additional subsidy for the current and subsequent financial years is a cause for regulatory concern. Further, the pandemic's impact would be felt across the supply chain due to low PLF of high variable cost generators and decline in the sale of coal.

Reduction in renewable energy cost, even below that of conventional sources, needs to be reflected in floor price of solar/non-solar RECs, which has been proposed to be brought down to zero. Further, the uniform forbearance price at ₹1000/MWh provides the right framework to do away with prevailing segregation by merging solar and non-solar REC markets.

Increasing share of RE generation in RE rich states such as Andhra Pradesh and Tamil Nadu is leading to regulatory proposals removing/diluting the available preferential benefits to RE based generation. Since such concerns are arising on account of variability and uncertainty associated with variable RE generation, changes in the regulatory framework are required to make them more accountable to grid through uniform applicability of deviation related charges, and by enabling creation of a market for storage services as it becomes more economical in future.

Real-time monitoring of solar rooftop installations is a key to ensure that distribution utilities do not lose the visibility of behind the meter solar generation. Large rooftop installations (say, above 50/100 kW) should have adequate capability to enable real-time monitoring at the cost of owners. A sample of smaller installations should also be monitored by the distribution utility by making adequate investment, which should be approved by the SERCs.

Regulatory lag in RE tariff determination inadequately reflects decline in RE cost. Dynamic linking of the regulated tariff to the one determined through competitive bidding can address this. Regulated tariff for small scale projects, which are not exposed to competitive bidding process, can also be linked with adequate margin to compensate for diseconomies of scale. As an alternative, a competitive market for small scale projects can be developed by bundling a large number of identified projects.

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**UK Government**

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## CERC: Determination of Forbearance Price and Floor Price for the REC Framework

Central Electricity Regulatory Commission (CERC), via notification dated 31<sup>st</sup> Mar, 2020, proposed to adopt forbearance price and floor price of Renewable Energy Certificates (REC) as given in the table:

Details	Solar REC (₹/MWh)	Non-Solar REC (₹/MWh)
Forbearance Price	1,000	1,000
Floor Price	0	0

REC is a market-based instrument. It aims to bring greater efficiency in choice of cost effective technology, provides incentives for cost reduction and could facilitate greater support for development of Renewable Energy (RE) sources in the country.

## CER Opinion

- ❖ As the proposed REC floor price for solar/non-solar RECs is zero, reference to floor price as a part of REC framework under the principle REC Regulations may be amended. The trajectory of floor price and forbearance price is shown in Fig. 1 and Fig. 2:

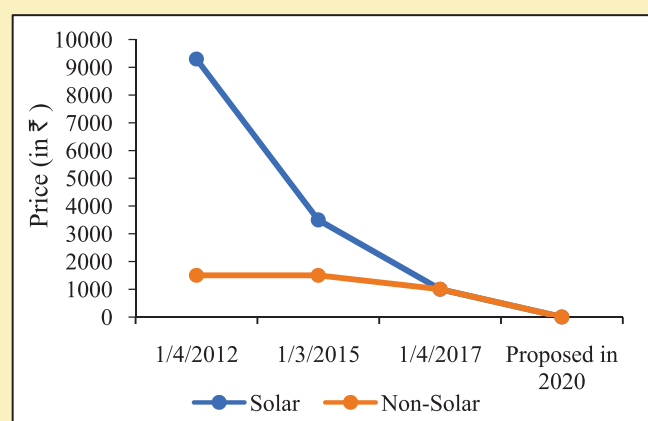


Fig. 1: REC Floor Price Trajectory

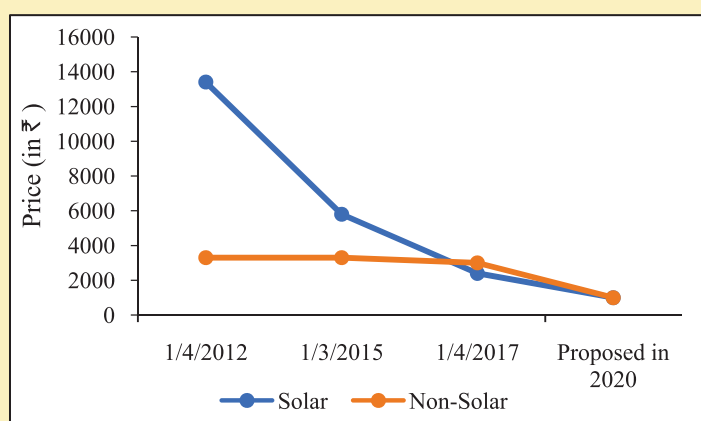


Fig. 2: REC Forbearance Price Trajectory

As the floor price and forbearance price for both solar and non-solar technologies are proposed to be uniform, it is an appropriate time to merge solar and non-solar REC markets.

- ❖ Given that SERCs are allowing excess solar (non-solar) RPO quantum to be adjusted against non-solar (solar) RPO, fungibility between solar and non-solar RECs is clearly visible and should be institutionalised.

## APERC (Terms and Conditions of Open Access) Second Amendment Regulation, 2020

APERC notified draft on 17<sup>th</sup> Feb, 2020 for 2<sup>nd</sup> amendment to APERC (Terms and Conditions of Open Access) Regulation, 2005. A summary is given below:

1. Intra-state captive/third-party sale for wind and solar power to pay for transmission and wheeling charges.
2. Exemptions from distribution losses for solar power projects injecting power at 33 kV or below is removed.
3. Solar projects supplying power under third party sale to pay 100% cross-subsidy surcharge (CSS) and additional surcharge.

## CER Opinion

- ❖ **Consonance with the Electricity Act 2003:** Removal of the preferential benefit to RE based generation and open access (OA) would not be in line with the Section 86 of the Electricity Act 2003.

- ❖ **Making RE more Accountable to the Grid:** Given the intermittency issues with increasing RE injection, which can be addressed by improving forecasting techniques for RE resources along with gradual tightening of deviation settlement mechanism can help ameliorate this impact to some extent. Further, to limit the impact of variability and intermittency, strict band for forecasting error and the associated deviation penalty structure could be adopted under APERC (Forecasting, Scheduling and Deviation Settlement) Regulation, 2017.
- ❖ **Role of Storage:** The enhanced framework for RE forecasting and penalty deviation would also provide room for innovation and adoption of grid connected storage, as they become more economical in future.

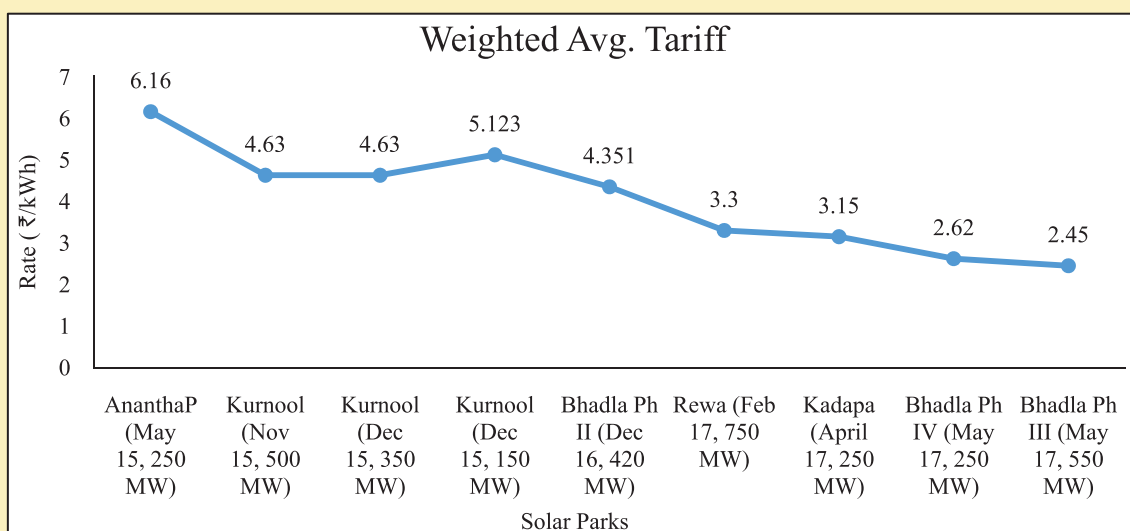
## GERC: Tariff Framework for Procurement of Power by DISCOM and Others from Solar Projects and Other Commercial Issues

