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REGULATORY INSIGHTS

Centre for Energy Regulation

In Focus

Regulatory Outlook

ERC Tracker

CER News

Editorial

Post Electricity Act, 2003, the Indian Power Sector entered into a phase of market reforms, targeted largely at bringing competition in wholesale procurement of power. The benefits of power market developed thus far have been limited to distribution licensees and Open Access consumers, who have access to competing options for power procurement.

The sectorial reforms have had limited and varying impact on the performance of distribution segment, with some states leading the performance and some yet to catch up. Unmetered consumption, electricity access especially using distribution RE and Standards of Performance need special attention. The proposed amendments to the Electricity Act, 2003 have addressed some of these gaps. Additionally, an era of choice of supply to all consumers is to dawn upon the sector through carriage and content separation as proposed in the amendments. The operational as well as regulatory challenges to the introduction of carriage and content need to be deliberated with stakeholders for their buy in. The proposed amendments also address the need for promoting RE through alternate means such as RGO, and promotion of smart grids. Deemed licensee status for railways and metro services would resolve some of the regulatory ambiguities.

Reorganisation of tariff categories should precede with an assessment of impact on revenue realisation by utilities and on consumers' bills. Introduction of DBT would make low tariffs for lower consumption slabs dispensable. Reduction in regulated tariff for RE, as delineated in ***ERC Tracker***, is a reflection of the impact the competitive process has brought about across the sector. However, generic levellised tariff obfuscates higher nominal tariff that procuring DISCOMs would pay post the application of escalation factor which needs to be explicitly notified, along with the first year's tariff.

In its endeavour to assist regulatory and policy formulation for the sector, CER organised a five-day Regulatory Research Camp (RRC) on Long-term Demand Forecasting and Power Procurement Planning, in July, 2018. The outcome of the workshop would assist SERCs in framing regulations for the same. A report on the same would be published by CER.

The online discussion forum of CER, is an online platform for deliberating regulatory and policy issues. It can be accessed at CER's web portal. We request your feedback for making CER's activities and outputs more relevant to the sector.

Anoop Singh
Coordinator, Centre for Energy Regulation

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UK Government

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Draft Amendments to Electricity Act, 2003

As a result of deliberations and consultation with State Governments and UTs, Ministry of Power, vide its notification dated 7th September, 2018, proposed revisions in the Electricity (Amendment) Bill, 2014. Some key amendments to the Act, as proposed, are (numerals in square brackets refer to the relevant sections of the Act): -

- **Segregation of Carriage and Content:** Distribution and supply are defined explicitly and to be segregated; existing distribution licensees would continue to supply electricity till the transfer scheme is notified and implemented by the respective State government [1, 131A].

- **Electricity Access:** Decentralised distributed generation is defined [1] and is to be promoted by the Central government [3]. After consultation with State governments, a national policy for solar and other RE resources for electrifying rural households and permitting stand-alone systems would be prepared and notified [4].

- **RE Promotion:** Renewable Energy Service Company, Renewable Purchase Obligation and Renewable Generation Obligation are defined [1].

- **Smart Grid Promotion:** The definition of 'smart grid' is incorporated [1]. The power to make regulations for smart grids (and ancillary services) is proposed to be vested with Central Electricity Authority [177]; ERCs would be responsible for promoting smart grids [3, 79, 86].

- **Role of Central Government:** GoI is to frame National Renewable Energy Policy [3], establish Power Committees [25], constitute a Forum of Electrical Inspectors [166], and define Captive Generating Plants [1].

