



REGULATORY INSIGHTS



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Editorial

Pre-paid smart meter rollout would bring clear gains for DISCOMs in areas with high technical and commercial losses. A cost-benefit analysis, considering technical and commercial aspects, should drive wider implementation.

The difference between saving on interest on working capital and rebate on pre-payment, if compensated through the truing-up, would moderate the benefits. In high collection efficiency areas, benefits of pre-paid smart metering may be exceeded by overall cost of implementation. A smart grid ecosystem, enabling implementation of a demand response program and ToD tariff can help in monetising further gains for the power sector.

Employee accountability for failure to meet SoPs can be implemented if DISCOMs demarcate each feeder and consumers connected to it as a business unit, allowing SoPs monitoring therein. A SoP index, formed on basis of SoPs and other performance parameters, can then be used to fix accountability and implement an incentive/penalty structure.

Net metering for rooftop solar provides incentive to the consumers by displacing energy from high tariff slabs but reduces revenue recovery for the DISCOMs. Pay-out for excess energy injected by consumers at lowest competitively discovered tariff for grid-connected solar PV, adjusted for the network losses, ameliorates this impact. The RE energy consumption, if accounted towards RPO of DISCOM, should also be adequately compensated with reference to the prevailing REC price.

PLF-based incentive, differentiated across peak and off-peak hours, should be avoided as this not only disturbs the relative economic value of a plant's availability across these time blocks, but also places difficulty in its implementation. Further, increase in scheduled generation due to SCED increment for supply elsewhere should not be included in the incentive. Truing-up of tax refund while grossing up the RoE, and need to match regulations with the timeline of SBI MCLR are also highlighted in the CER's opinion in this issue.

Biomass blending will help in addressing stubble burning, and the associated pollution, by providing greater economic benefit for agricultural residue, if primarily used for pelletization. This scheme should thus be promoted for thermal power plants located in areas with abundance of agricultural residue or biomass waste from industries.

The regulatory approach towards tariff determination for EV charging should include determination of a generic tariff or promote competitive bidding. In the absence of any specific guidelines, operationalizing the 'priority' for installation of public charging stations given to existing retail outlets of oil marketing companies would be difficult and may result in restrictive environment for the new entrants.

Anoop Singh

Founder & Coordinator, Centre for Energy Regulation

The Centre is hosted in the Department of Industrial and Management Engineering, IIT Kanpur and is seed funded by Government of United Kingdom through a project titled 'Supporting Structural Reforms in the Indian Power Sector' under Power Sector Reforms (PSR) programme.



MoP: Pre-Payment in the Entire Value Chain of Power Sector

The MoP through a notification dated 15th Nov, 2019, directed SERCs to determine reduced generation and transmission tariff or develop a rebate mechanism in case of advance payment by the DISCOMs. Additionally, similar provision needs to be made in the case of advance payment by consumer. This notification is a result of observations from MoP that the current mechanism of rebate on timely payment does not compensate DISCOMs and consumers for reduced working capital requirement of GENCOs and TRANSCO.

Previously, the ministry had directed DISCOMs to issue letter of credit (LC) while purchasing power from generators under payment security mechanism. In case of difficulty in getting LC, DISCOMs were expected to pay in advance for purchase of power. Recently, the ministry noted that advance payments, even for a day, by the DISCOMs to GENCOs and TRANSCO, or by the consumers to DISCOMs would reduce working capital requirement for utilities.

CER Opinion

The regulatory approach for rollout of pre-paid smart meters and for providing rebate for pre-payment should consider following factors:

- ❖ Pre-paid metering is generally adopted to safeguard vulnerable consumers against exceeding their energy budget, and for consumers with poor payment record, the latter being a dominant driver in the Indian context. Phased implementation of pre-paid smart meters, targeting distribution areas with high technical and commercial losses, would bring in greater upfront benefits. In the case of utilities/areas with high collection efficiency, net gains for the distribution utilities and the consumers, estimated on the basis of a cost-benefit analysis, should drive wider adoption.
- ❖ Financial Impact of Pre-paid Electricity Supply Chain - CER's quick calculations based on cost structure, rebate on pre-payment and cost of interest on working capital across the electricity supply chain for UP DISCOMs, reveal that any gap resulting from difference in rebate on payment and saving on interest on working capital would be compensated through the truing-up exercise, thus limiting the benefit for the sector. Consumers would benefit on account of pre-payment rebate and, saving on interest on security deposit, if any. Replacement of existing electronic meters, whose economic and technical life is yet to be reaped, would place additional financial burden on DISCOMs.
- ❖ Apart from rebate for pre-payment, pre-paid consumers would also expect refund of security deposit unless regulatory provisions allow for continuation of payment of interest on such security deposits.
- ❖ Long-term sustained benefits of pre-paid smart metering would also depend on the development of a smart grid ecosystem. Implementation of a consumer demand response program and increasing the ambit of ToD pricing would further help in monetising additional benefits of pre-paid smart meters.
- ❖ Further, the consumer's expectations for rebate on pre-payment are likely to be higher to entice their interest. This may not be financially sustainable for the utilities. Wider pre-paid metering should not reduce consumer interface as it not only helps the DISCOMs in providing better customer service but also helps in identifying meter bypassing undetectable to the pre-paid smart meters.

