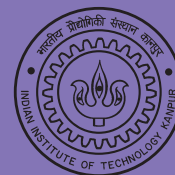




# REGULATORY INSIGHTS



## Regulatory Outlook

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## Editorial

Clean energy transition for the Indian power sector entails not only development of renewable energy sources but also displacement of the existing use of fossil fuels. Similar to the blending of biofuels in the fossil fuel used for transportation, the policy and regulatory environment across the country is encouraging the use of biomass as a co-fired fuels in the coal-based power plants. Implementation of such an initiative should bank not only upon the imposition of steep targets but the development of supply chain to adequately meet the biomass needs of the power sector. Historical experience on development of biomass-based renewable energy plants have revealed that creation of such new demand has often lead to steep rise in fuel price especially due to the absence of an adequate supply chain and lack of economies of scale as biomass collection area expands to meet of biomass fuel for the plants.

Given the overall capacity of the coal based power plants, a phased approach to biomass blending for coal power plants would allow the development of the ecosystem while also providing regulatory certainty for investors in development of the supply chain. Accounting for biomass on account of trade/ storage etc, and the need to identify accounting towards RPO/ RGO are key to ensure that there is transparency on both counts. We also highlight the need for modification in the calculation of auxiliary consumption towards biomass utilisation.

Section 62 of the EA 2003 empowers the Appropriate Commissions to issue Regulations for tariff determination and also set multi-year target for performance including that for network losses. 'Approval' of the target trajectories by the respective State Govt. can lead to procedural delays and would also impinge on the role of the Commissions. Further, it would be difficult to ensure separation of interest while 'approving' the loss reduction and as the owner of the state-owned Discoms. The MYT Regulations across states provide for sharing of gains and losses, there is a differentiated approach to sharing of gains, which may be shared equally but sharing of losses protect consumer's interest. Given that the MYT Regulations have already been issued by the SERCs, a midway change in approach may lead to legal repercussions.

A study at CER has provided insights in to the estimation of RoE across all the infrastructure sub-sectors including those of the power sector. Apart from this, the approach to provide RoE also needs to consider the approach for estimation of equity-based across the life of a project.

The net metering arrangements across states often provide for appropriating the renewable energy generated and consumed within the state by a non-obligated entity towards RPO of the Discom. The framework is usually tilted towards discom and reduces the incentive for investment in RE. Furthermore, the proposal to allow the Discom to claim all the CDM benefits would not leave any incentive for the RE projects to spend resources to go through the CDM process.

**Anoop Singh**

Founder & Coordinator, Centre for Energy Regulation

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

## MPERC (Approach Paper on “Methodology for Estimation of Electricity Generated from Biomass in Biomass Co-fired Thermal Power Plants”) [Draft]

MPERC notified draft for approach paper on “Methodology for Estimation of Electricity generated from Biomass in Biomass co-fired thermal power plants”. The key highlights of this approach paper are given below :-

- The objective of the paper is to mandate the state sector coal-based thermal power plants whose tariff is determined by the Commission u/s 62 and u/s 63 of the Electricity Act 2003 (The Act) and moreover the captive power plants to use biomass pellets along with coal.
- All coal based thermal power plants with “bowl mill” to mandatorily use 5% blend of biomass pellets, with “ball & race mill” to mandatorily use 5% blend of torrefied biomass pellets only and with “ball & tube mills” to mandatorily use 5% blend of torrefied biomass pellets with volatile content below 22%, on annual basis primarily of agro residue along with coal.
- The generating utilities with some units under reserve shutdown or not being despatched due to Merit Order Despatch (MOD) consideration, shall increase the percentage of co-firing up to 10% in their other operating units/ plants (5% in case of ball and tube mills).
- The minimum contract period for procurement of biomass pellets by generating utilities shall be 7 years so as to avoid delay in awarding contracts and to build up long-term supply chain.
- **Tariff determination:** The increase in cost due to co-firing of biomass pellets shall be passed through in Energy Charge Rate (ECR) for projects set up u/s 62 of the Act whereas the projects set up u/s 63 of the Act shall claim the increase in ECR due to biomass co-firing under Change in Law provisions.
- **Scheduling:** The impact on ECR due to co-firing of biomass pellets shall not be considered in deciding MOD of the power plant.
- **RPO:** The obligated entities can meet their Renewable Purchase Obligations (RPO) by buying such generation of co-firing.
- **Landed cost of Biomass Fuel:** The landed cost of biomass fuel shall be worked out based on the delivered cost of biomass at the unloading point of the generating stations, inclusive of all taxes and duties as applicable.
- **ECR:** The Energy Charge Rate of the blended fuel shall be worked out considering consumption of biomass based on blending ratio as specified by Authority or actual consumption of biomass, whichever is lower.
- The policy would be in force for 25 years or until the useful life of the thermal power plants whichever is earlier.

