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REGULATORY INSIGHTS

Centre for Energy Regulation

In Focus

Regulatory Outlook

ERC Tracker

CER News

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Editorial

CER would like to highlight the growing complexity of the ARR determination and tariff making process as ERCs adopt different terminologies, definitions and classification of cost heads. There is a need for regulatory harmonisation in the context of data templates and definitions to make them amenable for efficiency benchmarking across distribution companies.

Although, a number of states have begun reducing the number of tariff categories and subcategories, there is still room for more housekeeping. Moreover, there is also a need for overhauling of the tariff design for different consumer categories with respect to consumption in states, two-part structure, premium/discount for time-of-day (ToD) tariff etc. Two-part tariff structure, and ToD tariff should be implemented for all consumers with 5 kW load and above. As suggested in the 2nd issue of Regulatory Insights, a separate ToD based tariff category for Electric Vehicle (EV) charging, especially above 5 kW, would help to identify, manage and price this new load. Some states have since adopted this practice. This should address large number of tariff slabs that are applicable as telescopic/non-telescopic basis.

Benefits of ongoing investments in the Smart Grid (SG) across the country need to be monetised by monetisation of SG investment by implementing ToU tariff, demand response schemes and facilitating a 'social marketplace' for electricity allowing peer to peer energy exchange for SG consumers would give further impetus to utility driven SG investment.

To enhance transparency of cost between the energy and the network business of DISCOMs, and to prepare the ground for implementing full retail competition in future, tariff unbundling should be implemented. A consumer's bill should, thus, separately identify two-part tariff for energy and the network services.

Efficiency transformation of distribution is key to long-term financial sustainability of the power sector. Some states have shown noticeable improvement that needs to be replicated across the country. Retail/distribution franchisees, selected on transparent, measurable and competitive basis, can help bring about efficiency gains. The ultimate destination of full retail competition would be achievable with unbundling of distribution and retail supply, and 100% metering across the sector. A Regulatory Sandbox approach to phased rollout of full retail competition awaits adoption in the country.

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Electricity Distribution - Regulatory and Policy Outlook

Distribution Sector Reform & UDAY

Distribution segment remains the main challenge for the financial sustainability of the Indian power sector. Regulatory reforms and sectoral unbundling were able to bring a semblance of accountability with an aim of improving the performance of the sector. In the absence of efficiency improvement (particularly reduction in T & D losses), revision of tariffs and cost optimisation for power procurement, O & M cost, interest cost, UDAY would have only a transient impact necessitating periodical government led financial resuscitation of the distribution segment. This would also adversely impact growth of rooftop solar deployment across states as utilities' self-survival instinct (ironically though) makes them offer resistance. Franchisee model, implemented on the basis of transparent, measurable and competitive set of parameters, could also help in addressing chronic inefficiencies in the distribution segment.

Full Retail Competition - A 'Regulatory Sandbox'

Electricity consumers, up to 1 MW of connected load, have been provided a choice to select a supplier other than their existing distribution utility. Roadblocks to open access and cross-subsidy surcharge continue to hinder its effective implementation in many states. Full retail competition offering choice of supplier to all consumers can also reducepolitical susceptibility of the electricity distribution segment. Metering and tariff unbundling is one of the key ingredients to effectively implement retail competition through carriage and content separation. Smaller license areas, with full metering capabilities, should be carved out of existing license areas for pilot implementation of full retail competition. Such a framework, implemented as a Regulatory Sandbox, would provide learning for identifying areas for regulatory and policy initiatives for a more effective implementation across the rest of the country.

Distribution Unbundling and Franchisee – Another 'Regulatory Sandbox'

Implementation of retail competition through carriage and content separation hinges on unbundling of the distribution utility into wires and the energy business. This would also be desirable to improve quality of network services by specifying separate standards of performance (SoPs) for energy and network services. Unbundled retail and network business, initially in selected areas, can also be separately set out under a “retail franchisee” and a “network franchisee” respectively.

Retail Tariff Unbundling

Effective implementation of retail competition through carriage and content separation would hinge on separation of costs for the network and the energy services. Consumers' tariff should separately identify the network related tariff and the energy tariff structure. Such tariff unbundling would also help SERCs in implementing Performance/Incentive Based Regulation for the network services in the future as retail services are gradually opened up for competition. Even in the absence of full retail competition, tariff unbundling would facilitate twin franchisee model mentioned above.

Tariff Redesign and Rationalisation

Existing regulatory tariff framework across most of the states provides for a two-part tariff structure for different category of consumers. Current level of fixed charges in retail tariffs remain inadequate to recover a reasonable part of the fixed cost structure of the distribution utility. This exposes the utilities to the revenue risk especially with excess availability of electricity across most of the states.Changing load profile and growing penetration of variable RE also demands design and adoption of seasonally varying time of day (ToD) tariff.

Monetise Smart Grid Investment

The Smart Grid (SG) initiatives have been supported largely through government's funding. Further, SG rollout across the country should be driven by a judicious investment valuation of the monetised benefits of improvement in operational performance. Key regulatory focus areas include - (i) implementation of ToD based tariff, and demand side management programs for consumers covered through SG; (ii) an enabling framework for consumer-led microgrids, leading to a 'social marketplace for electricity'.

Smart Metering Agricultural Consumers - Subsidy and Cross Subsidy

Information asymmetry with respect to technical losses in the distribution grid continues to hamper financial sustainability of the sector. While metered consumers pay higher cross-subsidy on account of higher 'estimates' for un-metered consumption, state governments also shell out higher subsidy. Deploying smart meters for such consumers, who may continue to have flat-rate tariff for some time (though not advisable) would enable pre-payment and data access. This would also facilitate innovative tariff design for unmetered consumers, who could be supplied electricity on demand during normal/ peak hours based on ToD tariff.