MoP: Revised EV Charging Infrastructure Guidelines

The MoP has issued revised standards and guidelines for charging infrastructure for EV on 1st October and will supersede the earlier guidelines issued in December 2018. The key highlights are:

1. Rated Output voltage range for charger connectors have been modified as:

Charger Connectors	Combined Charging System (CCS)	CHARge de Move (CHAdeMO)	Type-2 AC	Bharat DC-001
Rated Voltage (2019)	“200-750 V or higher [<i>sic</i>]”	“200-500 V or higher [<i>sic</i>]”	380-415 V	72 V or higher
Rated Voltage (2018)	200-1000 V	200-1000 V	380-480 V	72-200 V

2. A new slow/moderate type charger (Bharat DC-001, 48V) is also introduced for 2/3/4 wheelers.

3. Charging stations for 2/3 wheelers can install chargers other than those specified above.

4. Office complexes, malls, housing societies, restaurants, hotels, etc. can install charging stations.
5. Separate metering arrangement to be made available for public charging stations to record consumption for billing purpose.
6. Bureau of Energy Efficiency (BEE) is designated as the Central Nodal Agency.

CER Opinion

- ❖ Tariff determination for EV charging infrastructure should either be based on a generic tariff to be determined by the respective SERC or based on a competitive bidding exercise.
- ❖ In the absence of any specific guidelines, operationalizing the 'priority' for installation of public charging stations given to existing retail outlets of oil marketing companies would be difficult and may result in restrictive environment for the new entrants.

CERC: Draft Methodology for Estimation of Electricity Generated from Biomass Co-fired Thermal Power Plants

CERC notified draft methodology for quantifying the energy generated from co-firing of biomass in coal-based power plants. Previously, Ministry of Power envisaged 5-10% blend of biomass pellets to be used in power generation through co-firing in pulverized coal fired boilers. Recently, MNRE through a notification declared such power generated as RE and be eligible for meeting non-solar RPO.

CER Opinion

- ❖ CER estimated the biomass consumption across ISGS plants to range from 8.79 MT to 17.58 MT based on 5-10% biomass blending. This seems feasible as agriculture sector produces about 140 MT of surplus biomass. It is estimated that 92 MT of agricultural residue is burnt annually leading to serious environmental implications.
- ❖ Biomass blending will help in reducing stubble burning by providing greater economic benefits for agriculture residue to the farmers if appropriate supply chain is established to ensure higher recovery of agricultural residue and its pelletization. This will eventually reduce air pollution and coal consumption. However, overall fuel cost may increase on account of transportation, pellet conversion and storage of biomass pellets. (Clause 1)
- ❖ This scheme should be primarily extended to the thermal power plants located in areas with abundance of available agricultural residue to avoid deforestation. Further, pellets based on agricultural residue or biomass waste from industries dependent on commercial plantation should be promoted. (Clause 1)
- ❖ If energy generated through biomass source is to be used towards RPO compliance, third party inspection and measurement of GCV for biomass used by a NABL approved laboratory should also be considered. (clause 5)

Note: The relevant section number is referred at the end of each statement.

CSERC (Grid Interactive Distributed Renewable Energy Sources) Regulations, 2019

A short summary of CSERC Net Metering Regulation 2019 notified on 4th October, 2019 is given below:

Particulars	Description
Project Capacity and Allowed Load	Minimum 1 kWp capacity and should not exceed contract demand of prosumer. In an area, rooftop capacity should not exceed 100% of distribution transformer's cumulative capacity. The rooftop systems are allowed to have battery storage.
Ownership Arrangements	<ul style="list-style-type: none"> • Prosumer rooftop systems can be owned by prosumer or a third party. • Rooftop systems selling electricity to DISCOM or through open access or having captive use is permitted.

Energy Accounting and Settlement	Excess energy injected by consumer after the settlement period is to be paid at lowest rooftop solar tariff discovered through competitive bidding undertaken by the licensee in last financial year. If such tariff is not available, lowest tariff through competitive bidding by SECI in last financial year is to be considered.
Installation of Meters	<ul style="list-style-type: none"> Meters should have AMI facility and should comply with CEA metering regulations. Meters are to be procured, installed, and maintained by DISCOM.
Open Access	Only for independent systems.
Solar RPO	In case the consumer is not an obligated entity, the quantum of energy generated and consumed will qualify towards the RPO of the distribution licensee. Otherwise, it will be counted towards RPO of the obligated entity.
Eligibility for REC	As per CERC Terms and Conditions for recognition and issuance of REC for Renewable Energy Generation Regulations, 2010

CER Opinion

- ❖ While net metering provides adequate incentive to the consumers by displacing energy from high tariff slabs, it impacts financial health of the DISCOM. Pay-out for excess energy injected at lowest competitively discovered tariff for grid-connected solar PV ameliorates this impact. However, this should be adjusted for network losses (Clause 11(c))
- ❖ In case of unavailability of competitively discovered tariff by DISCOM for the state, the lowest SECI discovered tariff for such projects across neighbouring states with similar solar insolation should be considered. (Clause 11(c))
- ❖ Wheeling and banking charges and settlement period should also be specified in the regulation.
- ❖ Green energy generated and consumed by the consumers, who are not obligated entities, would be counted towards RPO of the DISCOM. The framework does not compensate consumers for value of embedded REC. Given the inherent value of such RE procurement to the DISCOM, and to encourage rooftop RE deployment, DISCOMs should provide 50% of floor price of REC to the consumers as an incentive. (Clause 7.1)

Note: The relevant section number is referred at the end of each statement.