## CER Opinion

**CER Phase-wise Approach to Biomass Utilisation:** The Ministry of Power (MoP), Govt. of India, vide letter No. 11/86/2017-Th11 dt. 17<sup>th</sup> November, 2017 issued the "Policy for Biomass Utilisation for Power Generation through co-firing in Pulverized Coal Fired Boilers". The policy envisaged co-firing of 5-10% biomass pellets made primarily of agro residue along with fluidized bed and pulverized coal units.

A number of biomass-based electricity generating plants have emerged in the rural landscape. One of the outcomes of the emergence of such plants has been an increase in the biomass price due to localised nature of the agricultural waste biomass. Transportation and pelletisation further increases cost of the pelletised fuel.

**Mandating a steep biomass-blending target, which is not commensurate with the development of the supply chain for biomass and its pelletisation, may lead to increase in its price leading to higher cost of procurement both for coal-based power plants as well as for the biomass-based plants.** This may change the overall economics of the fuel and its utilisation across a variety of usage affecting the whole waste biomass ecosystem comprising of users like pulp and paper industry, biomass/ wood based products, animal fodder as well as biomass based electricity generation. **It is suggested to adopt a phased approach for biomass utilisation with gradual increase over the years. It may begin from 2% and increase by one percentage point each year up to the long-term target.**

**CER Localised Biomass Supply:** Use of agricultural residue including that through pelletisation should minimise biomass

transportation, else this effort would be carbon negative as fossil fuels burned in biomass transportation would effectively replace the carbon avoided by its use. The adoption of biomass share should keep this constraint in mind while mandating the target so that biomass utilisation does not turn out to be carbon negative.

This further highlights the need for phased target, in a manner similar to RPO trajectory, depending upon the availability of biomass for generation of electricity.

**CER RPO/ RGO:** Draft Clause 1.1.5 (a) states that “Clarification of Ministry of New and Renewable Energy (“the MNRE”), Govt. of India issued vide reference dt. 26.9.2019, states that the power generated from co-firing of Biomass in Coal based Thermal Power Plants is Renewable Energy (RE) and is eligible for meeting non-solar Renewable Purchase Obligation (RPO).” It should also be noted that MoP, on 3<sup>rd</sup> March, 2023, issued a resolution ensuring all new thermal plants with Scheduled Commercial Operation Date (SCOD) after 1<sup>st</sup> April, 2023 to generate 40% of their total power production from renewable energy sources<sup>1</sup>. It should be clarified whether the energy generated from biomass co-firing can be used by thermal plants for meeting their RGO as well. **To ensure that there is no double counting, biomass use claimed towards RPO shall not be used for claim against RGO and vice versa.**

**CER Applicability for Merchant Power Plants:** Clause 1.2 (viii) (d) states that “Obligated Entities such as Discoms can meet their Renewable Purchase Obligations (RPO) by buying **such generation** of co-firing.”

The provision for considering the energy consumed by a beneficiary through merchant power plants using such biomass co-firing for fulfilment of their RPO may be clarified as the generating plants will supply their beneficiaries only, and not any other obligated entities which will only be able to meet such obligations through the merchant power plants. Further, the RPO/ RGO accounting should ensure that there is no double counting of the same.

**CER Normative rather than Actual Coal Consumption:** Clause 1.3 (b) states that “Energy generated from biomass shall be worked out based on the actual consumption of biomass and coal rather than on normative operational parameters of Station Heat Rate and Auxiliary Power Consumption.” (emphasis added)

It is suggested that the biomass to be considered on the basis of **actual consumption but the coal should be worked out on normative basis as per the current normative framework for operational parameters of thermal power plants** (actual biomass consumption should be deducted from normative coal consumption).