Delhi Electricity Regulatory Commission (DERC) (Group Net Metering and Virtual Net Metering for Renewable Energy) Guidelines, 2019

	Group Net Metering (GNM)	Virtual Net Metering (VNM)
Eligible Class of Consumer	All Consumers	Residential, Group Housing Societies, offices of Government/Local Authorities and RE Generators registered under Mukhya Mantri Kisaan Aay Badhotari Yojna
Annual Generation Cap	As per the normative CUF/PLF as decided by DERC	
RE System Capacity	5-5000 kW	
Scope of Energy Export	Surplus	Entire
Available Capacity at DT Level	Capacity to be offered by DISCOMs should not be less than 20 percent of the rated capacity of the respective DT	
Metering Arrangement	The consumer would bear the cost of the new net meter, or the incremental cost of replacing the existing meter	
Procedure for Application and Registration	As per provisions of DERC (Net Metering for Renewable Energy) Regulations, 2014 for connectivity of RE System	

Procedure for Billing and Energy Accounting
(in addition to the provisions of DERC (Net Metering for Renewable Energy) Regulations, 2014)

- **GNM:** The energy consumed during any time block (peak, off-peak etc.) would be first compensated with the energy generated in the respective time block in the same billing cycle. Surplus energy injected into the grid to be adjusted against energy consumed, in the monthly bill, based on consumer's priority list, which can be revised once in a FY, with a 2-month prior notice. Excess export in any billing period, would be carried forward as energy credit for the next billing period. For ToD consumers, the carried forward surplus units or energy credits would be adjusted by moderating with relevant rebate/surcharge percentage, as per applicable ToD tariff.
- **VNM:** Surplus energy in any time block would be treated as surplus generation during the off-peak time block. Monthly electricity bill of each participating consumer(s) would be credited with energy generated from RE System as per the ratio of procurement from RE System indicated under the agreement/MoU entered by the consumer(s); consumer(s) can change the share of credit electricity once in a FY, with a 2-month notice. Surplus units credited in excess of import units would be carried forward in the next billing period and these carried forward surplus units or set off energy credits would be adjusted by moderating on the basis of relevant rebate/surcharge percentage of ToD tariff.

CER Opinion

- Group/Virtual Net Metering guidelines, while being beneficial to consumers, would provide further impetus to the harnessing of RE resources.
- The scheme could be made more attractive by allowing REC credits in lieu of net RE injected to the grid. These could be accumulated and later sold through the registered members of the power exchanges.
- Key features of the scheme, particularly sharing of RE credit, should be facilitated through online mode. Further, participation of consumers with respect to RE sharing can be authenticated through consumer's registered mobile number.
- The guidelines should provide for the determination of incremental cost for replacing a partially or fully depreciated meter, and for writing off a meter which has completed its useful technical life.
- For consumers with ToD meter, provision for moderating surplus units should be replaced with ToD based price.
- Peak, off-peak and normal hours should be clearly defined. Given the dynamic nature of system demand profile, seasonal definition for the same may also be adopted.

Tariff

CERC worked out the national-level APPC to be ₹3.60/kWh, and also determined slab-wise PoC charges and transmission losses for the first quarter of FY 20. CERC determined the tariff for various generating stations from their COD till 31st March, 2019.

Station	Tariff (FY 19)	
	AFC (₹ lakh)	Ex-bus ECR (₹/kWh)
Tripura Gas (101 MW)	18256.47	1.65124
Mauda STPS, Stage-II (2×660 MW)	138672.74	2.494
Parbati Hydro, Stage-III (520 MW)	51952.26	----
Muzaffarpur Thermal, Stage-II (2×195 MW)	72446.25	2.25307
Rampur Hydro (412 MW)	69650.08	----

The tariff of the following stations was also revised by CERC:

Station	Tariff (FY 19)	
	AFC (₹ lakh)	Ex-bus ECR (₹/kWh)
Nathpa Jhakri Hydro (1500 MW) (FY 05 – FY 09)	133792.11 (FY 09)	----
Nathpa Jhakri Hydro (6×250MW) (FY 10 – FY 14)	166620.05 (FY 14)	----
Koteshwar Hydro (400 MW) (FY 12 – FY 14)	53014.01 (FY 14)	----
Koteshwar Hydro (4×100 MW) (FY 15 – FY 19)	46552.16 (FY 19)	----
Udupi TPS (1200 MW) (Units 1 and 2) (11th Nov, 2010 – 31st March, 2014)	140511.01 (FY 14)	2.92911 (FY 14)

AERC approved transmission charges for MTOA/LTOA as ₹4752.73/MW per day, and for STOA as ₹0.37/kWh. Monthly fixed charges for NTPC and LRPP were also revised as ₹1.859 crores and ₹2.755 crores respectively.

DERC approved the differential PPAC of its DISCOMs as follows, directing them to claim the amount (as an arrear) through ARR petition for FY 20

Utility	Quarter (2018)	Differential PPAC (%)
BSES RPL	October-December	6.87
BSES YPL	July-September	0.84
BSES YPL	October-December	5.01
TPDDL	April-June	0.50
TPDDL	July-September	0.65
TPDDL	October-December	6.78
NDMC	January-March	15.39
NDMC	July-September	2.10

Following APTEL's ruling on TPL's petition for treatment of its Network Augmentation Charges for STU as an 'uncontrollable' O&M expense, GERC revised its previous (true-up) order for TPL as:

	True up (₹ crore)	Revised to (₹ crore)
O&M Expenses	9.64	12.12
Approved ARR	85.71	88.19
Revenue Gap/(Surplus)	(10.16)	(3.04)

The following agricultural tariff for the erstwhile GEB was extended to TPL-A, by GERC:

Connected load (hp)	Tariff (₹/hp p.a.)
⩽7.5	665
>7.5	807.50

GERC determined the Additional Surcharge (AS) payable by OA consumers for 1st April, 2019 to 30th September, 2019 as nil.