CSERC (Standard of Performance in Distribution of Electricity) Regulation, 2019 [Draft]

The draft SoP regulation issued by CSERC on 21st Nov, 2019 proposes to allow variation across geographical areas of DISCOM, and also across DISCOMs. A brief is given below:

1. If the licensee fails to maintain SoP, it is liable to compensate consumer at rates specified in the regulation.
2. The compensation is to be adjusted in the consumer's current or next bill.
3. The compensation paid would be recovered from the concerned employees and cannot be claimed in the ARR.
4. The licensee is to submit quarterly report on the level of performance achieved, and on the number of cases in which compensation was payable and the amount paid/payable in each case to the commission. The commission is expected to publish such information at least once a year.

CER Opinion

- ❖ Alternatively, the DISCOM may like to demarcate **each feeder and consumers connected to it as a business unit**, whereby SoPs within the business unit can be monitored. A **SoP index** for such business units, developed on the basis of key performance parameters, should be used for implementing a penalty/incentive framework for the associated employees. The **SoP index** should include key performance indicators such as distribution loss, collection efficiency, SAIFI, SAIDI and other parameters reflecting performance against the SoP. (Clause 3.1)

- ❖ Given that DISCOM would manage a system of complaint registration and follow thereof, such a system should have a mandatory audit trail with due communication (SMS/email) to the consumers. Further, SoP audit by independent third parties such as CPRI, ERDA or other NABL approved laboratories, research institutions would instil consumer confidence. (Clause 4.1)
- ❖ Compensation recovery from the concerned employees would increase accountability in the system. However, it poses challenges for its implementation, especially in the absence of 100% mapping of roles and responsibilities across the distribution business and amenability of such a database to judiciously fix accountability against individual SoP. (Clause 4.4, 5.1)
- ❖ A summarized version of SoP should be printed on backside of consumer's electricity bill to spread awareness. (Clause 6)
- ❖ The commission may periodically review the current level of performance and setup multi-year benchmarks for SoP. (Clause 6.1)
- ❖ Details of compensation claimed along with that payable/paid to consumers for complaints against failure to meet each type of SoP, should be available on the website of the respective DISCOMs and be reported to the CSERC on a quarterly basis. (Clause 6.1)

Note: The relevant section number is referred at the end of each statement.

DERC Business Plan Regulations 2019

DERC notified Business Plan Regulation (BPR), 2019 for the control period FY 20-21 to FY 22-23. Major changes from BPR 2017 are highlighted below:

Particulars	BPR 2019
For Generation Company	
Margin for Rate of Interest on Loan	Margin above SBI MCLR, not to exceed 5%, 4.25% and 3.50% for the first, second and third year of the control period, respectively.
Auxiliary Energy Consumption	For existing gas based generating stations of Delhi, 2.75% for combined cycle mode and 1% for open cycle mode.
Incentives	Incentives to generating company at the rate of 65 paise/kWh during peak hours, 50 paise/kWh during off-peak hours for excess generation corresponding to normative annual PLF.
Incentive Based on Operational Parameters	Net Gain = (Normative ECR – Actual ECR) x Actual Generation, to be shared in 50:50 ratio between generating entity and the beneficiaries.
For Transmission Company	
Margin for Rate of Interest on Loan	Margin above SBI MCLR, not to exceed 5%, 4.25% and 3.50% for the first, second and third year of the control period, respectively.
Capital Investment Plan	Employee expenses and A&G expenses can be capitalized equivalent to lower of 30% of total employee expenses and A&G expenses or actuals in a particular financial year.
For Distribution Company	
Margin for Rate of Interest on Loan	Margin above SBI MCLR, not to exceed 5%, 4.25% and 3.50% for the first, second and third year of the control period, respectively.
O&M Expenses	<ol style="list-style-type: none"> 1. DISCOM can claim O&M expenses for a financial year by multiplying the norms for O&M expenses of that year with the respective average network capacity during that financial year. 2. Licensee can claim expenses for raising loan for working capital and regulatory assets separately under O&M expenses. 3. Licensee can claim the legal expenses separately with exception of not allowing any cost incurred for cases against orders or regulations and any compensation/penalty paid to consumer.

	4. Licensee shall allocate the O&M expenses on actual basis under the heads of line and grid substation voltage wise as specified for determination of norms for O&M expenses.
RPO	1. If DISCOM meets solar RPO to the extent of 85% and above, remaining shortfall can be met by excess non-solar energy/REC purchases. 2. Similar provision for non-solar RPO, any RPO above extent of 85%, can be met by solar energy/REC purchases.
Mechanism for Recovery of PPAC Charges	1. If PPAC <5% (quarterly), levy PPAC at 90% of computed PPAC (without regulatory proceedings). 2. If PPAC between 5% - 10%, levy PPAC of 5% and 75% of balance PPAC (actual PPAC% - 5%) (without regulatory proceedings). 3. If PPAC is >10%, then conditions 1 and 2 will apply, and the licensee should file an application for prior approval for balance (actual PPAC% - 8.75%).