GERC notified a discussion paper on 4<sup>th</sup> Feb, 2020 for tariff framework concerning procurement of solar power by DISCOMs and other stakeholders, and proposed competitive bidding for all solar projects, including small projects of 5 MW or less capacity. A summary is given below:

Particulars	Description
General Principles	<ul style="list-style-type: none"> <li>Projects established with new plants and machinery are proposed to be eligible.</li> <li>Projects to follow GERC (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) Regulations, 2019.</li> <li>Reactive power charges are proposed to be as per GERC tariff orders for GETCO.</li> </ul>
Security Deposit	₹5 lakhs/MW to STU/DISCOM is proposed.
Tariff Determination	Proposal to opt average of tariff (on 1 <sup>st</sup> Apr) discovered through competitive bidding during last six months (Oct-Mar) for next six months (Apr-Sep). Similarly, average of tariff available on 1 <sup>st</sup> Oct for Apr - Sep can be considered for next six months (Oct - Mar).
Energy Accounting and RPO	<ul style="list-style-type: none"> <li>Projects not registered under REC and not claiming RPO - Proposal to count RPO towards DISCOMs obligation, allowing banking, and paying for excess injection at ₹1.75/kWh.</li> <li>Projects not registered under REC but claiming RPO - Proposal for time block wise accounting, excess injection can be paid at ₹1.75/kWh.</li> <li>Projects registered under REC and not registered under REC but DISCOM does not claim green component, proposal for time block-wise accounting, excess injection can be paid at ₹1.50/kWh.</li> </ul>
Transmission/ Wheeling Charge and Losses	<ul style="list-style-type: none"> <li>Projects under captive use/third party sale/registered for REC are to pay transmission charges and losses as applicable to OA consumers.</li> <li>Solar projects for captive use to pay 50% wheeling charges and losses, whereas third-party sale with/without REC to pay 100% wheeling charges and losses.</li> </ul>
CSS & Additional Surcharge	<ul style="list-style-type: none"> <li>REC (non-REC) projects to pay 100% (50%) CSS and additional charges.</li> <li>For projects under MSME (Manufacturing) Enterprise (above 50% of its contracted demand) can be charged 50% CSS and additional charges.</li> <li>Captive use and sale to DISCOM/outside state to be exempted from CSS and additional charges.</li> </ul>
CDM benefits	Proposal for 100% sharing for project developer in 1 <sup>st</sup> year, 90% in 2 <sup>nd</sup> , and so on till the sharing becomes 50% (developer) and 50% (consumer).

## CER Opinion

- ❖ **Regulatory Lag in Determining Tariff:** Regulated tariff determination often lags to follow the competitive one due to the inherent nature of the regulatory process and the dynamic market situation. Decline in the competitively determined solar bids (Fig. 3) needs to be reflected in the regulated prices once feasible. Linking of the 'regulated' price for projects below 5 MW to the competitively derived one would address the underlying lag.

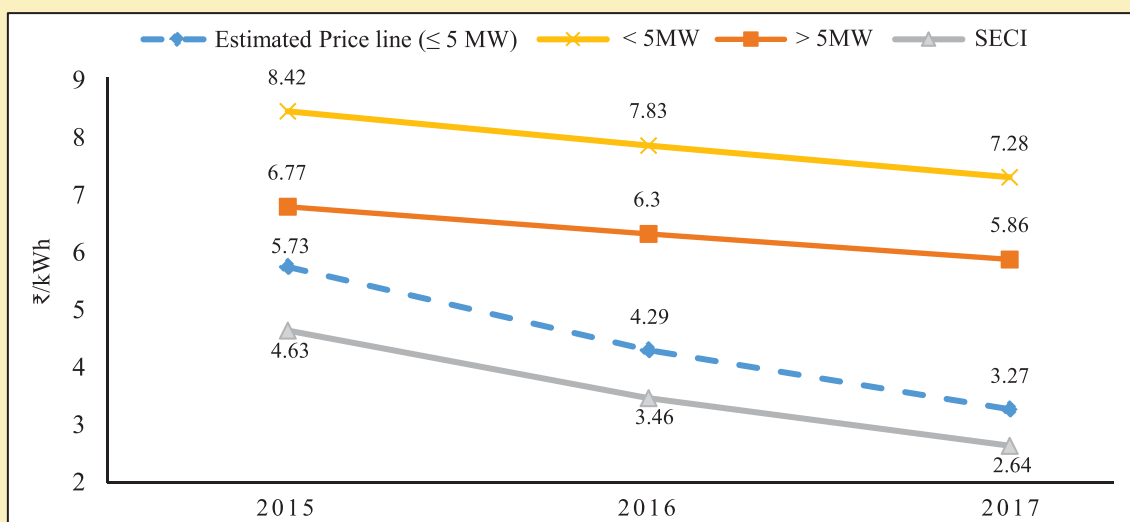


Source: MNRE.

Fig. 3: Declining Tariff for Competitively Bid Large Scale Solar PV Projects

The discussion paper lacks sufficient clarity due to multiple confounding statements. Nevertheless, CER concludes that the tariff for the projects below 5 MW is to be linked to the competitively determined tariff for projects above 5 MW during the previous six months (as per defined block of months).

- ❖ **Diseconomies of Scale for Small Projects:** Small projects (below 5 MW) have significant diseconomies of scale leading to high cost of installation, financing as well as operation and maintenance (O&M) cost. A decline in tariff for larger projects has primarily been on account of decline in the project cost and the financing costs. Smaller projects have proportionately smaller share of Engineering Procurement and Construction (EPC) cost as compared to larger ones. Hence, a decline in competitively bid prices are not directly replicable for smaller projects.
- ❖ **Linking Regulated Tariff to Competitively Determined Prices:** The mark-up between the feed-in-tariff for larger (> 5 MW) and smaller (≤ 5 MW) Solar PV projects is about 24% (Fig. 4).



Source: GERC DP

Fig. 4: Regulated and Competitively Tariff for small and large Solar PV projects

The tariff for small solar PV projects can be pegged a bit higher than the prevailing mark-up, which should be gradually reduced in future to enable project developers to adopt innovative procurement, financing and project management practices.

The 'estimated' regulated price for smaller projects (<5 MW) for 2017 (₹3.27) would have been less than half of the regulated price. The mark-up relationship may not be linear and, hence, needs to be studied later.

- ❖ **An Alternate Solution - Competitive Market for Smaller PV Projects:** Considering, the uncertainty associated with the mark-up relationship between regulated and competitively determined tariff, the aim should be to nurture a competitive market by bundling a large number of small scale projects deriving economies of scale in procurement, financing and implementation.