HERC notified that the tariff payable (from 1st July, 2019) by HPPC (on behalf of UHBVN) to Haryana Cooperative Sugar Mills Ltd. would be ₹6.17/kWh (Fixed Cost ₹1.73/kWh, Variable Cost ₹4.44/kWh), with an annual escalation of 5 percent in fuel cost from FY 21.

HERC notified the following tariff and charges, along with distribution and retail supply tariff (FY 20):

Particulars	Charge
Generation Tariff	
HPGCL	₹ 3.37/kWh (fuel cost) ₹ 17652.86 million (energy charge)
Monthly transmission charges (₹ lakh)	
UHBVNL	5058.321
DHBVNL	5918.084
TPTCL	63.089
NTPC	2.545
Merino	2.545
CRPCL	0.376
Northern Railways	19.340
Transmission tariff Charges (STOA)	₹0.27/kWh
Wheeling charges*	₹0.83/kWh
CSS* (₹/kWh)	
HT industry	0.78
Bulk Supply (other than DS)	0.57
Railways (Traction)/DMRC	0.43
LT Industry	0.46
NDS (HT)	0.90
AS* (OA consumers)	₹0.44/kWh

*from 1st May, 2019

Subject to verification of the commissioning of 5 MW solar power plant at Village Budak (Hisar) within the control period, HERC accepted the petition of HAREDA

for exemption of transmission and wheeling charges. Further following APTEL's Order on LAPL's Petition, HERC allowed LAPL to claim from HPPC and PTCIL additional fixed cost (3.25% of total fixed cost approved for each year), in addition to that of HPU's 65 percent share, in ten equal monthly installments.

On account of typographical error pertaining to auxiliary consumption of Unit 1 and Unit 2 of APNRL, JSERC issued a corrigendum for MYT for FY 17 to FY 21, redetermining base Energy Charge Rate (ECR), interest on working capital, and tariff as:

Particulars	Unit 1	Unit 2
Approved Energy Charge Rate (FY 17 to FY 21)		
Normative Aux Consumption (%)	9	9
Heat Rate (kCal/kWh)	2387	2387
Specific Oil Consumption (ml/kWh)	1.00	1.00
Calorific Value of Oil (kCal/l)	9337	9337
Wt. avg. cost of Oil (₹/kl)	42637	45134
Wt. avg. Calorific Value of Coal (kCal/kg)	3419	3419
Wt. avg. cost of Coal (Inc transit loss) (₹/tonne)	3298	3298
Base Energy Charge rate (₹/kWh)	2.567	2.570
Interest on Working Capital (₹ crore)		
FY 17	30.74	30.88
FY 18	30.71	30.85
FY 19	30.69	30.83
FY 20	30.69	30.82
FY 21	30.69	30.82
AFC for 13% of Net Capacity (₹ crore)		
FY 17	56.01	56.87
FY 18	54.93	55.76
FY 19	53.88	54.68
FY 20	52.86	53.62
FY 21	51.87	52.60

KERC allowed M/s Megasun Solar Tech Pvt. Ltd. to achieve the SCD by 1st October, 2019 subject to a tariff of ₹3.05/kWh payable by GESCOM for 25 years from its COD, and payment of liquidated damages of ₹30 lakhs to GESCOM, failing which the latter may encash the Security Deposit. Failure in achieving SCD by the aforementioned date would allow GESCOM to terminate the concerned PPA.

KERC approved FAC charges for the July-December quarter of FY 20 as:

ESCOM	FAC Charges (paise/kWh)
BESCOM	11
MESCOM*	4
CESC#	5
HESCOM	7
GESCOM	6

*including Mangalore SEZ; #including Hukeri RECS and AEQUS SEZ

MERC increased the ceiling rate for ST PP by MSEDCL through DEEP portal to an average rate of ₹5/kWh and approved ST PP by MSEDCL through competitive bidding at DEEP portal with tariff (from 3 sources) ranging from ₹4.09 - 4.50/kWh for 16th March to 31st May, 2019. The 16 MW pilot project at Gavankund (Amravati) for evacuation of 33 kV level at a renegotiated tariff of ₹3.05/kWh was approved by MERC.

MPERC allowed MPPGCL to raise bills on MPPMCL provisionally, with tariff for Unit 3 of Shri Singaji Thermal Power Project (SSTPP) Stage - II (Khandwan) as determined in the Commission's previous order to be applicable for its Unit 4 as well:

Particular	Charge (from COD)
Net AFC Recoverable	736.08
90% of the AFC determined above (₹ crore)	662.47
Energy (variable) charge (₹/kWh)	2.31

OERC approved CSS (nil for consumers availing RE), wheeling charge (20% for consumers availing RE, excluding cogeneration and biomass power plants) and transmission charge for OA consumers (>1MW) as:

Licensee	CSS		Wheeling Charge (HT)	Transmission Charges for STOA (HT and EHT)	
	EHT (paise/kWh)	HT (paise/kWh)	(paise/kWh)	₹/MW/day	₹/MWh
CESU	149.88	94.53	67.97	1500	62.5
NESCO	126.57	57.58	86.41		
WESCO	122.79	71.82	57.28		
SOUTHCO	197.13	135.40	84.62		