- **Distribution and Supply License:** It is proposed that:
  - Indian Railways, Metro Rail Corporation, Mono rail, etc. would be deemed licensees [14]
  - Supply business, if only from renewable energy sources, is to be delicensed [14]
  - Distribution/supply licensees would be obligated to supply 24×7 power to its consumers and the appropriate ERC would periodically review power purchase arrangements for the same [42]

- **Mechanism for Recovery of Charges by Supply Licensee:** The following changes are proposed [45]:
  - Mandatory metering of electricity consumption; provision for prepaid metering
  - Subsidy for any consumer category, if given, to be provided only through Direct Benefit Transfer (DBT)

- **Power Purchase:** Several clauses related to PPAs are summarised below [49]:
  - All sale/purchase of power through PPAs; the PPAs' format to be laid down by CEA, with approval of the Central government; PPAs can be cancelled only with the approval of the concerned ERC
  - PPA violation to be fined with up to rupees one crore per day and/or suspension or cancellation of the licence

- **Penalties:** Stricter penalties are proposed to be charged from defaulters in case of non-compliance with the provisions of the Act [146]. Penalties to be levied for non-compliance, especially SoPs [57, 59A].

- **Tariff Regulations and Tariff Determination:**
  - Tariff to be determined as per Tariff Policy instead of Tariff Regulations of the respective ERC [61, 62, 3]
  - Tariff for cross border transactions would be determined by government-to-government negotiations [63]

- **Additional Functions of CERC:** These include [79]:
  - Promotion and development of smart grid, communication system and ancillary support
  - Regulation of tariff, electricity purchase and procurement process of the Indian Railways
  - Issuance of cross border transmission licences

- **Timelines for ERCs:** Timelines are proposed for ERC proceedings, especially for pass through in tariff [92].

- **Review of Performance of ERCs:** ERC's performance would be reviewed by the Chairperson, and a report would be submitted to the Central government (by CERC [79]) and also to the State government in the case of SERCs [86]. Forum of Regulators would constitute an independent committee every three years for the same [109A].

- **Others:** Additional powers for APTEL (to be renamed as Appellate Tribunal for Energy) and LDCs.

Note: CER Opinion on Draft Amendments to Electricity Act, 2003 can be accessed at CER's web portal.

Additional Draft Amendments to Tariff Policy, 2016 Simplification of Tariff Categories and Rationalization of Retail Tariff

Ministry of Power, via a letter dated 10th September, 2018, proposed additional amendments to the Tariff Policy, subsequent to the document published on 30th May, 2018 and covered in the first issue of Regulatory Insights. The modified draft amendments to Para 8.3 A of the policy are summarised below: -

- ❑ The existing consumer categorisation (domestic, industrial, commercial, etc.) to be replaced with new categories defined on the basis of sanctioned load: 0-2 kW; >2-5 kW; >5-10 kW; >10-25 kW; >25 kW
- ❑ Consumption slabs for each load category: 0-200 kWh; 201-400 kWh; 401-800 kWh; 801-1200 kWh; >1200 kWh
- ❑ Consumers with higher sanctioned load and consumption to cross-subsidise those with lower sanctioned load and consumption
- ❑ Bulk consumers financially encouraged to take supply at higher voltage
- ❑ Strict penalties on consumers for under declaring their connected load
- ❑ An automatic method for revision of load of consumers
- ❑ Load and consumption may be recorded in kVA and kVAh respectively to incorporate the effect of power factor
- ❑ A separate tariff category for EV charging stations

CER Opinion

- ❖ In a DBT regime as proposed in the draft amendments to Tariff Policy (May, 2018), low tariff for lower consumption categories should be done away with, else it will diminish the efficacy of DBT.
- ❖ The proposed amendments should mandate time-of-day (ToD) tariff for consumers with load above 10 kW (to be further reduced to 5 kW gradually), with appropriate metering.
- ❖ ToD-based or dynamic tariff should be adopted for all consumers with smart meters to harness their potential especially to manage their electricity demand.
- ❖ A detailed impact assessment of the proposed tariff categorisation on revenue realisation by utilities, and consumers' bills should be undertaken.
- ❖ Reliability-based tariff should be implemented in place of proposed 24×7 electricity supply mandate. Moreover, the 24×7 supply clause leaves room for interpretation without relating it to the 'demand' (contracted/sanctioned load) of the consumer.
- ❖ Penalty for exceeding sanctioned load should be at least twice the fixed charge on additional load for encouraging consumers to get their sanctioned load revised.