**CER Coal/ Biomass Consumption:** As per draft Clause 1.3 (e) “Consumption of coal and biomass shall be worked out based on opening balance, receipt and closing balance of coal and biomass.”

To ensure that any trading/ transfer of biomass is properly accounted for, the above Clause may be rephrased as “Consumption of coal and biomass shall be worked out based on opening balance, receipt, **trade/transfer** and closing balance of coal and biomass **respectively**. **Further these should be verified from invoice and e-way bills, as applicable.**” (emphasis added)

**CER Landed Cost of Biomass Fuel to include Transportation Cost:** Draft Clause 1.5 states that “...based on the delivered cost of biomass at the unloading point of the generating station, inclusive of **taxes and duties** as applicable.” (emphasis added)

The Clause may be rephrased as “.... based on the delivered cost of biomass at the unloading point of the generating station, inclusive of **taxes, duties and transportation cost** as applicable.”

**CER Auxiliary Consumption for Energy generated by Biomass:** According to Step 1 of draft Clause 1.6, “The electricity generated from Biomass shall be estimated at Generator Terminal on monthly basis in accordance with the following formula:

$$E_b(G) = \frac{(Q_b * G_b)}{(Q_c * G_c) + (Q_b * G_b)} * E(GT)$$

where,

$Q_b$  = Quantity of bio-mass consumed during the month (kg)

$G_b$  = Weighted average Gross Calorific Value (GCV) of bio-mass consumed during month (kCal/kg)

$Q_c$  = Quantity of coal burnt during the month (kg)

$G_c$  = Weighted average GCV of coal burnt during the month (kCal/kg)

$E(GT)$  = Gross electrical energy generated at Generator Terminal during the month (kWh)

<sup>1</sup> Notification of Ministry of Power: Renewable Generation Obligation as per revised Tariff Policy 2016

It is suggested that for calculation of RPO, the ex-bus net energy i.e., the energy generated excluding the auxiliary consumption of the plant be considered instead of the gross energy at the generator terminals. Thus, for RPO calculation,

$$E(RPO) = E_b(G) - E_b(A)$$

where,

$E(RPO)$  = Energy generated from biomass to be considered for RPO calculation.

$E_b(G)$  = Electrical energy generated by bio-mass at Generator terminal during the month (kWh).

$E_b(A)$  = Auxiliary Consumption

## MoP's Proposal on Electricity (Amendment) Rules, 2023 [Draft]

MoP notified draft “Electricity (Amendment) Rules, 2023” on 20<sup>th</sup> April, 2023. The key highlights of the document are as below:

The notification proposes amendment in Section 15 of the Electricity Rules, 2005 which mandates the accounting and payment of subsidies payable to Discoms u/s 65 of the Act to be done in accordance with Standard Operating Procedure (SOP) issued by the Central Govt. The respective SERCs will issue quarterly reports for each Discom giving the findings on the demands for subsidies raised by the Discom in the quarter. Moreover, the above-mentioned report should be based on accurate accounts of the energy consumed by the subsidized category and consumer-wise per unit subsidy declared by the states. Further, the actual payment of subsidy and the gap in subsidy due, paid by the respective Govt. is also to be reported.

The draft rules propose a framework for the financial sustainability of Discoms, wherein the loss reduction trajectory to be adopted by the SERCs for tariff determination should be as per the trajectory agreed upon by the respective State Govt. and approved by the Central Govt. under any national scheme or program. Further, the trajectory for both collection and billing efficiency for the Discoms should be determined by the respective SERCs.

The appropriate Commissions should take into account all the prudent costs of power procurement incurred by the Discoms for 24×7 power supply and meeting requirements should be as per the resource adequacy plan.

Additionally, the rules proposed for geo-tagging and recording of assets in the Fixed Asset Register (FAR). Gains and losses resulting from deviations are to be shared between the Discom and consumers, with two-thirds of gains passed on to consumers and the remainder retained by the distribution licensee. In terms of losses, half is to be borne by the Discom, and the other half is to be included in the tariff passed on to consumers.

## CER Opinion

**CER Regulation 20 (I) (a):** The draft Clause states that “*The loss reduction trajectory to be adopted by the State Commissions for tariff determination shall be in accordance with the trajectory agreed by the respective State Govt. and approved by Central Govt. under any national scheme or program.*”

As per section 62 of the Act determination of tariff for distribution licensees falls within the jurisdiction of the respective State Commissions. While the SERCs would continue to fix loss reduction trajectory for determination of tariff, the process of ‘approval’ would influence the tariff determination and may also delay the process.