OERC approved the ARR and generation tariff for OHPC and OPGC for FY 20 as:

Station	Annual Capacity Charge (₹ crore)	ECR (paise/kWh)
IB Thermal Power Stations I & II	240.96	150.68
Rengali HEP	32.69	62.89
Upper Kolab HEP	31.49	38.23
Balimela HEP	35.54	30.35
Hirakud HEP	42.82	63.23
Chiplima HEP	17.96	37.03
Upper Indravati HEP	85.97	44.26

PSERC ruled that PSPCL, not having recovered the full FCA for the first two quarters of FY 19, would not be eligible for claiming the carrying cost of the same during the true-up of FY 19. PSPCL was also directed to discontinue levying the

current FAC of ₹0.12/kWh from 1st June, 2019, with the implementation of tariff order for FY 20.

RERC tentatively allowed (subject to approval from APTEL) JVVNL, AVVNL and JdVVNL to recover additional power purchase cost of ₹2709.36 crores over 36 months from the consumers, through Fuel Surcharge Adjustment (FSA), with an impact of 5 paise/kWh.

RERC extended the existing interim tariff (FY 19) of CSTPS (from the COD for Unit 5 & 6) and M/s JSW Energy (Barmer) Ltd. (Units 1 to 8) for FY 20 as:

Charge (₹/kWh)	CSTPS Unit 5	CSTPS Unit 6	JSW Energy Unit (1-8)
Fixed charges	1.83	1.73	1.70
Variable charges	2.13	2.13	2.50
Total Tariff	3.96	3.86	4.20

RERC approved the ARR and tariff (FY 19) for the 1080 MW lignite-based thermal generating station of Raj West Power Ltd. (RWPL) as:

AFC (₹/kWh)	1.688
Energy charges (₹/kWh)	2.489
Total Tariff(₹/kWh)	4.177

RERC determined the interim transfer price of lignite from Kapurdi and Jalipa lignite mines for supply to RWPL's lignite-based thermal generating stations and an increase in the variable charges (FY 19) for RWPL as ₹2073.10/MT and ₹0.218/kWh respectively.

TSERC amended its order pertaining to CSS and AS for FY 19 to further incorporate the effect of AP Solar Power Policy, 2012 and Telangana Solar Power Policy, 2015, exempting solar power projects from paying CSS and AS.

UERC approved an amount of ₹72.01 crore at an average rate of ₹0.1994/kWh towards Fuel Charge Adjustment (FCA) for UPCL.

UPERC provisionally approved AFC (FY 20) for M/s Alaknanda Hydro Power Co. Ltd. as ₹564 crores, half to be recovered through energy charges at a rate of ₹2.584/kWh.

WBERC determined the next control period as FY 21 to FY 23 (3 years). WBSEDCL was allowed by WBERC to change the billing cycle of consumers of the erstwhile DPL's licensed area (now under WBSEDCL) to that of the corresponding consumer categories of WBSEDCL.

BSPHL's procurement of 200 MW round-the-clock (RTC) power (on behalf of NBPDCL and SBPDCL) from JITPL and SKS Power (through PTCL) for 3 years, at a tariff of ₹4.24 and trading margin of ₹0.05/kWh (through competitive bidding) was accorded approval by CERC.

Power Procurement

CSERC approved CSPDCL's short-term (ST) power procurement (PP) through competitive bidding for July, 2019, with tariff ranging from ₹3.89-4.60/kWh.

GERC approved TPL's ST PP of RTC power from Adani Enterprises Limited for Dahej SEZ and Dholera SIR, with tariff (at GETCO periphery) determined through competitive bidding as:

Quantum (MW)	Duration	Tariff (₹/kWh)
40	1st April - 30th September, 2019	4.00
45	1stOctober, 2019 - 31st March, 2020	4.28

GERC approved TP's power procurement of 278 MW from UNOSUGEN for 19 years, with tariff as:

AFC	Lower of ₹228 crores p.a. (₹1.10/kWh) and the AFC determined by CERC
Energy charge	Fuel cost as per the FSA* (TPL), inviting international competitive bids

*ceiling for landed price of coal: prevailing landed Market price for medium-term (MT) PP during such periods.

GUVNL's procurement of 1000 MW from grid-connected solar PV sources, through competitive bidding, was also accorded approval-tariff for 5 sources/bidders (500 MW total) ranging from ₹2.55/kWh to ₹2.68/kWh, and that for 3 other sources (500 MW total) as ₹2.44/kWh. Moreover, GERC directed GUVNL to submit a quarterly progress report of the RE projects tied up in the PPAs.

Regulatory Updates

HERC approved HPPC's power purchase of 440 MW solar-wind hybrid power from SECI, with a ceiling of ₹2.69/kWh (excluding a trading margin of 7 paise/kWh) for 25 years.

JSERC approved JBVNL's power purchase of 188.85 MW from APNRL at preferential tariff, and of 63 MW from IPL as:

	Capacity (MW)	Tariff
APNRL (540 MW gross)	122.85 (Principal PPA)	Energy charge for 58.968 MW (12% of net capacity of 491.4 MW); tariff determined by JSERCfor 63.882 MW (13% of net capacity of 491.4 MW)
	66 (Supplementary)	Levelised tariff (wt. average of the above capacities)
IPL	63	Levelised tariff (wt. average of 12% at energy charges only and 13% at tariff determined by the Commission)

JBVNL was also directed to refrain from executing a PPA without competitive bidding and prior approval of JSERC.

JBVNL's procurement of 10 MW solar power (for 25 years) from SECI, at a tariff of ₹5.50/kWh and a trading margin of ₹0.05/kWh, was also approved by JSERC.