CER Opinion

- ❖ SBI MCLR varies based on the tenure of the loan, and applicability of appropriate MCLR needs to be specified. Further, it is now reported on 10th of every month. The regulation, which suggests use of MCLR at the beginning of the month, may like to take this into account and do the needful. (Clause 5, 14, 22)
- ❖ Any refund towards Advance Taxes paid should be considered while grossing up the RoE in true-up to follow.
- ❖ Clause 9 (1) offering PLF based incentives cannot be easily operationalized based on normative annual PLF. Thus, differentiation on account of peak and off-peak hours should be avoided. Also, the incentive mandated for excess generation, if continued should be retained at the previous level to reduce burden on consumers. Further, a differential incentive for the peak and off-peak hours may also alters the relative value of plant availability during peak hours with respect to other hours of the day.
- ❖ In the case of increase in “Scheduled Generation” beyond NAPLF due to the URS scheduled for other beneficiaries or as a result of the outcome of SCED, the above incentive will place additional burden on power procurement cost. (Clause 9(1))
- ❖ Sharing of gains from improvement in operational parameters, which is ascribed to be specified in BPR Regulation 2019, and clause 149 of the DERC (Terms and Conditions for Determination of Tariff) Regulations, 2017, in turn, refers to BPR 2017. The information gap needs to be addressed. (Clause 10(1))
- ❖ Introduction of 85% limit in RPO is encouraging for the sector. Flexibility in meeting RPO compliance would bring in economic efficiency to the obligated entities to achieve these targets. Given that the competitively bid tariffs for solar and wind power procurement are converging, this differentiation may be relaxed in future. (Clause 27(1))

Note: The relevant section number is referred at the end of each statement.



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Regulatory Updates

Tariff



CERC directed UPPCL to pay fixed tariff of ₹4.87/kWh to THDC for 24 MW (3×8 MW) **Dhukwan SHEP** for entire project life of 35 years post COD and allowed THDC to sell infirm power under short-term open access (OA) prior to COD.

CERC approved transmission charges for the **Bikaner-Khetri transmission at ₹1000.51 million/annum** quoted by **Adani Transmission Ltd.** in competitive bidding process which is lower than levellised tariff calculated based on CERC norms.

CERC determined Energy Charge Rate (ECR) for ex-bus **Pragati-III 1371.2 MW CCPS** for the period of 2014-19 as ₹2.971/kWh (combined cycle) and ₹4.370/kWh (open cycle). The commission also approved Annual Fixed Charges (AFC) for **Pragati-III** and revised same for 1050 MW unit of **Maithon Power Ltd. (MPL)** for 2014-19 as follows:

AFC (₹ in Crore)	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19
Pragati-III	1219.24	1255.72	1284.77	1302.76	1309.85
MPL	991.54	1063.14	1078.68	1065.53	1112.88



AERC notified Average Pooled Power Purchase Cost (APPC) at ₹3.78/kWh for FY 19-20 *w.e.f.* 01.04.2019.



DERC allowed **Tata Power Delhi Distribution Ltd.** to levy differential power purchase cost adjustment charges (PPAC) at a rate of 7.05% for the quarter Apr-Jun 2019.



JSERC revised true-up weighted average interest rate as 14.38% against 12.39%, and ARR for FY 14-15 recoverable by **IPL** from **JUVNL** (and others) as follows:

Particulars	Trued-up (₹ Crore)	Approved (₹ Crore)
ARR	138.48	134.05
Net amount billed	141.43	141.43
Total amount (Difference)	(3.81)	(9.54)



KERC allowed DISCOMs to update their Fuel Cost Adjustment Charges (FAC) for the billing quarter Jan-Mar, 2020 as per the following rates:

DISCOM	FAC (in paise/kWh)
BESCOM	12
MESCOM	7
CECSC	9
HESCOM	5
GESCOM	7



KSERC approved ₹405.45 lakh towards additional capital expenditure for FY 17-18 to **Cochin Special Economic Zone Authority (CSEZA)**. Additionally, the commission also approved the following to CAPEX plan for MYT period from FY 18-19 to FY 21-22.

Year	Proposed (₹ Lakh)	Approved (₹ Lakh)
18-19	24.97	18.63
19-20	377.33	329.55
20-21	14.69	8.00
21-22	14.15	6.9
Total	431.14	363.08



MPERC approved ARR of ₹190.40 crore for **MPIDC** and gave voltage-wise cost of supply as:

Voltage-wise Cost of Supply	₹/kWh
33 kV System	4.36
11 kV System	4.60



RERC approved tariff for Rajasthan **Rajya Vidyut Utpadan Nigam (RVUN)** stations for FY 19-20 as:

Particulars	KTPS (1-7)	STPS (1-6)	CTPP (1&4)
Total tariff (₹/kWh)	3.713	4.422	3.86
Station	RGTPS (270.5 MW)	DCCPP	Mini Hydel
Total tariff (₹/kWh)	3.985	7.361	3.426



UERC allowed UPCL to recover the total **FCA** amount of ₹34.64 crore against estimated sales of 3103.49 MU at the rate of ₹0.03/kWh to ₹0.10/kWh for different consumer categories during the third quarter of FY 19-20.