Central Electricity Regulatory Commission (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and Other Related Matters) Regulations, 2018

The CERC regulations dated 23rd July, 2018 were issued in the interest of devising a robust inter-state transmission system by the Central Transmission Utility (CTU), with the key objectives of specifying the principles and procedures for ISTS development, stakeholder participation, planning transparency, and delineating the functions of associated organisations. The obligations under these regulations are stipulated as under:

- ❑ CTU, in coordination with RPCs, would plan the ISTS and formulate the base case system studies, considering periodic system technical inputs from NLDC and plant specifications along with forthcoming project details from Gencos.

- Ancillary requirements such as reactive support, black-start, system recovery, etc., and Renewable Purchase Obligations (RPOs), would be imperative in planning the build-up of ISTS.

- On the planning side, the following have been emphasised:
  - Reviewing the planning process at least twice a year
  - Accounting for reliability and congestions through operational feedback from system operators
  - Probabilistic scenarios for load and generation with variable renewable energy for assessment of unit commitment
  - Utilising controllers/compensators for enhancing existing capacity
  - Harmonising the integration of ISTS planning with intra-state network expansion
  - Funding of transmission system for national/ strategic interests

- Procedures for regulatory filings by mainstay entities, particularly the application process for regulatory approval of transmission licence and grant of tariff of CTU, are laid down. The workforce disposition by CTUs and STUs to carry out the above planning are to be mandatorily submitted to CERC for certification and approval.

CER Opinion

- Transmission planning should also consider the expected impact of cross-border electricity trade.

- Impact of technological disruptions, on account of uncertain demand for EV charging, smart-grids and storage should also be taken into consideration.

- Integration of renewable energy resources characterised by intermittency and uncertainty necessitates advances in planning and operation of electricity grid to minimise the adverse impacts of significant variations in RE generation.

- Disaster management and recovery planning strategy must be in place to reduce the impact of unforeseen events.

Amendment of RSPV (Gross & Net Metering) Regulations, 2015 (UPERC Concept Paper)

Based on comments from MNRE, UPERC released a concept paper on 20th August, 2018, reviewing UPERC (Rooftop Solar PV Grid Interactive System Gross / Net Metering) Regulations, 2015. The salient features of the paper are discussed below:

- As per MNRE's suggestion, a limit of 2 MW [*sic*] (against 1MWp previously) on PV system capacity is proposed

- Total RSPV capacity not to exceed 50% (an increment from 25% earlier) of the distribution transformer capacity

- The cost of augmentation of distribution network, if incurred, not to be borne by consumers

- Non-banking of solar power retained, although MNRE suggested 3-month banking without any charges

- Provision of choice between CAPEX and RESCO models to continue

CER Opinion

- Solar power banking can have adverse impact on the finances of DISCOMs and on system scheduling. However, a ToD provision for both injection and drawl can help ameliorate such impacts.

- RSPV installation process should be implemented through an online portal to facilitate its speedy adoption.

Tariff

HPERC approved generic levellised tariff for solar PV power plants for FY 2018-19 as under:

Capacity (MW)	Generic Levellised Tariff (₹/kWh)	Discount Factor (%)
⩽1	4.20	9.02
1 – 5	4.15	9.02

KERC determined generic tariff for new ground-mounted solar and solar rooftop photovoltaic projects.

Project Type	Capacity (MW)	Generic Levellised Tariff (₹/kWh)
Ground-mounted solar	<5	3.05
Grid-connected solar rooftop	⩽1	3.56 (without capital subsidy) 2.67 (with capital subsidy)

MERC determined generic tariff for renewable energy for FY19 via order dated 18th August, 2018.