KSERC approved the PPA between KSEB Ltd. and M/s GJ Eco Power Pvt. Ltd. for the 10 MW (9.76 MW contracted) MSW-based waste-to-energy plant at Brahmapuram (Kochi) at a tariff of ₹6.17/kWh for a period of 20 years from COD or till the expiry of the concession agreement.

KSERC approved KSEBL's petition regarding PSA with CSPDCL and banking arrangements with RUVNL as:

Supply from KSEB Ltd. to RUVNL				Return of banked energy from RUVNL to KSEB Ltd.	
Period (2018)	MW (TPTCL)	MW (NVVN)	Period (hours)	Period	Return %
1st-15th Nov	60	90	0600-1100	RTC, May-June, 2019	@102% of banked energy
16th-30th Nov	40	60			
1st-15th Dec	20	30			
16th-31st Dec	30	45			

Period (2018)	Timings (hours)	Quantum (MW)	e-RA* rates (₹/kWh)
1st - 31st Oct	0000 - 0700	150	4.09
1st - 30th Nov	0600 - 1000	200	5.16
1st - 30th Nov	1000 - 1300	149	4.37

*e-Reverse Auction

MERC approved pro-rata allocation of 1090 MW power purchased by MSEDCL from APML (343 MW), RPL (507 MW) and SWPGL (240 MW) at a tariff of ₹3.28 at the STU periphery.

MERC allowed MSEDCL's procurement of bagasse-based power from VSSKL and RPSSKL at ₹3.56/kWh for the remaining period of FY 19 post expiry of their EPAs, and directed MSEDCL to thereafter, procure RE through competitive bidding only.

MSEDCL's power procurement from MSPGCL's 50 MW solar PV plant at Kaudgaon for a period of 25 years at a tariff of ₹2.92/kWh was approved by MERC.

MERC approved MSEDCL's procurement of 1000 MW solar power for 25 years at tariff of ₹2.74-2.75/kWh discovered through competitive bidding.

The 25-year PPA between WBSEDCL and RIL for the purchase of surplus power from RIL's 12MW waste-gas based captive generating plant, with annually increasing energy charges (first year tariff: ₹1.32/kWh fixed cost, ₹0.90/kWh energy charge), was approved by WBERC.

WBERC approved WBSEDCL's PPA with DVC for the purchase of 204 MW from RTPS (DVC), Phase - I for 3 years from the date of commencement of supply, at tariff determined by CERC.

Renewable Energy, RPO and REC

MNRE notified that off-grid solar power plants with now reliable grid supply and net - metering provision may be connected to the grid, subject to the prevailing regulations, the cost being borne by the respective State Government or beneficiary departments.

GERC upheld its ruling regarding banking of energy by WTGs - energy procured through STOA would be first

accounted against the consumer's block-wise consumption, the balance consumption in a month accounted as either energy wheeled from its own WTGs or the energy supplied by the DISCOM; the surplus energy, if any, may be banked, and credit for surplus power and/or billing of electricity supplied by the licensee done accordingly.

Against HAREDA's petition, HERC issued Procedure/Guidelines for Banking of Renewable Energy (RE) Power.

JERC (M&M) determined tariff for rooftop solar projects for residential buildings, institutions and social sector undertakings in Manipur as:

Category	Levelised tariff		
	1 kW-10 kW	10 kW-100 kW	100 kW-500 kW
Without subsidy	7.89	7.33	7.10
Residential, Institutional and Social sector			
70% subsidy	3.16	2.99	2.92
Governmental Institutions (based on achievement)			
60% incentive	3.84	3.61	3.52
36% incentive	5.46	5.10	4.95
24% incentive	6.27	5.84	5.67

MERC ordered that the energy from DLHPL's SHP plant at Bhandardara, supplied to MSEDCL, would not yield REC's to the former. However, MSEDCL may claim RPO/RPS on account of the same.

MERC determined generic tariff (FY 20) for RE as:

RE Project		Levelised Tariff (₹/kWh)		AD (₹/kWh)
		Fixed Charge	Variable Charge	
Mini and Micro Hydro	⩽0.5 MW	5.82		0.32
	0.5 - 1 MW	5.32		0.32
Other SHPs	1 - 5 MW	4.82		0.32
	5 - 25 MW	4.13		0.29
Biomass-based (COD in FY 20)		2.28	5.55	0.15
Bagasse-based co-generation (COD before 1st August, 2018)		----	4.38	----
Solar thermal		11.15		0.91

Owing to delay in COD of the solar power plant, RERC ruled that M/s Arjun Green Power Pvt. Ltd. are liable to pay liquidated damages at 0.5% per day of the total Performance Bank Guarantee to RERC. In addition to this, the applicable tariff would be that of FY 19 (COD).