## HERC: Guidelines for certifying or refusing to certify non-availability to Transmission/Distribution system or Unscheduled Load Shedding

HERC drafted guidelines for certifying or refusing to certify non-availability to transmission or distribution system for OA consumers. The summary is as follows:

Applicability	<ul style="list-style-type: none"> <li>OA consumers who use transmission system of HVPNL and/or Distribution system of UHBVNL/DHBVNL.</li> <li>OA consumer, existing consumers of DISCOMs, bulk consumers/CPPs/IPPs or state utility or an intra-state entity as a buyer or seller eligible under OA Regulations.</li> </ul>
Availability of Spare T & D Capacity	Surplus capacity to be offered to LTOA, MTOA, and STOA in respective order. In case of system enhancement, the applicant will pay the distribution capacity cost for grant of LTOA.
Contract Demand (CD) & Voltage Level	<ul style="list-style-type: none"> <li>Consumers who have a demand of 0.5 MVA and above, and connected at 11 kV or above.</li> <li>Licensee, generating company, captive generating plant and consumer who have a demand of 1 MW and above, and connected at 11 kV or above.</li> <li>Consumers of two or more of distribution licensee who have a combined CD of 0.5 MVA or above, and connected to common feeders.</li> </ul>
Connectivity	Except projects lower than 10 MW, rest to be eligible for connectivity at 33 kV or higher level.
Application Fee	<ul style="list-style-type: none"> <li>For STOA Consumer ₹5,000 + GST, MTOA Consumer ₹1 lakh + GST, LTOA Consumer ₹2 lakh + GST.</li> <li>For OA, a nonrefundable fee of ₹2 lakh and ₹1 lakh will be charged for grant of connectivity to the intra-state transmission and distribution system, respectively.</li> </ul>
<b>Failure of Evacuation System of the Licensee</b>	
Inter-state Sale	The generator will need to pay the licensee at the tariff charged to the purchaser for the energy which could not be evacuated by the licensee due to failure of system.
Intra-state Sale	<ul style="list-style-type: none"> <li>For sale to the DISCOM, the payment to the generator to be made as per the PPA.</li> <li>In case of failure of evacuation system, SLDC is to inform the purchaser, who should stop drawing power within 6 blocks of this intimation as per DSM Regulations.</li> <li>During the period of system failure: <ul style="list-style-type: none"> <li>The purchaser to pay the generator at the agreed tariff, and the generator will pay the licensee for the energy supplied at the same tariff charged to the purchaser.</li> <li>The generator will be compensated by the licensee for payment of OA transmission and wheeling charges, and if the purchaser/OA consumer does not stop drawing power within 6 blocks, consumer will be charged for the imbalance.</li> </ul> </li> </ul>
<b>Failure of Transmission/Distribution system of Licensee</b>	
For unnotified outage on account of transmission/distribution system, the DISCOM to compensate the OA consumer the charges payable by him to the generator or the lowest tariff applicable to the consumer category, whichever will be lower.	
For any over-drawal beyond scheduled for any time slot during OA period in a day, the OA consumer will be penalised as per OA Regulation; further, the under-drawal to be compensated as per the provisions of imbalance charges.	
If there is a planned and emergency shutdown of any element of transmission/distribution system or grid gets disturbed due to sudden change in voltage/system frequency and line constraints occur due to outage, then SLDC will certify non-availability of T & D system.	

## CER Opinion

- ❖ **Treatment of Unused Transmission/Distribution Network Capacity:** To discourage withholding and to bring competitiveness in allocation of unused transmission/distribution network capacity, the unused transmission

capacity should automatically be released to the SLDC to meet any exigency or to reallocate the same for scheduling RTM based transactions/intra-day transactions (bilateral or through power exchanges).

- ❖ **Transparency and Data Sharing:** All information related to applications and grant of OA including availability of transmission network and change in OA granted should be promptly and prominently placed on the website of SLDC. The details should include - application number, name of the entity, date of application, date of grant, quantum of OA applied/granted, blocks and duration of OA applied/granted, injection/drawal point, injection/drawal voltage etc., and be archived to avoid any misuse. Block-wise schedule of all OA utilised should also be clearly specified in the daily schedule report of the SLDC. Any procedural departure or issue encountered causing delay in providing OA should also be recorded and archived in a searchable database on the SLDC portal.
- ❖ In case of refusal of OA application, SLDC should provide alternate slots/lower capacity or a timeline for availability of the capacity in future. Surplus capacity, if any, in transmission/distribution network should be reported at least 3 months in advance and be updated on a weekly basis.
- ❖ In case of availability of network capacity in future, previous applicants whose application for the same duration was either refused or partially fulfilled, are given preference in capacity allocation.
- ❖ In case of failure of power evacuation and compensation for wheeling and transmission charges, a mechanism to pass on the benefit to the buyer should also be in place.
- ❖ The state's OA regulation (Clause 24), providing for a window of 6 time blocks, before revision of schedule by the generator and the intra-state buyer, addresses the system security concerns. Treatment with respect to inter-state transactions, though deficient on this front, would continue to be governed by the respective CERC regulations, which also needs analogous treatment, till such time HERC should follow CERC provisions.
- ❖ Further, in case of protracted unavailability of the evacuation system, the granted OA should be reduced/withdrawn within an appropriate time limit.

## MERC (State Grid Code) Regulations, 2020 [Draft]

MERC released draft State Grid Code Regulations (MEGC, 2020) on 1<sup>st</sup> Mar, 2020. MEGC 2020 is applicable to all generators in the state connected to intra-state transmission system (InSTS), transmission licensee in the state including STU, Maharashtra SLDC, distribution licensees including deemed distribution licensees, Indian Railways, OA consumers and EHV consumers connected to InSTS. A number of sub-committees to be formed under Grid Coordination Committee (GCC).

MEGC, 2020 also specifies the roles and responsibilities of STU, SLDC, transmission and distribution licensees, generators and Qualifying Co-ordinating Agency (QCA).

### Key Highlights

- ❖ GCC to be re-constituted by STU within 60 days from the date of notification.
- ❖ STU is to explore and evaluate alternate options if capital expenditure for any new transmission system exceeds threshold limit of ₹100 crore or as declared by the Commission from time to time.
- ❖ In case of unavailability of the actual data of capacity factors for solar and wind generators, following factors can be used for capacity factor calculation for planning purpose:

Voltage/Aggregation Level	132 kV/ Individual Wind or Solar	220 kV	400 kV	State (as whole)
Capacity Factor	80%	75%	70%	60%

- ❖ SLDC need to maintain the spinning reserve margin equivalent to 3% of the system peak demand and 3% of installed capacity for the generators to manage ramp up.
- ❖ For solar rooftop of 100 kW and above within SLDC's distribution area, DISCOMs to develop online tracking and monitoring system for distributed generation and facilitate the revision in drawl schedule during intra-day operation.
- ❖ The generating company can de-rate the capacity or can go for repeat trial run. The demonstrated capacity, in case of de-rating, will be equal to or greater than 105% of de-rated capacity for thermal InSGS and 110% for hydro generating station.

- ❖ In case of failure to demonstrate the declared capacity, the Annual Fixed Charges (AFC) due to GENCO to be counted as penalty.
- ❖ Charges equivalent to two-day fixed charges will be the penalty for first mis-declaration of any duration/block in a day. Similarly, four days equivalent fixed charges for the second mis-declaration and further, the penalty is to be multiplied in the geometrical progression for subsequent mis-declarations in the year.
- ❖ If the grid operating parameters deviate beyond permissible specified operating range, SLDC to prepare centralised MoD stack of the generators for real-time operation.