RE Source	Capacity (MW)	Tariff (₹/kWh)
Wind	---	2.87
Mini and Micro Hydro	⩽0.5	5.64 (without AD) 5.36 (with AD)
	0.5 – 1	5.14 (without AD) 4.86 (with AD)
Other SHPs	1 – 5	4.64 (without AD) 4.36 (with AD)
	5 – 25	3.92 (without AD) 3.66 (with AD)
Biomass-based (commissioned in F Y19)		7.44 (without AD) 7.30 (with AD)
Non-fossil fuel-based cogeneration		4.99
Solar PV		2.72
Solar Rooftop PV		3.22
Solar Thermal		11.23 (without AD) 10.32 (with AD)

**AD: Accelerated Depreciation*

Against ZEDA's petition, JERC (M&M) released a tariff order for rooftop solar plants in Mizoram, determining and approving levellised tariff (FIT) with and without subsidy, as follows:

Capacity (kW)		1-10	10-50	50-100	100-300	300-500
Capital Cost (₹'000/kW)		68.9	64.7	63.5	61.0	60.4
Levelised Tariff (₹/kWh)	Without subsidy	6.37	6.03	5.93	5.73	5.68
	With 70% subsidy	2.98	2.92	2.83	2.74	2.69
	With 30% subsidy	4.92	4.70	4.60	4.45	4.40

UPERC approved the petition of NPCL for short-term power procurement, adopting the lowest tariffs as discovered through reverse auction as follows:

Trader	Period	Duration (hrs)	Quantum (MW)	Rate (₹/kWh)
M/s PTC India Ltd.	May, 2018 to July, 2018	00:00 to 24:00 (round-the-clock)	10	4.62
	August, 2018 to September, 2018		35	4.82
APPCPL	May, 2018 to September, 2018	00:00 to 03:00	25	5.50
	April, 2018 to September, 2018	11:00 to 24:00	45	5.50

Others

KERC ordered that all power procurement from bagasse-based cogeneration power plants and wind power plants shall be only through competitive e-reverse bidding.

KERC recognised the difference in Fuel Cost Adjustment (FCA) charges as submitted by the ESCOMs and as calculated by the Commission, and decided to carry forward the savings and the increase in FAC of all the ESCOMs as at the end of the fourth quarter of FY18 to the ARR as may be approved by the Commission after the APR for FY18.

DERC notified Electronics Regional Test Laboratory (North) as the laboratory for carrying out testing of suspected tampered meters, along with the guidelines for carrying out such testing.

DERC allowed TPDDL the cost of power purchase from FY 2012-13 till FY 2016-17 on the principle of Merit Order, considering their petition a special case wherein PPA is bundled and the agreement does not provide for partial termination of the PPA with regard to the generating station and needs to be enforced in a combined manner.

MERC allowed MSEDCL to procure shot-term power at rates higher than the ceiling of ₹4/kWh, through competitive bidding or Power Exchanges, till March, 2019.

MERC approved the petition of MSEDCL for long-term procurement of 250 MW wind power with a ceiling rate of ₹2.52/kWh towards the fulfilment of its non-solar RPO targets, accepting the deviation in the bidding document from MoP guidelines.

RERC granted permission to JVVNL for setting up Electric Vehicle (EV) charging stations on the grounds of optimum utilisation of surplus power available and assets by JVVNL, taking cognizance of environmental benefits of EVs.

In response to a petition seeking directions for the implementation of RERC (Connectivity and Net Metering for Rooftop and small Solar Grid Interactive Systems) Regulations, 2015, RERC permitted the DISCOMs (RRECL, AVVNL, JVVNL and JDVVNL) to enter into agreement with any RESCO and/or consumers to bolster the solar rooftop scenario in Rajasthan.

UPERC directed Harduganj [*sic*] Unit #7 to be brought under ABT regime post R&M of the plant, from 13th August, 2018, and the capacity of the unit to be taken as 105 MW for ABT purposes. Furthermore, UPRVUNL was directed to conduct PG test of the unit within 2 months and submit the report to UPPCL, following which a fresh petition must be filed by UPRVUNL for the revision of the name plate capacity of the unit.