OERC determined the fees and charges (FY 20) for SLDC functions including Open Access Charges and Late Payment Surcharges as:

Particulars	Per annum (₹ lakhs)	Per annum (₹ lakhs)
ARR of SLDC	937.47	78.12
SOC from Intra-state transmission licensee	75.00	6.25
SOC and MOC from generating stations and sellers (generation capacity: 4738.22 MW)	431.24 (₹9101.21 per MW)	35.94 (₹758.43 per MW)
SOC and MOC from Distribution Licensees and Buyers	431.24	35.94

Application fee for STOA (₹/application)	5000
Scheduling fee for STOA (₹/day)	2000
Security deposit (excluding DISCOMs)	2 months' SOC and MOC charges
Registration fee for using Intra-state transmission system (₹/user)	1 lakh
Late Payment Surcharge (%/month)	1.25

UERC reviewed the benchmark capital cost for solar PV, solar thermal and grid-interactive rooftop and small solar PV plants for projects commissioned in FY 20, with generic tariff discovered as:

	Solar PV	Solar Thermal
Gross Tariff (₹/kWh)	4.49	14.24
AD (₹/kWh)	0.24	0.80

Grid-connected Rooftop and Small Solar PV Plants (₹/kWh)						
SSubsidy (%) ⟶	0	20	30	40	70	90
<10 kW						
Gross Tariff	5.50	5.02	4.97	4.55	3.85	3.45
AD*	0.29	0.26	0.24	0.22	0.17	0.12
10 - 100 kW						
Gross Tariff	4.98	4.55	4.33	4.11	3.47	3.11
AD	0.27	0.24	0.22	0.21	0.16	0.11
100 - 500 kW						
Gross Tariff	4.63	4.44	4.02	3.85	3.21	2.87
AD	0.25	0.22	0.21	0.19	0.15	0.11
500 - 1000 kW						
Gross Tariff	4.52	4.13	3.93	3.73	3.15	2.82
AD	0.24	0.21	0.20	0.19	0.14	0.10

UERC approved Station Heat Rates (SHR) for gas - based Combined Cycle Power Plants (CCPP) of Gama Infraprop Pvt. Ltd. (GIPL) and Sravanthi Energy Pvt. Ltd. (SEPL), subject to incentive - penalty mechanism beyond the 1988.05-2007.4 kCal/kWh range, as: design SHR - 1911.809 kCal/kWh, and gross SHR - 2007.4 kCal/kWh.

Owing to additional capitalisation, UERC approved an increase of ₹0.25/kWh in the levelised tariff of 15 MW Vanala Small Hydro Power Project of M/s Him Urja Pvt. Ltd. and directed UPCL to pay arrears to the latter in three equal monthly instalments from 1st May, 2019.

Others

CERC heeded Jindal Poly Films Limited's and IL&FS Energy Development Company Limited's petitions for revocation of their inter-state trading licenses. DGEN Transmission Company Limited's transmission license was revoked on account of non-compliance with CERC (Payment of Fees) Regulations, 2012.

CERC extended the validity of RECs expected to expire between 1st April and 31st October, 2019 up to 31st December, 2019

CERC directed NVVN to pay liquidated damages worth ₹810000 to PCKL, attributing it to a mistake in the calculation of energy scheduled in the previous order; failure in payment would invite a late payment interest of 9 percent p.a.

APERC approved a pilot project for "Utility Driven Solar Roof Top (SRT) Pilot Programme" by APEPDCL, under 2 models: (a) customer - owned solar rooftop programme under net metering, and (b) grid-connected roof top solar PV systems on developer model under gross metering.

DERC directed IPGCL to adjust the excess amount on account of higher AFC charged to TPDDL as payment towards dues and added that the latter would pay the appropriate late payment surcharge on the unpaid bills of the former.

HERC ruled that Reliability Measurement Unit (RMU) penalty would be calculated as per due annual unitary charges (to be recovered monthly).

MERC directed MSEDCL to - (a) settle its outstanding dues with CLP(I) and CLP(K) within the stipulated time frame and inform them of the prospective date(s) of payment; and (b) clear the outstanding dues (principal and DPC) of SSHPL within stipulated time. Failure in timely disbursement of the sum would invite a penal interest of 1.25 percent on LPS/DPC.

Against their petition for a separate distribution license, MERC allowed AITL to operate as a franchisee of MSEDCL for 5 years, with a provision of further extension upon mutual agreement between the two parties. Against APTFPL's petition, MERC ruled MoF's notification regarding Safeguard Duty as Change in Law.

In response to its petition regarding procurement of wind power from Group II - IV sources, MSEDCL was directed by MERC to adopt competitive bidding for which it may determine the ceiling tariff. PSERC authorised PSPCL to impose regulatory measures (including rotational power cuts for minimal durations) to bridge the gap between demand and supply and to maintain grid safety/security in case of exigencies and system operational requirements only, for FY 20.

The claims of Adani Power Rajasthan Ltd. towards Carrying Cost under Change in Law were allowed by RERC, based on the actual interest rate paid to raise funds as certified by the Statutory Auditor.

RERC directed Western Central Railways to pay the open access charges (CSS and AS) to JVVNL.

UERC ordered for the transfer of operational 66 kV substations and lines of UPCL to PTCUL, whereas unutilised or abandoned 66 kV lines would be settled by the two licensees. However, 66 kV lines charged at 33 kV would still stay with UPCL. Furthermore, both UPCL and PTCUL were directed to install a metering system at the interface points.

UERC directed UPCL to pay the transmission charges, along with Late Payment Surcharge, for the Ghuttu - Ghansali line to TPTCL (for FY 17), also stating that all open access charges up to the delivery point are to be borne by TPTCL.

UERC decided to withdraw the daily penalty of ₹2500/day imposed on UPCL due to non - compliance of its directions pertaining to Bill Collection System, from 1st August, 2017.

UERC directed UPCL to pay the penalty accrued due to delay in releasing LT connections, amounting to over ₹18.82 crores (as on March, 2019), quarterly over 6 years - from FY 20 to FY 25.

UERC approved a capital investment of ₹48.62 crores for UPCL towards the construction of five 33/11 kV substations and their associated 33 kV lines, and six 33 kV feeders from the 220/132/33 kV substation IIP Mohkampur.

WBSEDCL's capital expenditure of ₹278.72 crore towards the implementation of IPDS scheme for 13 towns under 2 regions was approved by WBERC, with an additional grant worth 15 percent of the project cost upon achievement of the desired milestones.