As an alternative, the Central Govt., in consultation with the respective State Govt., may fix a loss reduction trajectory. This would serve as a minimum benchmark. The respective SERCs may fix a higher loss reduction trajectory thus ensuring that a minimum level of efficiency improvement is engrained in the performance of the Discoms.

**CER Benchmarking Approach to Fix Loss Reduction Trajectory:** The Discoms across the country differ in terms of network characteristics, consumer mix, operational practices etc. Some of the Discoms have been able to achieve significantly lower distribution losses, while others continue to have high distribution losses. The methodological approach to set loss reduction trajectory should differentiate the underlying aspects. **A benchmarking based approach, such as Data Envelopment Analysis, can be used to set such differentiated target across Discoms.**

**CER Recovery of Prudent Cost:** In Clause 20 (I) (c) the draft Clause states that “*All the prudent Costs of power procurement, incurred by Distribution licensee for ensuring 24x7 supply of electricity to consumers under the*



*Electricity (Rights of Consumers) Rules, 2020 and for meeting requirements as per Resource Adequacy plan prepared under the Electricity (Amendment) Rules 2022, shall be taken into account, provided that the procurement of power has been done in a transparent manner or tariff has been determined by the Appropriate Commission.”*

As per Section 86 (1) (b) of the Act, power procurement by Discoms is regulated by the respective SERCs. A coherent approach needs to evolve whereby there is effective role of SERCs, while the Rules provide a wider umbrella to ensure harmonized approach to resource adequacy while providing for localisation to suit the conditions of the respective Discom/ state as per demand-supply pattern and economics thereof.

Further, to ensure cost efficient power procurement, the above Clause may be modified as “..... provided that the procurement of power has been done in a transparent, cost effective and competitive manner as per Section 63, or tariff has been determined by the Appropriate Commission as per Section 62 of the Act.” (additional text underlined)

**CER Pass Through of Prudent Costs u/s 42 (1) of the Act:** The draft Clause states “*All the prudent costs incurred by the distribution licensee for creating the assets for development and maintenance of distribution system in accordance with sub-section (1) of section 42 of the Act shall be pass-through.*”

A distribution licensee, as per Section 42 (1) of the Act is duty-bound to develop and maintain a distribution system,

“*Section 42. (Duties of distribution licensee and open access): - (1) It shall be the duty of a distribution licensee to develop and maintain an efficient, co-ordinated and economical distribution system in his area of supply.*”

Section 42 refers to the provision for the distribution system, the associated costs are to be approved u/s 62, while being guided by Section 61. SERCs have issued relevant business Regulations providing a framework for approval of investment to be made by the distribution licensees. Recovery of such investment is to be done through the approved tariff u/s 62.

**CER Ratio of Sharing Gains/ Losses:** As per the draft Clause 20 (I) (e), the sharing of gains/ losses must be allowed between the distribution licensee and its beneficiaries through prudence check in the approved true-up of the year. According to this draft Clause “*...Half of losses shall be borne by distribution licensee and half shall be passed on to the consumers in tariff.*” It is suggested that the losses borne by consumers should be less and may be equal to one-third of the sharing of losses and remaining may be borne by the distribution licensee in order to reduce burden on consumers. SERCs have issued Tariff Regulations u/s 61 that also outline a mechanism for sharing of gains. For example, sharing of gains/ losses in Tariff Regulation notified by the State Commission u/s 181 of the Act for example MERC (Multi Year Tariff) Regulations, 2019<sup>2</sup> and KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2021<sup>3</sup> where the losses shared to consumer is less.

It is important to emphasize that sharing of gains/ losses may also depend on the key operating/ financial parameter in question. Thus, the SERCs may be provided flexibility to choose gain/ losses sharing mechanism as suitable in their individual context. Analysis of the impact of the prevailing (and differentiated) gain sharing approach on performance of the Discoms may be undertaken to develop a framework for the same.