## CER Opinion

- ❖ **Transmission Investment:** The investment approval framework should include a cost-benefit analysis considering economic efficacy of the investment and the system security over medium to long-term. Excess investment towards reliability of supply needs to be controlled to avoid burden on consumers. Further, the transmission pricing framework should also ensure that cost burden associated with investments undertaken for a few beneficiaries are recovered from such users of the transmission system.
- ❖ **Spinning Reserve:** Framework for procurement and payment for spinning reserve capacity margin and its recovery from system participation (specially load serving entities) should be specified. If the intra-state generators are to provide this margin, they should be able to recover such investment as the reserve margin would not be part of the declared capacity which is available for scheduling for the beneficiaries.
- ❖ **Solar Rooftop Monitoring:** The benefit of 'real time' tracking and monitoring of 100 kW and above solar rooftop system would improve ability of the DISCOM/SLDC to forecast such generation and implement schedule revision.
- ❖ **Data Availability from Monitored PV Systems:** Data from such monitoring systems should be made available in the public domain to ensure that better forecasting systems can be developed by the academic/research community, to be paid by distribution licensee.
- ❖ **Recovery of Investment in Monitoring System:** It seems that the cost associated for tracking and monitoring of 100 kW and above solar PV rooftop system would be paid by distribution licensee. Recovery of such investment should also be provided by the Commission.
- ❖ **Sampling Based Monitoring of Small PV Systems:** Growth of small-scale solar rooftop PV systems would constrain DISCOMs/SLDC to effectively forecast and manage the schedule thereof. A sampling based monitoring system for systems above 10 kW and up to 100 kW would enhance visibility of such small-scale systems. Further, small-scale rooftop systems may see significant capacity additions through PM KUSUM Scheme, hence, stratified sampling of such geographically dispersed systems would ensure a broader coverage.
- ❖ **Fast Response Ancillary Services:** Clause 30.6 requires 'instantaneous' picking up of the generation to 105/110% in case of 'sudden fall in system frequency', which should be specified. Further, generating units have technical ramp up limits (1-1.5% per minute) and hence 'instantaneous' ramping is infeasible.  
The near instantaneous ramping need can be implemented through fast response ancillary services, hence, the Commission may direct the SLDC to develop a **commercial/market-based mechanism for intra-state ancillary services** wherein flexibility associated with various system constituents can be appropriately priced.  
Development of a Demand Response Program that allows 'load curtailment' at a shorter notice, can provide flexibility to the system as well. For e.g. agricultural cold storage facilities can respond by immediate load curtailment for a few minutes duration without compromising their services.
- ❖ In case of failure of a generating unit to demonstrate its max DC, there should be a provision for reduction in AFC. (30.2)
- ❖ **MoD related Data Disclosure:** SLDC should also provide all technical parameters like capacity, ramping rates, technical minimum, start up and down cost etc. for each generating unit through its portal. This would help researchers to develop modelling solutions for Maharashtra's power system.
- ❖ **MoD:** Apart from VC, a daily MoD stack should be prepared by SLDC considering DC, ramp up/down rate of generating units, buyer's demand profile and, transmission losses and transmission constraints. (33.1)



- ❖ **Intra-state SCED Framework:** Centralised Despatch to be prepared on an intra-day basis, is akin to the intra-state SCED framework, which further optimises cost of power procurement. However, the resultant cost savings due to revision of the schedule are to be shared in a transparent and fair manner. (33.2)  
EAL, IIT Kanpur developed a SCED modelling framework that was used to provide key inputs to POSOCO regarding multi-period optimisation, which was adopted by POSOCO in its revised SCED procedure. EAL had suggested implementation of an intra-state SCED framework to derive cost savings across buyers within the state.
- ❖ **Frequency of Preparation of Centralised MoD:** The 'frequency' of centralized MoD preparation needs to be clarified. Ideally this should be at the beginning of each 15-minute block. Practically, this can be done on a rolling basis for 5 blocks at a time, as suggested by EAL, after considering operational constraints including availability of appropriate model, computing power and data communication. (33.2)
- ❖ **Parameters for Preparation of Centralised MoD:** Given the national synchronized grid, usage of system frequency for preparation of state level MoD is no more relevant. Similarly, the available modelling solutions for MoD do not explicitly incorporate voltage as a parameter, which needs to be monitored and operationally addressed.

## TNERC: Consultative Papers for Procurement (Solar and Wind Power) by DISCOM and related issues

TNERC issued consultative papers for procurement of solar and wind power by the distribution licensee on 13<sup>th</sup> and 14<sup>th</sup> Mar, 2020, respectively. Key points are given below:

### a) Solar Power Procurement:

Particulars	Description
Power Procurement	Through competitive bidding.
Applicable Charges	OA charges, transmission and wheeling charges, and line losses to be same as applicable for conventional plants.
CSS	100% cross-subsidy surcharge for OA consumers.
Grid Availability Charges	7.00 AM to 6.00 PM. Charged at HT Industrial tariff.
	7.00 AM to 6.00 PM. Excess generation to be charged at HT Industrial tariff.
Energy Accounting and Billing Procedure	<ul style="list-style-type: none"> <li>Excess energy generated is proposed to be paid at 75% of the respective solar tariff.</li> <li>In case no tariff is available, 75% of lowest tariff discovered through competitive bidding in the state or by SECI during the year may be applicable.</li> </ul>
Capping of Solar Generating Capacity	For OA consumers, excess generation above 10% of annual consumption not to be considered for payment.
Harmonics	Harmonics beyond the stipulated limit can be charged at 15% of applicable generation tariff. The DISCOMs to measure harmonics.

### b) Wind Power Procurement:

Particulars	Description
Tariff Determination	Competitive bidding.
CDM Benefits	Sharing for project developer, 100% in 1 <sup>st</sup> year, 90% in 2 <sup>nd</sup> , and so on till the sharing becomes 50% (developer) and 50% (consumer).
Applicable Charges	Transmission, wheeling charges, system operation charges, and line losses are proposed to be same as applicable for conventional plants.
CSS	Levy 100% cross-subsidy surcharge for OA consumers.
Reactive Power Charges	Reactive Power drawal up to 10% of the net active energy generated can be charged at 25 paise/kvarh, and beyond that 50 paise/kvarh.



Stand-by Charges	Excess consumption by captive/third party consumers is proposed as per the TNERC orders.
Energy Accounting and Billing Procedure	The licensee to maintain slot-wise record of generation and consumption and to raise bill for excess consumption. After DSM implementation, time block-wise adjustments are proposed.
Security Deposit	Captive/third party user to pay twice the maximum net consumption (in last financial year in any month) to the DISCOM.
Harmonics	<ul style="list-style-type: none"> <li>Harmonics beyond limits can be charged at 15% of applicable generation tariff.</li> <li>DISCOMs to measure harmonics.</li> </ul>
Parallel Operation	Generators to pay 100% of applicable parallel operation charges to the DISCOM.
<b>Banking of energy</b>	
<b>Category A - WEG machines commissioned up to 31<sup>st</sup> Mar, 2018</b>	
<b>Option 1</b>	
Banking Period	1 <sup>st</sup> Apr to 31 <sup>st</sup> Mar.
Settlement	Energy should be settled each month and excess injection can be credited at 75% of the applicable wind tariff/APPC for existing normal captive users/under REC Scheme.
<b>Option 2</b>	
Banking Period	1 <sup>st</sup> Apr to 31 <sup>st</sup> Mar.
Settlement	Energy settlement on 31 <sup>st</sup> Dec, excess energy can be encashed at 75% of the applicable wind tariff/APPC for existing captive users/under REC scheme, drawal not allowed during Jan-Mar and proposed to be accounted separately.
<b>Category B – Commissioned during the control period of Order No. 6 of 2018 dt. 13<sup>th</sup> Apr, 2018</b>	
Banking Period	Monthly.
Settlement	Every month excess energy can be encashed at 75% of the applicable wind tariff/APPC for existing captive users/under REC scheme.
<b>Category C - Commissioned from the date of the proposed order</b>	
Banking Period	Monthly.
Settlement	<ul style="list-style-type: none"> <li>Every month excess energy can be encashed at 75% of the applicable wind tariff/APPC for existing captive users/under REC scheme.</li> <li>For OA consumers, no payments for excess generation beyond 10% of annual consumption</li> <li>No banking facility for projects beyond a life of 10 years and excess banked energy to be paid at 75% of respective tariff.</li> </ul>

## CER Opinion

Due to significant reduction in cost of RE power, making it more competitive than the conventional sources of power, continuation of various exemptions may not be justified. However, the need for promotion of such sources by providing adequate connectivity and OA should be continued in line with the provision of the Electricity Act, 2003.