Dwarikesh Sugar Industries Ltd. (DSIL) Bijnor is allowed power injection subject to DSIL's undertaking for participating in the bidding process initiated by UPPCL by Jan, 2020 and will not quote tariff above ₹2.899/kWh.

Regulatory Updates

Renewable Energy, RPO and REC



MoP in a move to promote RE (solar and wind), directed ERCs to waive off inter-state transmission charges and losses from 31st Mar to 31st Dec, 2022.



CERC directed NLDC to issue RECs to M/s Bhilangana Hydro Power Ltd., for energy injection from 24 MW small hydro project at Ghuttu, Tehri Garhwal, Uttarakhand from 20th Dec, 2011 to 28th Feb, 2012.



APERC approved procurement of solar power by APSPDCL and APEPDCL from NTPC for 750 MW and 250 MW, and from SECI for 750 MW at the tariffs discovered through competitive bidding.



GERC allowed adjustment of excess solar energy purchased by GUVNL and its subsidiary against shortfall in fulfilment of non-solar RPO.

GERC ordered purchase of surplus energy at ₹2.25/kWh from the solar rooftop installed under the Surya Urja Rooftop Yojana. This would be considered after finalization of amendment in the Net Metering Regulation.



KERC approved tariff of ₹3.07/kWh (without capital subsidy) and ₹2.32/kWh (with capital subsidy) for solar rooftop system (installed on the greenhouse) synchronized with grid on “Net Metering” basis for any consumer.



KSERC extended Generation Based Incentive (GBI) for solar power projects for 2 more years up to 30th Sep, 2021, due to inability of KSEBL in procuring solar power for meeting its solar RPO. The GBI will be paid to the consumers for energy injected from off-grid solar systems at ₹1.00/kWh.



MERC accorded approval to MSEDCL for LTPP of 50 MW from bagasse-based co-generation plant through competitive bidding with ceiling rate

being decided as per MSEDCL's own due diligence, and considering the procurement towards fulfilment of its non-solar RPO target.

MERC approved 8-year EPA of MSEDCL for 7 MW LTPP from the date of expiry of existing EPA (or date of execution of PPA) at the tariff discovered through competitive bidding from the following wind power projects with consideration towards the fulfilment of non-solar RPO of MSEDCL:

Name of Bidder	Capacity (MW)	Rate (₹/kWh)
G. R. Tantri	1.5	2.52
V. R. Tantri	1.5	2.52
T. R. Tantri	1.5	2.52
M/s Piyush Agro Pvt. Ltd.	2.5	2.52

TPC-D received approval from MERC for purchasing 150 MW power (grid connected) from Tata Power Renewable Energy Ltd. at ₹2.83/kWh for 25 years to fulfil its solar RPO target.

MERC allowed MSEDCL to procure power from bagasse-based co-generation projects of Mula SSKL*, Jawahar Shetkari SSKL, Shree Pandurang SSKL, Shri Vighnagar SSKL, Bhimashankar SSKL, Rajarambahu Patil SSKL at the rate of ₹3.56/kWh for FY 19-20 and further ordered to conduct fresh bidding process for the period starting from 1st Apr, 2020 for the projects whose EPAs have expired.

*Sahakari Sakhar Karkhana Ltd.

MERC approved following 25-year LTPPs under Mukhyamantri Saur Krishi Vahini Yojana with tariff discovered through competitive bidding and considering the procurements towards the fulfilment of MSEDCL's solar RPO target:

- 5 MW solar power by MSEDCL at ₹3.14/kWh from M/s Kiran Renewables Pvt. Ltd.
- 50 MW cumulative power by MSPGCL and MSEDCL at tariff of ₹2.99/kWh from 8 grid interactive solar power projects to be installed by M/s SPPPH Solar India Projects Pvt. Ltd. at various locations.



RERC directed Rajasthan Renewable Energy Corporation (RREC) to adopt the RPO portal developed by MNRE and follow RPO compliance framework accordingly. The commission further instructed the state agency to submit quarterly reports pertaining to RPO compliance in the format given on portal with suggestion of appropriate action.

RERC adopted following project-wise tariff (excluding

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trading margin of ₹0.07/kWh) determined through competitive bidding for 750 MW solar power:

Solar Power Developers	Capacity (MW)	Tariff (₹/kWh)
ACME Solar Holdings Ltd.	250	2.48
Fortum Solar Plus Pvt. Ltd.	250	2.48
Palimarwar Solar House Pvt. Ltd.	40	2.48
ReNew Solar Power Pvt. Ltd.	110	2.49
Sitara Solar Energy Pvt. Ltd.	100	2.48



TNERC notified draft amendment to RPO regulation proposing the following RPO targets for FY 15-16 to FY 21-22:

Year	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Total RPO (%)	9.5	11.5	14.0	14.0	16.25	18.25	21.0
Solar RPO (%)	0.5	2.5	5.0	5.0	6.0	8.0	10.5



UPCL allowed UPCL for one time carry forward of surplus non-solar RPO of 139 MU from FY 18-19 to FY 19-20, and further advised it to plan RPO judiciously.

UPCL, along with UPNEDA, is approved to implement solar powered peer-to-peer transactions using block chain-based trading platform. Advisory fees set by ISGF for this pilot project can be recovered by DISCOM in ARR.