**CER ‘Geo-info-tagged’ Assets (Regulation 20 (I) (d) (ii)):** The draft Clause states that “*Asset are geo-tagged and properly recorded in Fixed Asset Register (FAR) and the details are made available on the website of the Distribution licensee.*”

Apart from geo-tagging of assets, it would be very useful to ensure that information on key aspects of assets including technical specifications, make, year of purchase, year of installation, last 5 repairs (when and by whom), previous location (if any), associated DT/feeder etc., should also be included in a database. This would enable interesting analytics to understand the performance of the assets and its usage.

**CER Calculation of Equity Base for RoE:** Singh et al. (2022)<sup>4</sup> estimated cost of equity for the infrastructure sector including electricity using Capital Asset Pricing Model (CAPM) as well as Fama & French multifactor models and found that the regulated returns are often not in line with the ones offered by the market. It is found to be higher/ lower than the regulated returns across various sub-sectors for the period of analysis. Furthermore, it has also been highlighted that post repayment of debt, depreciation should result in reduction in the equity base, thus ensuring that the consumers's interests are protected<sup>5</sup>.

<sup>2</sup> MERC (Multi Year Tariff) Regulations, 2019 [https://merc.gov.in/wp-content/uploads/2022/08/MYT-Regulation-2019\\_English.pdf](https://merc.gov.in/wp-content/uploads/2022/08/MYT-Regulation-2019_English.pdf)

<sup>3</sup> KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2021 <https://www.erckerala.org/details?id=r1>

<sup>4</sup> Singh, K, Singh, A, Prakash, P (2022), Estimating the cost of equity for the regulated energy and infrastructure sectors in India, Utility Policy, 74. See <https://www.researchgate.net/profile/Anoop-Singh-28>

<sup>5</sup> CER's comments on JSERC (Terms and Conditions for Determination of Generation Tariff) regulations, 2020 [Draft] [https://cer.iitk.ac.in/newsletters/regulatory\\_insights/Volume03\\_Issue02.pdf](https://cer.iitk.ac.in/newsletters/regulatory_insights/Volume03_Issue02.pdf)

## RERC (Grid Interactive Distributed Renewable Energy Generating Systems) (First Amendment) Regulations, 2023 [Draft]

RERC notified draft on “Grid Interactive Distributed Renewable Energy Generating Systems (First Amendment) Regulations, 2023 in May, 2023.”

- According to the proposed draft, in case of net billing arrangement as well as net metering arrangement, the peak AC capacity of the RE generator should not exceed the capacity under the connection agreement.
- In case of net billing arrangement, if the peak AC capacity exceeds the capacity of the connection agreement then the corresponding excess generation shall lapse.
- In case of net metering arrangement, if the quantum of electricity exported exceeds the quantum imported then the distribution licensee shall purchase such excess energy at the weighted average tariff, discovered through competitive bidding and adopted by the Commission whereas the net imported energy shall be billed as per the applicable slab.
- In case of net metering arrangement, there is no provision of cross-subsidy surcharge for RESCO owned RE generating systems.

### CER Opinion

**CER Renewable Energy Obligation:** Clause 5.4 of the principal document states that “*The Discom may consider the quantum of electricity generation from Renewable Energy Generating System under Net Billing arrangements towards RPO.*”

This Clause proposes that the ‘total generation’ from the Renewable Energy Generating Systems (REGS) under net billing arrangement shall be counted towards RPO of the Discom. The RE generation has embedded value due to the green attributes, currently separately valued as Renewable Energy Certificates (RECs). The REC framework may allow monetisation of such attributes for sale thereof. The Regulation should provide for the right of the RE generator to register and claim RECs for the whole generation, except that which is exchanged with the Discom. Furthermore, the Regulation does not explicitly provides for a condition wherein a generator with a contract to sell part of the RE energy generated through open access to a consumer located in another state.

A scenario as illustrated in following Figure 1 may occur wherein the installed capacity of a generator (say, 10 MW) is greater than the connection agreement with the Discom (say, 1 MW) and 5 MW capacity is contracted with an open access consumer located in another state. In such case, the open access consumer outside the state should be explicitly recognised as an ‘obligated entity’. Thus, Discom should

not claim RPO for the RE energy sold to an open access consumer outside the state. Further, it is suggested that the RPO associated with the renewable energy should be applicable only for the capacity agreed for connectivity or the RE electricity injected into the grid, whichever is higher.