WBERC approved WBSETCL's capital expenditure plan of about ₹805.06 crores towards construction of GIS and associated transmission systems, and establishment of connectivity between various substations of WBSETCL.

WBERC approved IPCL's capital investment proposal ₹1428.08 lakhs (excluding IDC) for the implementation of SCADA system in its distribution area (220/33 kV J.K. Nagar substation and nine 33/11 kV downstream substations) and stipulated that maintenance charges of the SCADA system for first three years from the COD of the complete system would not be claimed in tariff.

WBSETCL was directed to distribute among licensees (who would then deposit the allocated sum into the Power Purchaser Fund) ₹12787.90 lakhs from the SLDC-UI-Fund; the sum would be used to meet the power purchase liability for FY 20.

Tariff Orders

State/Union Territory *(SERC)*	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
Assam *(AERC)*	APDCL, AEGCL, APGCL,	FY 18	FY 19	FY 20 to FY 22	FY 20
Andhra Pradesh *(APERC)*	APSPDCL, APEPDCL (retail and distribution)	---	---	FY 20	FY 20
	APGENCO	---	---	---	FY 20 to FY 24
Arunachal Pradesh *(APSERC)*	TPMZ			FY 19	FY 19
Jharkhand *(JSERC)*	DVC	FY 17	FY 18 and 19	FY 20	FY 20
JERC *(Goa and UTs)*	Lakshadweep Electricity Department	FY 16 to FY 18	FY 19	FY 20 to FY 22	FY 20
	Puducherry Electricity Department (PED)	FY 18	FY 19	FY 20 to FY 22	FY 20
	Electricity Wing of Engineering Department, Chandigarh (EWEDC)	FY 18	FY 19	FY 20 to FY 22	FY 20
	Electricity Department, Government of Goa (EDG)	FY 15	FY 19	FY 20 to FY 22	FY 20
	Electricity Department of Daman & Diu	FY 18	FY 19	FY 20 to FY 22	FY 20
	Puducherry Power Corporation Limited (PPCL)	FY 17	---	FY 20 to FY 22	FY 20
	Electricity Department, Transmission Division, UT of Dadra and Nagar Haveli	FY 18	FY 19	FY 20 to FY 22	FY 20
	DNH Power Distribution Corporation Limited	FY 18	FY 19	FY 20 to FY 22	FY 20
	Electricity Department, Andaman & Nicobar	FY 16		FY 20 to FY 22	FY 20
JERC *(Manipur and Mizoram)*	MANIREDA	---	---	---	FY 20
Karnataka *(KERC)*	MESCOM, GESCOM, BESCOM, HESCOM, MSEZL, HRECS, CESC, AEQUS, KPTCL	---	FY 18	FY 20 to FY 22	FY 20; FY 20 to FY 22 (KPTCL)
Gujarat*(GERC)*	GSECL, GETCO, SLDC*, UGVCL*, DGVCL*, MGVCL*, PGVCL*, TPL-G(A)*, TPL-D(A)*, TPL-D(S)*	FY 18	---	---	FY 20
Himachal Pradesh *(HPERC)*	HPSEBL	FY 17	---	---	FY 20 to FY 24
	BASPA II HEP	---	---	---	FY 20 to FY 24
	HPSLDC	FY 15 to FY 18	---	---	FY 20 to FY 24
	HPPTCL	---	---	---	FY 20 to FY 24
Kerala *(KSERC)*	KSEBL	FY 16 and 17	---	---	---
Odisha *(OERC)*	NESCO, WESCO, SOUTHCO, CESU, OPTCL, SLDC, GRIDCO, OPGC, OHPC	---	---	FY 20	FY 20
Punjab *(PSERC)*	PSPCL, PSTCL	FY 18	FY 19	FY 20 (revised)	FY 20
Sikkim *(SSERC)*	EPDS	FY 18	FY 19	FY 20	FY 20
Uttarakhand *(UERC)*	UPCL, PTCUL, UJVNL, SLDC, GIPL, SEPL, GBHPPL	FY 18§	FY 19	FY 20 to FY 22	FY 20 to FY 22