UPERC approved the medium-term power procurement of 1000 MW by NPCL from M/s SKS Power Generation (Chhattisgarh) Ltd. through PTC India Ltd. at an all-inclusive lump-sum tariff of ₹4.25/kWh discovered through DEEP portal.

Tariff Orders

State/Union Territory (SERC)	Licensee/Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR) and Tariff
Gujarat *(GERC)*	Aspen Infrastructures Ltd. (AIL)	2016-17	---	2018-19
Jharkhand *(JSERC)*	JUSCO	2015-16	2016-17	2017-18
	SAIL	2013-14 to 2015-16	---	MYT ARR 2016-17 to 2020-21, Tariff 2016-17
Manipur and Mizoram *JERC (M&M)*	ZEDA	---	---	Tariff 2018-19

Regulations

Title	Date of Approval/Notification	Last Date for Submission of Comments/Suggestions/Objections
Draft Himachal Pradesh Electricity Grid Code (First Amendment) Regulations, 2018	17th July, 2018	---
Draft HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) (Second Amendment) Regulations, 2018	1st August, 2018	---
Draft Amendment to JSERC (Electricity Supply Code) Regulations, 2015	---	27th August, 2018
Draft KERC (Procurement of Energy from Renewable Sources) (Sixth Amendment) Regulations, 2018	11th July, 2018	---

Title	Date of Approval/Notification	Last Date for Submission of Comments/Suggestions/Objections
Maharashtra Electricity Regulatory Commission(Forecasting, Scheduling and Deviation Settlement for Solar and Wind Generation) Regulations, 2018	20th July, 2018	---
MSERC (Renewable Energy Purchase Obligation & its Compliance) Regulations, 2018	31st July, 2018	---
Draft Meghalaya State Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2018	2nd August, 2018	---
Draft Meghalaya State Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement for Solar and Wind Generation) Regulations, 2018	---	---
Draft Rajasthan Electricity Regulatory Commission (Power Purchase & Procurement Process of Distribution Licensees) (Fifth Amendment) Regulations, 2018	August, 2018	20th September, 2018
Draft Rajasthan Electricity Regulatory Commission (Renewable Energy Obligation) (Fifth Amendment) Regulations, 2018	August, 2018	20th September, 2018
Central Electricity Regulatory Commission (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018	23rd July, 2018	---

Other Notifications

Title	Date of Approval/Notification	Last Date for Submission of Comments/Suggestions/Objections
Administrative Approval of "Scale Up of Access to Clean Energy Scheme" for the period FY 2018-19 and FY 2019-20	7th August, 2018	---
Concept Paper on amendment of RSPV (Gross & Net Metering) Regulations, 2015	20th August, 2018	21st September, 2018
Draft Concept Note on "Merit-Order Operation Flexibility in Generation and Scheduling of Thermal Power Stations to reduce the cost of power to the consumer	9th August, 2018	17th August, 2018
Discussion Paper on Re-designing Real Time Electricity Markets in India	25th July, 2018	31st August, 2018
Discussion Paper on Re-designing Ancillary Services Mechanism in India	6th September, 2018	10th October, 2018
Electricity Supply Code (Thirteenth Amendment), 2018	10th August, 2018	---
Amendment in National Wind-Solar Hybrid Policy	13th August, 2018	---

Regulatory Research Camp (RRC)

Centre for Energy Regulation organised its first Regulatory Research Camp (RRC) in July, 2018, at Parwanoo, Himachal Pradesh. Officials from ERCs, utilities and academia participated in this five-day workshop on *'Regulatory Framework for Long-term Demand Forecasting and Power Procurement Planning'*. The workshop had two output-oriented objectives – a framework for the respective states of the participants, to be shared with their organisation and other stakeholders, and a report to be published by CER.