**CER CDM Benefits:** Clause 5.5 of the principal document states “*the proceeds from CDM benefits shall be retained by the Discom.*” (emphasis added)

If costs for project document development under the CDM and registration, is to be borne by the RE developer, full CDM claim by the Discom would leave no incentive for the RE generator to go through the process of CDM registration. In the absence of any incentive, none of the project developer would engage into this process and may discourage future investments as well as foreign investment in such projects which derive their economics partly from the potential revenue through the CDM mechanism.

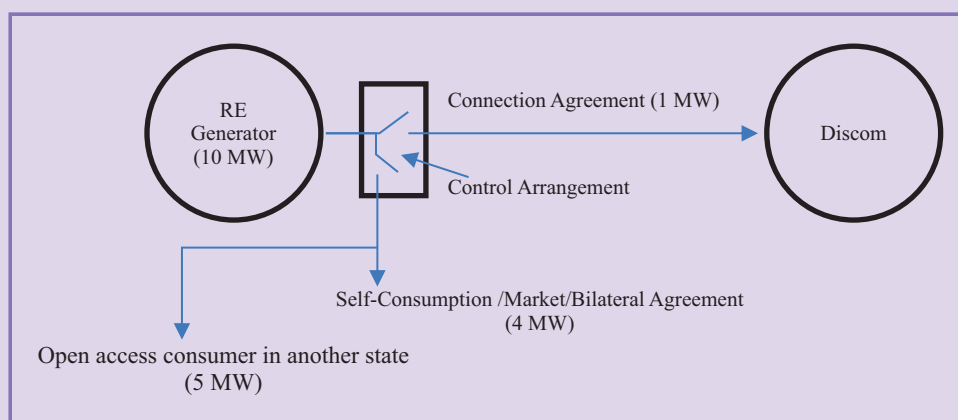


Figure 1 : RE generator with inter-state sale of RE power through open access

**CER Tariff as per Connection Agreement (TPPA?):** As per Clause 12.5.3 (f) of the principal document, TPPA (Tariff as per connection agreement) is to be entered on the basis of “*tariff as per connection agreement*”. The acronym TPPA seems incongruent and does not seem to be defined neither in the principal Regulation nor the proposed amendment. To avoid ambiguity, this should be modified as “***the applicable tariff calculated as per the Regulations***”.

**CER Billing Credit:** As per Clause 12.5.4 of the principal document, “*If the value of Renewable Energy generation in a month is more than the value of all other components of consumer bill.....*”

The above Clause may be rephrased as “*If the value of Renewable Energy generation in a month is more than the **sum of values** of all other components of consumer bill.....*”

**CER Net Billing Arrangement:** The proposed amendment to Clause 12.5.6 states that “*The peak AC capacity of the Renewable Energy generating system installed under the Net Billing arrangement shall not exceed the AC capacity agreed under the Connection Agreement. In case at any point of time, if the peak AC capacity exceeds the above agreed AC capacity, the corresponding excess generation shall lapse.*”

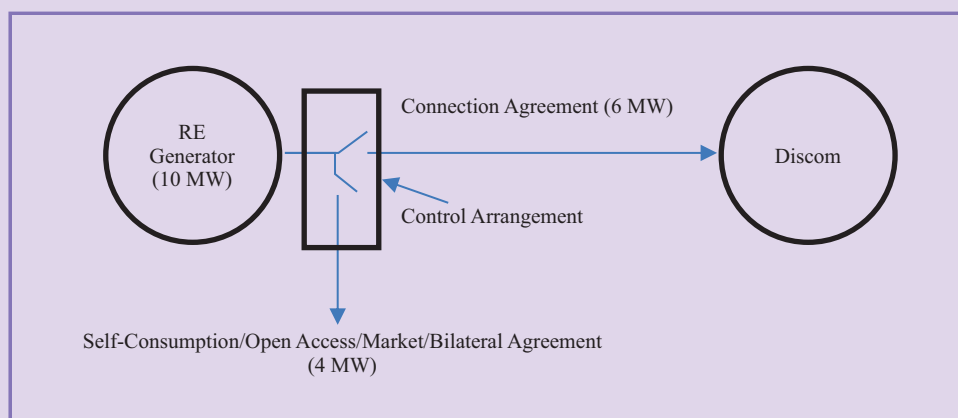


Figure 2 : Scenario for despatchable RE generators

The Variable Renewable Energy (VRE) sources (wind and solar), being non-despatchable, can potentially inject the electricity generated out of total capacity (which may be more than the capacity agreed in

the connection agreement) as mentioned in the above Clause. This justifies the relevance of the above Clause. However, in case of despatchable RE sources, a RE generating plant would be able to control the energy generated and injected into the grid. Under such circumstances, the generators may be allowed to seek a connection agreement for a capacity lower than the installed capacity. The excess generation over this limit may not be counted.