*MTR of ARR for FY 20 and FY 21; §except SLDC

Regulations

Title	Date of Approval/Notification
Tariff	
Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2019 *[Draft]*	28th May, 2019
Punjab State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2019	29thMay, 2019
Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2019	10th May, 2019
Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2019 *[Draft]*	24th May, 2019
Uttar Pradesh Electricity Regulatory Commission (Multi Year Tariff for Distribution, Tran smission & SLDC) Regulations, 2020 *[Draft]*	8th April, 2019
Renewable Energy (including RPO and REC)	
Assam Electricity Regulatory Commission (Grid Interactive Solar PV Systems) Regulations, 2019	6th June, 2019
Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Solar PV Grid Interactive System based on Net Metering) Regulations, 2019	13th May, 2019
Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019	
Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations (2nd Amendment), 2017	13thMay, 2019
Chhattisgarh State Electricity Regulatory Commission (Grid Interactive Distributed Renewable Energy Sources) Regulations, 2019 *[Draft]*	12th June, 2019
Uttar Pradesh Electricity Regulatory Commission (Promotion of Green Energy through Renewable Purchase Obligation) (First Amendment Regulations, 2019	13th June, 2019
UPERC (Captive and Renewable Energy Generating Plants) Regulations, 2019 *[Draft]*	4th April, 2019
Deviation Settlement Mechanism	
Haryana Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement and related matters for Solar and Wind Generation) Regulations, 2019	29th April, 2019
Haryana Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2019	29th April, 2019
Himachal Pradesh Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2019	3rd May, 2019
Himachal Pradesh Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2019	29th June, 2019
Codes	
Joint Electricity Regulatory Commission for Manipur & Mizoram (Electricity Supply Code) (Eleventh Amend ment) Regulations, 2019	30th May, 2019
Delhi Electricity Regulatory Commission (Supply Code and Performance Standards) (Fourth Amendment) Regulations, 2019	
West Bengal Electricity Regulatory Commission (Standards of Performance of Licensees Relating to Consumer Services) (Third Amendment) Regulations, 2019	
Others	
Maharashtra Electricity Regulatory Commission (Transmission Open Access) (First Amendment) Regulations, 2019	7th June, 2019
Maharashtra Electricity Regulatory Commission (Distribution Open Access) (First Amendment) Regulations, 2019	7th June, 2019
Delhi Electricity Regulatory Commission (Group Net Metering and Virtual Net Metering for Renewable Energy) Guidelines, 2019	31st May, 2019
Gujarat Electricity Regulatory Commission (Consumer Grievances Redressal Forum and Ombudsman) Regulations, 2019	17th June, 2019
Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2019	30th April, 2019
Haryana Electricity Regulatory Commission (Terms and Conditions of Service of the Electricity Ombudsman and the Officers and the Staff of the Office of the Electricity Ombudsman) Regulations, 2019	3rd April, 2019
Himachal Pradesh Electricity Regulatory Commission (Conduct of Business) (Tenth Amendment) Regulations, 2019	10th June, 2019
Kerala State Electricity Regulatory Commission Consumer Grievance Redressal Forum and Electricity Ombudsman) Amendment Regulations, 2019	11th June, 2019
U.P. Electricity Regulatory Commission (Terms and Conditions for Open Access) Regulations, 2019 *[Draft]*	13th June, 2019
U.P. Electricity Regulatory Commission (Consumer Grievance Redressal Form & Electricity Ombudsman) (First Amendment) Regulations, 2019	4th April, 2019

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

Other Notifications

Issuing Authority	Title	Date of Approval/Notification
HERC	Procedure/Guidelines for Banking of Renewable Energy (RE) Power	13th May, 2019
MoP	State Nodal Agencies under "Charging Infrastructure for Electric Vehicles – Guidelines and Standards" (Ministry of Power)	24th April, 2019
MNRE	Guidelines for series approval of Storage Batteries for conducting testing in test Labs for implementation of Solar Photovoltaics Systems, Devices and Component Goods Order 2017	27th June, 2019
MNRE	Guidelines for series approval of SPV Inverters for conducting testing in test labs for Implementation of Quality Control Order on SPV Systems, Devices and Components, Goods 2017 *[Draft]*	9th April, 2019
MNRE	Specifications and Testing Procedure for Universal Solar Pump Controller (USPC) *[Draft]*	10th April, 2019
MNRE	Guidelines for series approval of SPV Modules for conducting testing in Test Labs for implementation of Solar Photovoltaics Systems, Devices and Component Goods Order 2017 *[Revised]*	16th April, 2019
MNRE	Set up of Dispute Resolution Committee	18th June, 2019

CER News

CER Symposium on 'Regulatory Framework for the Emerging Power Sector: European and Indian Perspectives'

CER organised a Symposium on 'Regulatory Framework for the Emerging Power Sector: European and Indian Perspectives' from 18th to 19th May, 2019 at Department of IME, IIT Kanpur. The objective of the Symposium was to discuss emerging challenges in the power sector due to the transformation in market. Participants included representatives from ERCs, utilities, industry, NGOs, academia, etc. The Symposium's highlights include sessions by Prof. Tooraj Jamasb (Chair in Energy Economics and Co-Director, Durham Energy Institute (DEI), Durham University Business School, UK) who was also CER's Expert in Residence during the week, and by Dr. Anoop Singh (CER, IIT Kanpur) on evolution of regulation and competition in the UK retail electricity market, implementing electricity retail competition in India, DNO regulation, benchmarking, and future of utilities. These sessions were chaired by experts from SERCs, utilities and power exchange.

2nd CER Regulatory Research Camp (RRC) on 'Regulatory Framework for Distribution ARR and Tariff Determination'

CER's 2nd Regulatory Research Camp (RRC), a five - day workshop, on 'Regulatory Framework for Distribution ARR and Tariff Determination', was organised from 26th to 30th June, 2019 at McLeod Ganj (Dharamshala), Himachal Pradesh. Eight participants, including power sector professionals from SERCs and utilities, and academicians were invited to join the deliberations of the programme. The opening sessions by Dr. Anoop Singh (CER) gave a theoretical review of existing regulatory framework and presented a comparative study of the evolution of distribution tariff regulations across selected Indian states, followed by presentations by the participants on the practices in their respective states. Mr. Palaniappan Meyyappan (Director, ABPS Infra) shared his experience during a session on 'Evolution of Regulatory framework for Distribution Tariff Determination'. Through discussions and dedicated brainstorming sessions coordinated by CER, a framework for distribution ARR and tariff determination in Indian States was proposed and presented before the recipient regulators - Shri Anand Kumar (Chairman, GERC), Smt. Anjuli Chandra (Member, PSERC) and Shri S.S. Sarna (Member, PSERC). The Camp also featured a visit to Baner Hydroelectric Project at Kangra.

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

Other Initiatives

Energy Analytics Lab — eal.iitk.ac.in

IMPRINT India — ems.iitk.ac.in

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Note: *Additional information, including the detailed agendas and presentations of the programmes conducted by CER, can be accessed through the hyperlinks provided in the online version of this newsletter or at CER's website.*