- ❖ **Cost Impact on Captive and 3<sup>rd</sup> Party Sale of RE Power Procurers:** Removing exemptions for wheeling and intra-state transmission charges, would reduce the current cost advantage for wind and solar captive generation and third party sale against higher tariffs (Indl. and other large consumers), and would also negate the cost reduction resulting from technological changes in RE.
- ❖ **Revenue Implications for Utilities:** Removal of exemptions may not contribute much to the revenue gap of the utilities. This may not impact the financial gap significantly and unlikely to enhance the 'financial performance' of the utilities. Enumeration of such implications would assist decision making by the TNERC.
- ❖ **Valuing of Excess Energy Injection by RE plants -** The proposal for non-payment of generation (and injection of energy) in excess of 10% of annual consumption by DISCOM could be improved by following recommendations:

- Payment for excess energy injection to be linked to the prevailing rate under the DSM.
- Such excess energy to be either paid at REC equivalent price (floor price) or equivalent RECs be allocated. REC registration for excess RE energy injected would need procedural amendments to the CERC (Terms and Conditions for Recognition and Issuance of REC for Renewable Energy Generation) Regulations, 2010, wherein only a part of excess energy (in current case 10%) is to be recognized to issue REC certificate. Since this may take time, the alternative of offering REC floor price may be considered.

## COVID-19: Impact on the Indian Power Sector

The immediate impact of COVID-19 pandemic is reflected in overall reduction in energy demand and change in the category-wise sale. All India daily energy demand declined by 596.4 MU, whereas daily energy sold in DAM also declined by 37.2 MU. Decline in energy sale to the industrial and commercial categories and increase in domestic energy sales would widen the revenue gap due to reduction in cross-subsidy. The states with sufficient electricity availability have witnessed significant decline in demand during the lockdown. These impacts are highlighted in the recent issue of *Power Chronicle*, EAL's newsletter (Volume 2, Issue 4, April 2020).

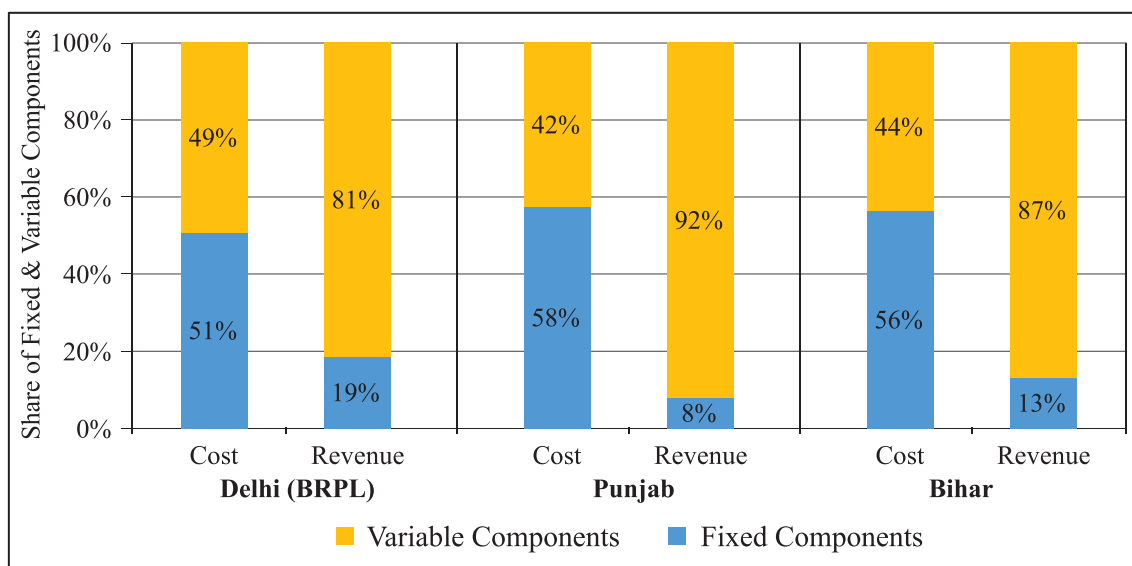


Fig. 5: Share of Fixed and Variable components in Cost and Revenue.

So: CER's Analysis based on Orders of the respective SERC for FY 2019-20.

The decline in overall energy sale would lead to under-recovery of fixed cost, a greater share of which is embedded in the energy charges payable by the consumers. The share of fixed and variable components in cost and revenue for Delhi (BRPL), Punjab and Bihar is shown in Fig. 5. The resultant higher revenue gap, in the post COVID-19 scenario, may require an increase in tariff and/or government subsidy. The generators, especially those with higher variable charges, may face lower profitability on account of lower PLF. The coal mining sector is also expected to be impacted by loss of productivity. The only positive out fall would be reflected in high RPO compliance due to the must-run status of RE plants and decline in electricity generation from conventional power plants (refer table below).

Table: Share of Thermal and RE Generation in Total Energy Mix

Description	Gujarat		Tamil Nadu	
	Thermal Generation Share	RE Generation Share	Thermal Generation Share	RE Generation Share
Pre-lockdown	81.3%	17.1%	54.5%	17.3%
Post-lockdown	75.8%	22.4%	37.1%	33.9%

So: CER's Analysis based on CER & EAL data from Orders of the respective SERC for FY 2019-20.

## Regulatory Updates

### Tariff



CERC approved AFC (in ₹ crore) for Sewa-II (120 MW) and NHPC Uri II (240 MW) HEPP for the period 2014-19 as given below:

Power Plant	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
SEWA II	252.62	251.82	247.35	241.75	242.87
NHPC	435.01	432.31	428.50	412.32	411.79

CERC approved interim tariff for 1000 MW unit (I & II) Neyveli New TPS, NLC India Ltd. and accordingly interim FC for 2019-21 as follows:

Year/Unit	FY 2019-20		FY 2020-21
	Units-I	Units I & II	
AFC (₹ crore)	605.20	1261.62	1259.60



APERC approved fuel costs as ₹3176.72/MT for existing biomass and indl. waste, and ₹1788.43/MT for existing bagasse (with annual 5% esc.) for the period 2019-24 along with the

approval of following tariff: (in ₹/kWh)

Type	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Biomass/Indl. Waste	4.77	5.01	5.26	5.52	5.8
Bagasse	3.14	3.3	3.47	3.64	3.82



HPERC approved Average Pooled Power Purchase Cost as ₹2.49/kWh for FY 2019-20 under REC mechanism on petition filed by HPSEB Ltd. and not to be trued up.