UPERC approved PSA between UPPCL and SECI at tariff of ₹2.89 (including 7 paise/kWh trading margin) for 25 years to procure 200 MW solar power from Pawagada Solar Park, Karnataka and PPAs signed between SECI and SBG

Cleantech Projectco Five Pvt. Ltd. in respect of PSA.



WBERC approved WBSSEDCL's proposal (details given below) for ₹51.05 crore sanctioned by state government for setting up 10 MW solar PV power plant at Dhaka-I and Dhaka-II under Rajnagar Block of Birbhum district, West Bengal.

Description	Cost (in ₹ Crore)	
	Dhaka-I	Dhaka-II
Solar modules (inclusive of tax and 5 years O&M)	40.52	40.91
Evacuation cost (inclusive of tax)	2.37	2.56
Total cost of project	42.89	43.47

*Total cost includes 5 years maintenance cost

Power Procurement



CSERC allowed CSPDCL to purchase 400 MW power at ₹3.98/kWh for round-the-clock (RTC) short-term power purchase through competitive bidding process.



MERC approved STPP for 2 MW RTC supply to KRC Infrastructure and Projects Pvt. Ltd. from GMR Energy Trading Ltd.– Birla Carbon India Pvt. Ltd. (GMRETCL-BC) at ₹4.63/kWh

discovered through competitive bidding from 1st Dec, 2019 to 31st May, 2020.

MERC directed MSEDCL to grant short-term OA to Shah Promoters and Developers, and to issue generation credit notes for 10th – 31st Aug, 2019. MSEDCL is also directed to adjust credit of units accordingly in the ensuing bill of Cooper Corporation Pvt. Ltd. (CCPL) within a month from 11th Nov, 2019.



UPERC approved UPCL's bagasse-based PPA of 10 years with tariff discovered through bidding as per the tabulation below.

Name of Bidder	Tariff (₹/kWh)	Capacity (MW)	
		Seasonal	Off Seasonal
UP Rajya Chini evam Ganna Vikas Nigam Ltd. (Pipraich, Gorakhpur)	4.78	20	20.75
UP Rajya Chini evam Ganna Vikas Nigam Ltd. (Munderawa Basti)	4.78	20	20.75
Ramala Sahakari Chini Mills Ltd. (Ramala, Baghat)	4.78	20.20	24.50
Total Capacity		60.20	66.00

UPERC approved purchase of 750 MW solar power by UPPCL from SECI at tariff of ₹2.55/kWh, (including 7 paise/kWh as a trading margin) for 25 years with the following solar parks of Rajasthan:

Solar Power Developer	Capacity (MW)	Tariff (₹/kWh)
Azure Power India Pvt. Ltd. (Commissioned)	200	2.48
Renew Solar Power Pvt. Ltd. (Commissioned)	50	2.49
Hero Solar Energy Pvt. Ltd	300	2.47
SBE Four Ltd. (Commissioned)	200	2.48
Weighted Average Tariff for 750 MW Capacity (₹/kWh)		2.48
Trading Margin (₹/kWh)		0.07
Total Power Sale Tariff (₹/kWh)		2.55

Regulatory Updates



TNERC approved **TANGEDCO's** petition for procurement of 615-815 MW RTC power from Feb-May 2019 at a tariff of ₹5.20/kWh against previous approval for procurement of 1000 MW power with tariff ceiling of ₹5.29/kWh.

TNERC adopted tariff of ₹4.24/kWh and a trading margin of ₹0.05/kWh proposed by TANGEDCO for 3 years RTC procurement of 550 MW by **PTC India Ltd.** under pilot scheme.



TSERC approved power supply agreement (PSA) for procurement of 550 MW power from M/s RKM Powergen under MoP notified pilot scheme for a period of 6 months in a year for 3 years through **M/s PTC Limited** with tariff ₹4.24/kWh along with trading margin of ₹0.05/kWh.



WBERC approved procurement of the **supplemental power purchase** agreement signed between the IPCL (DISCOM) and the IPCL's generation (Dishergarh TPS) unit (1×12 MW).

WBERC permitted OA to **Bengal Cement Works** (BCW) for 7 MW power from **OCL's** captive power plant (CPP) at Rajgangpur, Odisha for BCW's consumption at West Medinipur, West Bengal.

Other

CERC directed OPGCL and PGCIL to share transmission charges in 50:50 ratio from 30th Aug to 22nd Nov, 2017 for 400 kV **OPGC – Jharsuguda transmission line**. The OPGCL is to pay the transmission charges from 23rd Nov, 2017 onwards, and the PGCIL can further raise modified consolidated bill for the transmission charges up to 31st Dec, 2019 along with applicable charges.

CERC directed **NTPC's 210 MW units of Badarpur TPS** to consider station heat rate as 2675.75 kCal/kWh instead of 2750 kCal/kWh *w.e.f.* the date of closure of the three units of 95 MW and further ordered to refund excess charges claimed along with the interest on bank rate.

HERC directed UHBVNL to pay dues for power injected by 5 MW solar CPP of **M/s Merino Panel Products Ltd.** with 8% interest calculated from date of verification report of HAREDA and ordered HVPNL to refund the transmission charges along with interest.