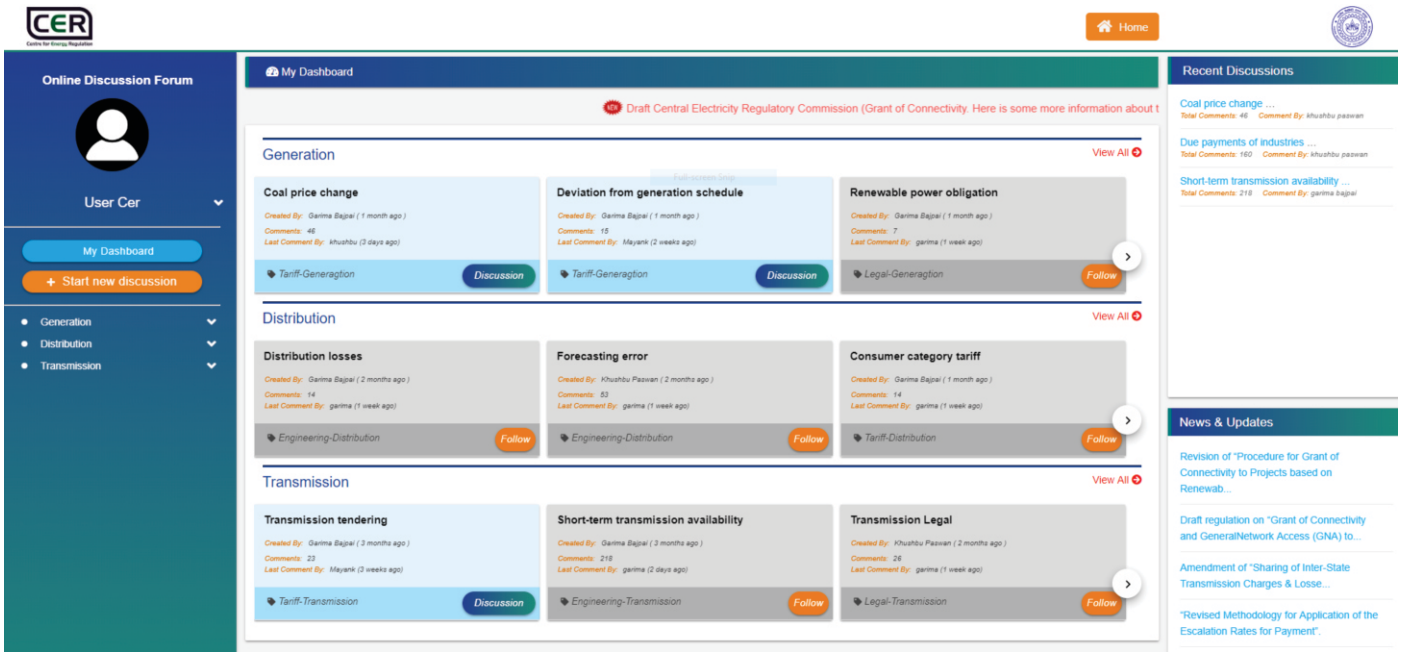
The camp also featured expert talks. Dr. Ishan Sharan, Director, Central Electricity Authority shared his experience of preparing the Nineteenth Electricity Power Survey of India Report. Mr. Suneel Grover, Chief Engineer (System Operation), HPSEBL discussed the nuances of managing a power portfolio primarily comprising hydro.

The participants, apart from sharing their understanding and views on the current regulatory framework for long-term demand forecasting and power procurement planning, visited Himachal Pradesh Electricity Regulatory Commission (HPERC) and had fruitful interactions there.

The outcome of RRC was presented before Dr. Arbind Prasad, Chairperson, JSERC, who appreciated the initiative and provided critical inputs to implement the outcome.

Participants at First Regulatory Research Camp

CER's Online Discussion Forum



CER's Online Discussion Forum (ODF), an online platform for exchanging knowledge and ideas in the regulatory and policy contexts of the sector, is now active. In addition to facilitating moderated discussions on an eclectic list of topics, the forum would keep users abreast with outputs and activities of CER.

Other Initiatives

ENERGY ANALYTICS LAB
eal.iitk.ac.in

IMPRINT INDIA
ems.iitk.ac.in

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