HPERC determined following generic levelised tariffs without considering subsidy, given for net saleable energy for 2<sup>nd</sup> control period (1<sup>st</sup> Oct, 2019 to 31<sup>st</sup> Mar, 2020) according to capacity-wise categories of SHP:

Generation Category	Generic Levelised Tariff (₹/kWh)
100 kW ≤ capacity ≤ 2 MW	4.49
2 MW < capacity < 5 MW	4.38
5 Mw ≤ capacity ≤ 25 MW	4.04

HPERC also determined generic levelised tariffs without considering subsidy for Solar PV Projects for the duration 1<sup>st</sup> Oct, 2019 to 31<sup>st</sup> Mar, 2020, given as:

Generation Category	Generic Levelised Tariff (₹/kWh)	
	Industrial & Urban Area Projects	Other than Indl. & Urban Area Projects
Capacity ≤ 1 MW	4.06	3.98
1 MW < Capacity ≤ 5 MW	4.01	3.93



HERC approved an additional surcharge of ₹1.15/kWh applicable to OA consumers, effectively from 22<sup>nd</sup> Oct, 2019 and directed DISCOMs to refund the excess amount being charged since then.



KSERC accepted the additional recovery of ₹62.26 crore against fuel surcharge by KSEB, to be recovered from consumers for consumption from 15<sup>th</sup> Feb, 2020 at ₹0.10/kWh.

KSERC trued-up accounts for CSEZA for FY 2017-18 and approved the following figures: (in ₹lakh)

Total Expenditure	Total Revenue	Revenue Gap	Cumulative Revenue Surplus
3684.07	3670.58	13.51	789.94

KSERC approved ARR and expected revenue for M/s Technopark for the control period 2018-22. A summary of approved income and expenditure is given below:

Particular (₹crore)	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Total income	64.59	71.63	75.63	82.80
Total Expenditure	58.65	65.53	70.41	77.95
Surplus	5.94	6.10	5.23	4.85



MPERC determined the trued-up amount of ₹530.66 crore for the FY 2017-18 to be recoverable by MPPTCL through the bills of LTOA consumers (SEZ & WCR\*) and DISCOMs.

\*Western Central Railway

MPERC approved additional capitalisation amount of ₹19.33 crore for 132/33 kV, 63 MVA S/s at SEZ Pithampur Industrial Area by M/s Industrial Development Corporation Ltd.

MPERC allowed M/s Jaiprakash Power Venture Ltd. to recover the Annual Capacity (Fixed) charges of ₹6.01 crore for 2×250 MW units of Bina Thermal Power Plant (Phase-I) from the beneficiaries during FY 2019-20.



NERC determined generation tariff as ₹4.70/kWh for 2×30 MW Thermal Power Plant located at Tuli, Nagaland set up by M/s Fitzroy Energy and Minerals producing power from coal and bamboo procured locally.



OERC extended the applicability of Generation Regulations (Terms and Conditions of Generation Tariff, 2014) for one year i.e. till 31<sup>st</sup> Mar, 2020, earlier applicable till 31<sup>st</sup> Mar, 2019.



## Regulatory Updates



RERC approved revised amount of ₹0.60 crore as additional capitalisation for truing up in FY 2018-19 for KTPS (Unit 1-7), STPS (Units 1 to 6), CTPP (Units 1 & 2), DCCPP, RGTPS (110.5 MW) and Mahi Hydel Power Station of RVUN due to variations in ARR as a result of taxes and other charges.

RERC approved provisional tariff of ₹4.128/kWh and ₹3.728/kWh for units 5 & 6 (2×660 MW), respectively, of Chhabra Super Critical Thermal Power Plant (CSCTPP) for FY 2019-20.



TSERC approved transmission tariffs and transmission losses for 4<sup>th</sup> control period as shown in the table below:

FY	Transmission Tariff (₹/kW/month)	Transmission Losses (%)
2019-20	92.31	2.78
2020-21	105.19	2.71
2021-22	111.68	2.64
2022-23	129.45	2.57
2023-24	145.14	2.5

TSERC fixed the pooled cost of power purchase for DISCOMs at ₹4.28/kWh for FY 2019-20.

TSERC proposed following norms for calculation of variable costs for the existing biomass, bagasse and industrial waste projects for FY 2019-20:

Parameter	Proposed for FY 2019-20		
	Biomass	Bagasse	Indl. Waste
Station Heat Rate (kcal/kWh)	4200	3600	3600
Auxiliary Consumption (%)	10	9	9
Gross Calorific Value (kcal/kg)	3100	2250	2250
Fuel Price (₹/MT)	3168	1788	1788
Variable Cost (₹/kWh)	4.77	3.14	3.14

TSERC allowed continuation of wheeling charges and wheeling losses determined for FY 2018-19 to be applicable from 1<sup>st</sup> Apr, 2020, and further extended the applicability of the retail tariff, CSS, and additional surcharge as applicable on 31<sup>st</sup> Mar, 2019 to be continued from 1<sup>st</sup> Apr, 2020.

TSERC proposed tariff of ₹7.76/kWh (fixed cost ₹3.31/kWh and variable cost ₹4.45/kWh) for Refuse Derived Fuel (RDF) based power projects achieving commercial operation during 1<sup>st</sup> Apr, 2020 to 31<sup>st</sup> Mar, 2024.



UPERC allowed UPCL to recover FCA amount of ₹3.59 crore for the approved sale of 2969.62 MU at the rate of ₹0.01/kWh in fourth quarter of FY 2019-20.



UPERC approved following STPP rates discovered through competitive bidding by NPCL:

Bidder	Period* (2020)	Duration (Hrs)	Quantum	Rate (₹/kWh)
M/s Adani Enterprises Ltd.	1 <sup>st</sup> Apr-30 <sup>th</sup> Sep	00:00-02:00	50 MW	4.50
M/s APPCL <sup>s</sup>	1 <sup>st</sup> Apr-30 <sup>th</sup> Oct	19:00-24:00	100 MW	4.89

\*except Sundays

<sup>s</sup> Arunachal Pradesh Power Corporation (P) Ltd.

## Power Procurement



CERC approved Point of Connection (PoC) charges towards STOA from Jan-Mar, 2020 as follows:

PoC Slab	Rate (paise/kWh)	PoC Slab	Rate (paise/kWh)
I	32.54	VI	12.54
II	28.54	VII	8.54
III	24.54	VIII	4.54
IV	20.54	IX	0.54
V	16.54		



KSERC approved KSEB's request for banking transaction with PTC India and BSES Yamuna Pvt. Ltd. during the period of Feb-Apr, 2020 to meet power deficit in the summer.

KSERC approved for STPP for Apr-May, 2020 by KSEB from DEEP portal. Details are given below in the table:

Month	Duration (Hrs)	Quantum (MW)	Rate at Delivery Point (₹/kWh)
<b>With the trader M/s Adani Enterprises Ltd. (AEL)</b>			
Apr	00:00 to 24:00	100	3.72
May	00:00 to 24:00	150	3.76
May	19:00 to 23:00	50	4.25
<b>With the trader M/s DB Power Ltd. (DBPL)</b>			
Apr	19:00 to 23:00	50	4.25
May	19:00 to 23:00	50	4.25



MERC approved PPA between M/s Gigaplex Estate Pvt. Ltd. and GMR Energy Trading Ltd. for 3 MW STPP at the rate of ₹4.28/kWh from 1<sup>st</sup> Apr, 2020 to 31<sup>st</sup> Mar, 2021.



UPERC approved the LTPP of 400 MW Hydro power Projects by UPPCL and the deviations in the bidding documents as UPPCL proposed to extend the year of



## Regulatory Updates

supply till 2044 instead of 2043 during the month of Aug, Sep and Oct.