KERC through an order clarified that OA consumers defined as '**Non-Exclusive Consumer**' i.e. those with a contract demand with DISCOM, cannot be charged twice the charges applicable to the relevant category of that consumer for over-drawl of energy from the grid beyond the quantum wheeled under the Wheeling and Banking Agreement.

KSERC approved surplus of ₹199.80 lakh for FY 15-16, and cumulative revenue surplus ₹691.38 lakh till 2015-16 for **Technopark** (Thiruvananthapuram).

KSERC approved cumulative revenue surplus of ₹4381.44 lakh, and ₹947.21 lakh till FY 17-18 for **Cochin Port Trust and Kanan Devan Hill Plantations Company Pvt.Ltd.**

MERC approved compensation payable to **Tata Power Renewable Energy Ltd., Adani Renewable Energy Ltd. and Azure Power Thirty-Four Private Ltd. (APTFPL)** due to imposition of Safeguard Duty under Change in Law provisions of PPA for capacity of 220 MW, 242 MW and 194 MW respectively of solar module/panel installed at project location on per unit rate basis and computation of carrying cost at the simple interest rate of 1.25% in excess of one year MCLR of SBI.

MERC ordered **MSEDCL, AEML-D and TPC-D** to ratify/clarify the methodology of levy of Electricity Duty (ED) on partial OA consumers with the assistance of Govt. of Maharashtra to maintain the uniformity.

MPERC ordered **M/s Jaiprakash Power Ventures Ltd.** to share gain of ₹2.69 crore resulting from normative total energy charges of ₹161.62 crore and total actual energy charges of ₹158.93 crore in 2:1 ratio with generating company and beneficiaries for FY 17-18 and directed to provide surplus amount to **MPPMCL/three DISCOMs** in six equal monthly instalments during FY 19-20 and onwards.

TNERC approved **TANGEDCO's** request for increase in category-wise miscellaneous charges, on account of non-tariff related charges such as service connection charges, meter rent, meter caution deposit, reconnection charges, development charges etc.

WBERC approved construction of **3-phase 132 kV double circuit transmission line** from **J.K. Nagar to railway traction feeding point** at Pandabeshwar with an investment of ₹64.51 crore (excluding IDC and margin money for working capital).

Tariff Orders

State/Union Territory (SERC)	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
Arunachal Pradesh (APSERC)	DHPD			FY 19-20	FY 19-20
	DEPL*			FY 19-20 to FY 21-22	
Bihar (BERC)	SLDC, BSPTCL, SBPDCL, NBPDC	FY 18-19	FY 19-20	FY 20-21	
Jharkhand (JSERC)	TPCL	FY 16-17			
	IPL	FY 16-17, FY 17-18	FY 18-19		
Kerala (KSERC)	CSEZA, RPIL, KDHPCL, TCED, SCK, CoPT			FY 18-19 to FY 21-22	
Madhya Pradesh (MPERC)	MPIDC (SEZ)			FY 19-20	FY 19-20
Meghalaya (MSERC)	MePGCL			FY 18-19	FY 18-19
Nagaland (NERC)	DPN		FY 19-20	FY 20-21 to FY 24-25	FY 20-21
Telangana (TSERC)	TSTRANSCO			FY 19-20 to FY 23-24	FY 19-20 to FY 23-24
West Bengal (WBERC)	IPCL	FY 12-13			

*Transmission Charges for FY 19-20 to FY 21-22

Regulations

Title	Date of Approval/Notification
Tariff	
HERC (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2019	31 st October, 2019
HERC (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, (First Amendment), 2019	25 th November, 2019
JSERC (Terms and Conditions for Determination of Transmission Tariff) Regulations (First Amendment), 2019	10 th October, 2019
KSERC (Terms and Conditions for Determination of Tariff) (First Amendment) Regulations, 2019	4 th November, 2019
Renewable Energy (including RPO and REC)	
CSERC (Terms and Conditions for determination of generation tariff and related matters for electricity generated by plants based on renewable energy sources) Regulations, 2019	29 th November, 2019
CSERC (Grid Interactive Distributed Renewable Energy Sources) Regulations, 2019	5 th October, 2019
GERC (Net Metering Rooftop Solar PV Grid Interactive Systems) (Second Amendment) Regulations, 2019	18 th December, 2019
HERC (Rooftop Solar Grid Interactive Systems Based on Net Metering) Regulations, 2019	25 th October, 2019
HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) (Third Amendment) Regulations, 2019	11 th November, 2019
HPERC (Renewable Power Purchase Obligation and its Compliance) (Sixth Amendment) Regulations, 2019 [Draft]	23 rd November, 2019
NERC (Rooftop Solar Grid Interactive System Net/Gross Metering) Regulations, 2019	24 th October, 2019
RERC (Renewable Energy Obligation) (Sixth Amendment) Regulations, 2019 [Draft]	25 th December, 2019
TNERC (Renewable Energy Purchase Obligations) 2010 (Amendment) [Draft]	7 th November, 2019
Codes	
JSERC State Grid Code (First Amendment) Regulations, 2019	4 th October, 2019
Tamil Nadu Electricity Distribution Code (Amendment) [Draft]	7 th November, 2019
Tamil Nadu Electricity Supply Code (Amendment) [Draft]	7 th November, 2019

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

2nd Global Regulatory Perspectives Programme for Commissioners of Electricity Regulatory Commissions

CER, on behalf of [Forum of Regulators \(FOR\)](#), organised the 2nd [Global Regulatory Perspectives Programme](#) for Commissioners of Electricity Regulatory Commissions at Sydney, Australia, from 27th to 29th November 2019. The Chairpersons and Members of twenty SERCs participated in the programme. The sessions offered insights into evolution and emerging trends in regulatory and policy framework governing the Australian electricity sector including retail competition, renewable energy integration, consumer welfare and electricity market operations. Delegates also visited the Australian Energy Market Operator (AEMO), where they had a live view of the control centre and discussed electricity market operations.