WBERC approved the agreement between WBSEDCL and PTC India for purchase of 231.42 MW power from Mangdechhu HEP (Bhutan) for 35 years with a trading margin of ₹0.07/kWh.

WBERC approved PPA between WBSEDCL and AMPL for purchase of 16 MW waste based captive power plant for a period of 15 years at tariff of ₹1.19/kWh.

MERC accorded approval to MSPGCL and MSEDCL for 25-year solar PPA of 184 MW from M/s Waaree Energies Ltd. at the rate of ₹3.05/kWh discovered through competitive bidding under Mukhyamantri Saur Krishi Vaahini Yojana and the procurement would be considered towards fulfilment of MSEDCL's solar RPO. MERC allowed AEML to purchase 700 MW hybrid (wind-solar) power from Rosepetal Solar Energy Pvt. Ltd. for 25 years, if tariff is reduced to ₹3.24/kWh or lower, either through negotiation or fresh bidding and same would be counted towards AEML's RPO.

## Renewable Energy, RPO and REC



GERC adopted tariff discovered through competitive bidding for 1000 MW power procured by GUVNL given as:

Bidder	Capacity (MW)	Tariff (₹/kWh)
Anisha Power Projects Pvt. Ltd.	40	2.80
Powerica Ltd.	50.6	2.80
Vena Energy Shivalik Wind Power Pvt. Ltd.	100	2.80



HERC approved 250 MW LTPP for 25 years from SECI to HPPC at tariff of ₹2.54/kWh (excluding trading margin of ₹0.07/kWh) determined through competitive bidding, under 1200 MW solar ISTS scheme Tranche-IV and the power supply is expected to start by the end of FY 2021-22.

HERC approved 1 MW solar PPA for 25 years at tariff of ₹2.99/kWh through competitive bidding from Ms. Gurmitinder Kaur Randhawa to meet HPPC's solar RPO.



KSERC approved purchase of 200 MW wind power by KSEB from SECI at competitively bid tariff of ₹2.83/kWh for 25 years.

KSERC allowed KSEB to invite bids for procurement of 50 MW rooftop capacity from residential sector with central financial assistance under MNRE phase-II subsidy programme.



MERC allowed MSEDCL to purchase intra-state solar power of 150 MW from Juniper Green Energy Pvt. Ltd. at ₹2.89/kWh and 350 MW from MSPGCL at ₹2.90/kWh, for 25 years, discovered through competitive bidding to meet its solar RPO target.



RERC approved the following tariff (excluding trading margin of ₹0.07/kWh) for 680 MW solar power as per PSA dated 12<sup>th</sup> Sep, 2019 between SECI and RUVNL:

Solar Power Developer	Capacity (MW)	Tariff (₹/kWh)
NTPC Ltd.	160	2.50
Mahindra Susten Pvt. Ltd.	200	2.50
Hero Solar Energy Pvt. Ltd.	250	2.50
Azure Power Maple Pvt. Ltd.	70	2.50

For biomass projects, RERC approved biomass fuel price of ₹2958/MT for FY 2019-20 and variable charges of ₹4.06/kWh and ₹4.39/kWh for water cooled and air cooled condensers, respectively. The same prices are also applicable to the plants commissioned earlier during 2009-19.



UPERC granted permission to Noida Metro Rail Corporation Ltd. (NMRC) to install 10 MW rooftop solar power plant with net metering.



WBERC approved project cost of ₹8337.49 lakhs against WBSEDCL's request for setting up 10 MW solar power plant on the tailrace canal of TCFHP stage II power station at Haptiagachh of Chopra block of Uttar Dinajpur district.

## Other

CERC allowed NPCIL to draw start-up power up to 31<sup>st</sup> Sep, 2020 or first synchronization whichever is earlier, for 700 MW Pressurized Heavy Water Reactor (PHWR) of Kakrapar Atomic Power Project (KAPP-3).

CERC directed NTPC to pay Late Payment Surcharge (LPS) to CTU from Aug, 2017 to Sep, 2018, corresponding to delay in commissioning of 3×800 MW Kudgi TPS.

## Regulatory Updates

CERC allowed JSW Hydro Energy Ltd. to recover energy charges of ₹2663.30 lakh due to shortfall in energy generation from 250×4 MW Karcham Wangtoo HEP, Himachal Pradesh for FY 2018-19 in six equal monthly instalments.

CERC allowed NTPC to draw start-up power and power injection into the grid for commissioning tests including full load test of Barauni Thermal Power station's unit 8 of stage II (250 MW) but no relaxation towards IEDC/IDC for delay is to be given.

CERC ordered Eastern Central Railway to pay Long Term Access (LTA) charges corresponding to BRBCL's unit which declared COD (for quantum LTA persists) as per the Sharing Regulations, 2010.

CERC directed NLDC to revalidate accreditation and registration of the captive project, and further provide RECs for electricity generated by M/s Porwal Auto Component Ltd. from 5<sup>th</sup> May, 2019 onwards.

DERC allowed BYPL to purchase 49% of power from EDWPCL's waste to energy plant, Ghazipur on the basis of mutual consent and rest of the power can be sold via any mode including OA by paying other service charges e.g. wheeling charges, cross-subsidy charges etc.

GERC ordered PGVCL to charge 11.11% proportionately for all the billing quantities on the contract demand in excess of 4000 kVA i.e. on 2500 kVA of the M/s Gokul Agro Resources Pvt. Ltd.

MERC extended time line for 3 months from 7<sup>th</sup> Dec, 2019 to complete the installation of SEM by Pragati Agencies & eight others RE generators and ordered DISCOMs to continue to allow OA for the extended

period. MERC again directed MSEDCL to issue more appropriate guidelines and directions transparently.

MERC ordered AEML to pay charges to TPCL for energy drawn at 220 kV interconnection point and due to impact of changed over consumers for FY 1998-99 and FY 1999-2000. AEML is to pay the charges with no interest under 'Take or Pay' obligation within one month. MERC further ordered TPCL to share the received amount within 15 days among respective DISCOMs.

MPERC directed GENCOs and intra-state TRANSCOs to provide relief on Late Payment Surcharge for 45 days delay in payment (from the date of presentation of bills) during 24<sup>th</sup> Mar to 30<sup>th</sup> Jun, 2020.

TNERC directed TANGEDCO to pay interest at 3.25% p.a. on the Advance Current Consumption Charges kept by the consumers for FY 2020-21 and interest at 5.70% p.a. on the Security Deposit from the consumers for FY 2019-20. It also approved Weighted Average Bank rate from Apr, 2019 to Mar, 2020 at 5.70%.

UPERC allowed OBRA-C Badaun Transmission Ltd. (OCBTL) Rupee Term Loan of ₹518 crore and performance bank guarantee facility of ₹68.10 crore as an independent facility for creating security in favour of Catalyst Trusteeship Ltd. (by way of mortgage on project assets) for assignment of licence.

WBERC approved ₹540.36 crore towards CAPEX requirement for Haldia Energy Ltd. to construct 400 kV transmission line.

## Tariff Orders

State/Union Territory (SERC)	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
Andhra Pradesh (APER)	APSPDCL, APEPDCL				FY 2020-21
Assam (AERC)	APDCL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2020-21
Bihar (BERC)	NBPDCL, SBPDCL, BSPTCL, SLDC, BGCL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2020-21
Jharkhand (JSERC)	TPCL	FY 2017-18	FY 2018-19	FY 2019-21	FY 2019-21
	TVNL	FY 2014-16			FY 2017-21

State/Union Territory (SERC)	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
Maharashtra (MERC)	MSPGCL, TPC-G, TPC-D, AEML-G, AEML-D, VIPL-T, MSLDC, MSEDCL, BEST, MBPPL, GEPL	FY 2017-2018 to FY 2018-19 FY 2019-20 <sup>#</sup>		FY 2020-21 to FY 2024-25	FY 2020-21 to FY 2024-25
	MSETCL, ATIL, MEGPTCL, AEML-T, TPC-T, JPTL, APTCL	FY 2017-2018 to FY 2018-19 FY 2019-20 <sup>#</sup>		FY 2020-21 to FY 2024-25	
	MSETCL (Intra-State)				FY 2020-21 to FY 2024-25
	KRCIPPL	FY 2019-20 <sup>#</sup>			
Rajasthan (RERC)	GLPL (Unit 1 & 2), JVVNL, AVVNL, JdVVNL			FY 2019-20	FY 2019-20
	RVPN	FY 2017-18		FY 2019-20	FY 2019-20
Sikkim (SSERC)	PDS	FY 2018-19 <sup>#</sup>	FY 2019-20	FY 2020-21	FY 2020-21
Telangana (TSERC)	TS Transco			FY 2019-20 to FY 2023-24	FY 2019-20 to FY 2023-24

<sup>#</sup>Provisional True-up of ARR

## Regulations

Title	Date of Approval/Notification
<b>Tariff</b>	
APERC (Terms and Conditions of Open Access) Second Amendment Regulation, 2020 [Draft]	17 <sup>th</sup> February, 2020
KSERC (Terms and Conditions for Determination of Tariff) (First Amendment) Regulations, 2020	13 <sup>th</sup> February, 2020
MPERC (Terms & Conditions for Determination of Transmission Tariff) (Revision-IV), Regulations, 2020	14 <sup>th</sup> February, 2020
MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2020 (Revision IV)	28 <sup>th</sup> February, 2020
OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 [Draft]	15 <sup>th</sup> March, 2020
RERC (Terms and Conditions for Determination of Tariff) (First Amendment) Regulations, 2020	28 <sup>th</sup> February, 2020
TNERC (Terms and Conditions for determination of Tariff) (Amendment) Regulations, 2020 [Draft]	5 <sup>th</sup> March, 2020
WBERC (Terms and Conditions of Tariff) (Third Amendment) Regulations, 2020	21 <sup>st</sup> January, 2020
<b>Renewable Energy (including RPO and REC)</b>	
HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) (Fourth Amendment) Regulations, 2020 [Draft]	23 <sup>rd</sup> March, 2020
HPERC (Renewable Power Purchase Obligation and its Compliance) (Sixth Amendment) Regulations, 2020	5 <sup>th</sup> February, 2020
JSERC (Renewable Energy Purchase Obligation and its compliance) Regulations, 2020 [Draft]	17 <sup>th</sup> February, 2020
KSERC (Renewable Energy and Net Metering) Regulations, 2020	7 <sup>th</sup> February, 2020
RERC (Forecasting, Scheduling, Deviation Settlement and Related Matters of Solar and Wind Generation Sources) (First Amendment) Regulations, 2020	28 <sup>th</sup> January, 2020
RERC (Renewable Energy Obligation) (Sixth Amendment) Regulations, 2020	4 <sup>th</sup> February, 2020
<b>Codes</b>	
AERC (Electricity Supply Code) (Second Amendment) Regulations, 2020 [Draft]	6 <sup>th</sup> February, 2020
AERC (Payment of Fees etc.) Regulations, 2020 [Draft]	11 <sup>th</sup> March, 2020
Bihar Electricity Supply Code (6 <sup>th</sup> Amendment), 2020	16 <sup>th</sup> March, 2020
HERC (Electricity Supply Code) Regulations, 2014, (Second Amendment) Regulations, 2019	8 <sup>th</sup> January, 2020
Himachal Pradesh Electricity Supply Code (Fourth Amendment) Regulations, 2020 [Draft]	20 <sup>th</sup> January, 2020
KSERC Kerala Electricity Supply (Amendment) Code, 2020	22 <sup>nd</sup> January, 2020
MERC (State Grid Code) Regulations 2020 [Draft]	1 <sup>st</sup> March, 2020
Tamil Nadu Electricity Distribution (Amendment) Code, 2020 [Draft]	6 <sup>th</sup> March, 2020
Tamil Nadu Electricity Supply (Amendment) Code, 2020 [Draft]	6 <sup>th</sup> March, 2020

**Note:** 'Other Notifications' can be accessed through the online version of this issue.



## 13<sup>th</sup> Capacity Building Programme (CBP) for Officers of Electricity Regulatory Commissions

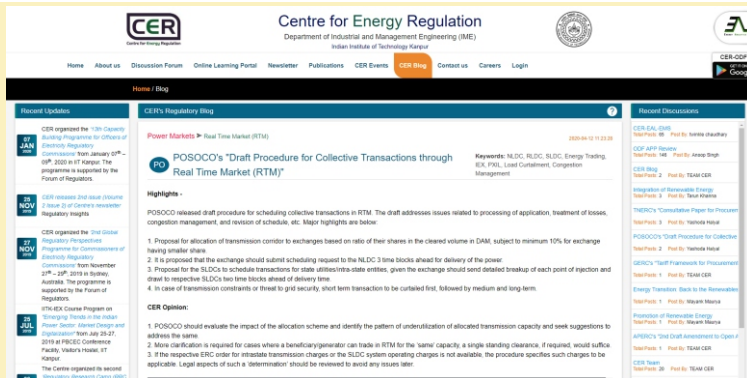
Centre for Energy Regulation (CER), on behalf of Forum of Regulators (FOR), organised 13<sup>th</sup> Capacity Building Programme for Officers of Electricity Regulatory Commissions from January 7<sup>th</sup> – 9<sup>th</sup>, 2020 on 'Emerging Regulatory Issues in the Power Sector – Tariff, Technology and Consumer Choice' at IME department, IIT Kanpur. Seventeen participants from fourteen electricity regulatory commissions (ERCs) participated in the event. Dr. Anoop Singh (Coordinator, CER, IIT Kanpur), Mr. Anup K. Dutta, (Director, Engg., WBERC), Mr. Buddy A. Ranganathan (Lawyer, Supreme Court), Ms. Kumud Wadhwa (Senior General Manager, NPMU), Mr. Manoj Mathur (Director, Solar, SECI), Mr. Abhishek Ranjan, (AVP System Operations, BSES Rajdhani Power Ltd.) and Mr. Dheer Patel, (Fellow, The Regulatory Assistance Project) participated as the resource persons in the event. The programme had sessions on variety of topics pertaining to economics of tariff setting beyond Cost of Service, methodological approach to distribution tariff design, legal and commercial aspects of tariff, discussion on recent APTEL & SC orders, challenges in smart grid implementation and future outlook, recent developments and role of utilities in charging infrastructure for electric vehicles, competitive bidding for renewable energy and experience from solar and wind sector specifically, multiple distribution licensees and retail competition. The programme also included a hands-on session on Market Simulation Game.



Participants at 13<sup>th</sup> Capacity Building Programme

## CER Blog

CER launched its blog in March, 2020. The blog is focused on CER's larger goal of disseminating knowledge and creating an environment for discussion related to latest regulatory and policy developments in the power sector in India, and each blog post is also accompanied by our own opinion. CER also invites readers to express their opinions in the comment section for each description separately. The interested readers can access blog from the CER's website (link: <https://cer.iitk.ac.in/blog>).



CER Blog

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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**Note:** Additional information can be accessed through the hyperlinks provided in the online version of this newsletter.