Delegates at 2nd Global Regulatory Perspectives Programme

The Consulate General of India, Sydney organised an interactive session with the delegates from Electricity Regulatory Commissions. The interaction covered a discussion on Indo-Australian economic corporation including that for the energy sector.



Delegates at Consulate General of India, Sydney

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

Disclaimer: The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation. This material has been funded by the Government of UK. However, the views expressed herein do not necessarily reflect the UK Government's official policies.



Other Initiatives



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

Title		Date of Approval/Notification
Others		
Framework for Real-Time Market	CERC (Indian Electricity Grid Code) Regulations, 2010 (Sixth Amendment)	12 th December, 2019
	CERC (Open Access in inter-State Transmission) Regulations, 2008 (Sixth Amendment)	
	CERC (Power Market Regulation) Regulations, 2010 (Second Amendment)	
CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2019[<i>Draft</i>]		31 st October, 2019
MoP: Charging Infrastructure for Electric Vehicles - Revised Guidelines & Standards		1 st October, 2019
MNRE: Guidelines for development of Decentralised Solar Power Plants		13 th December, 2019
MNRE: Guidelines for implementation of Component-C of PM-KUSUM Scheme on Solarisation of Grid connected Agriculture Pumps		8 th November, 2019
MNRE: Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV Power Projects		23 rd October, 2019
MNRE: Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power From Grid Connected Wind Solar Hybrid Projects		11 th October, 2019
APERC (Conduct of Business) Fifth Amendment Regulation, 2019 [<i>Draft</i>]		19 th December, 2019
APERC (Conduct of Business) Fourth Amendment Regulation, 2019		11 th December, 2019
CSERC (Standards of Performance in Distribution of Electricity) Regulations, 2019[<i>Draft</i>]		21 st November, 2019
DERC (Business Plan) Regulations, 2019		27 th December, 2019
DERC (Power System Development Fund) Regulations, 2019		27 th December, 2019
DERC's Schedule of Charges and the Procedure (Fifth Amendment) Order, 2019		30 th December, 2019
DERC's Schedule of Charges and the Procedure (Fourth Amendment) Order, 2019		23 th October, 2019
GERC (Licensee's Power to Recover Expenditure incurred in providing Supply and other Miscellaneous Charges) (Second Amendment) Regulations, 2019[<i>Draft</i>]		18 th December, 2019
HPERC (Consumer Grievances Redressal Forum and Ombudsman) (First Amendment) Regulations, 2019		26 th November, 2019
JSERC (Framework for sharing of charges for Intra-State Transmission System) Regulations, 2019		4 th October, 2019
JSERC (Planning, Coordination, Development and Approval of an economic and efficient Intra-State Transmission System) Regulations, 2019		4 th October, 2019
JSERC (Procedure, Terms & conditions for the Grant of Transmission License and other related matters) Regulations, 2019		4 th October, 2019
KERC's Discussion Paper on Various Models and Guidelines for solar rooftop photovoltaic plants allowed to be installed on rooftops of the Consumers' Buildings		9 th December, 2019
PSERC (Fee) Regulations (Third Amendment), 2019		11 th October, 2019
RERC (Settlement of Disputes by Electricity Ombudsman) (2nd Amendment) Regulations, 2019 [<i>Draft</i>]		25 th December, 2019
TNERC (Deviation Settlement Mechanism and Related Matters) Regulations 2019 (Amendment) [<i>Draft</i>]		18 th November, 2019
TNERC's Consultative paper on power procurement by distribution licensee from Biomass based power plants and allied issues relating to captive use and third party sale		11 th December, 2019
TNERC (Forecasting, Scheduling and Deviation Settlement and Related Matters for Wind and Solar Generation) Regulations 2019 (Amendment) [<i>Draft</i>]		18 th November, 2019
TNERC Standards of Performance Regulations 2004 (Amendment) [<i>Draft</i>]		25 th November, 2019
UPERC (Standards of Performance) Regulations, 2019		16 th December, 2019
UPERC Open Access Regulations, 2019		10 th December, 2019
WBERC (Guidelines for Establishment of Forum for Redressal of Grievances of Consumers and Time and Manner of Dealing with such Grievances by the Ombudsman) (First Amendment), Regulations, 2019[<i>Draft</i>]		31 st December, 2019
WBERC (Open Access) (Amendment) Regulations, 2019		23 rd October, 2019
WBERC (Standard of Performance of Licensees Relating to Consumer Services) (Third Amendment) Regulations, 2019		21 st November, 2019