Earlier the net billing arrangement between the REGS and the Discom(s) was calculated based on minimum Capacity Utilisation Factor (CUF), without considering the maximum generation. The proposed net billing arrangement based on AC capacity agreed under connection agreement would benefit the generators to some extent, but at the same time it would discourage further RE capacity addition.

The Regulations should also clarify that only excess energy injected into the grid, beyond the connectivity agreement excluding captive consumption (wheeled through the intra-state grid) or sold through any contract or agreement would lapse. For more clarity, the Clause should be rephrased as “*..... if the peak AC capacity exceeds the above agreed AC capacity, the corresponding excess energy, excluding that scheduled for sale to a third party under any contract or agreement, **injected into the grid** shall lapse.*”

**CER Net Metering Arrangement:** The proposed amendment to Clause 12.6.1 (a) states that “*If the quantum of electricity exported by a domestic category consumer exceeds the quantum imported during the Billing Period, the excess quantum exported by such domestic consumer shall be purchased by the Distribution Licensee at the weighted average tariff of large-scale solar projects of 5 MW and more, discovered through Competitive Bidding in last Financial Year, and adopted by the Commission plus 15%. In case no bidding is done in previous Financial Year, then the latest tariff discovered through competitive bidding plus 15% shall be applicable. The total amount arrived for excess energy injected by such consumer shall be adjusted in the form of credit equivalent to such amount payable in the immediately succeeding billing cycle.*”

Further clarification is required with regard to the methodology of determination of weighted average tariff for the excess quantum that is being exported by the domestic consumer and purchased by the distribution licensee. It is suggested that the weighted average tariff or Levelised Cost of Electricity (LCOE) (for the respective technology) for the same year for calculation of which the weighted average tariff is being calculated should be considered. It should also be clarified whether the proposed Clause will be applicable to both inter-state as well as intra-state RE generators, as different tariff structure will be applicable to both.

**CER Maximum Permissible Capacity:** The proposed amendment to Clause 12.6.1(d) states that “*The peak AC capacity*



of the renewable energy generating system installed under Net-Metering Arrangement shall not exceed the AC capacity agreed under the Connection Agreement. In case of any point of time, if the peak AC capacity exceeds the above agreed AC capacity, the corresponding excess generation shall lapse.”

The draft Clause would effectively disallow the RE plant to have a generation capacity higher than the connection agreement (as there may arise the scenarios as mentioned in comments 1 and 5 above). It is suggested that such restrictions need to be avoided, as it would become a barrier for overall addition in the RE capacity across the country.

**CER Parallel Operation Charges:** As per Clause 17.1 of the principal Regulations, “The Commission may stipulate from time to time the ‘Parallel Operation Charges’ to be levied on the energy generated under Net Metering systems, which shall cover balancing, banking and wheeling cost after adjusting RPO benefits, avoided distribution losses and any other benefits accruing to the Distribution Licensee, based on the Petition filed by Distribution Licensee, supported by adequate justification: ...”

It is suggested that the parallel operation charges proposed to be applicable for net metering systems, the Regulations should specify a framework for calculation of the same. Also, a mechanism should be specified for calculation of RPO benefits and distribution losses, which are to be adjusted for calculation of parallel operation charges.

### Regulatory Updates

#### Tariff



APERC clubbed the power purchases of the three DISCOMs and issued a common order for determining a single Pooled Power Purchase Cost (PPPC) for FY-23 under the RPO Regulations, 2017 and determined the difference between the provisional PPPC at Rs. 4.60/ kWh and the actual PPPC which shall be deducted from the developers in three equal monthly instalments along with interest.



DERC allowed NDMC to recover PPAC of 22.18% which further increased to 28.00% for a longer period as against their claim of 75.18% for 3 months. Accordingly, no additional PPAC is approved for the said period and surplus/ deficit, if any, will be allowed with carrying cost, on verification of Power Purchase and Transmission Bills, in True-up of relevant Financial Year.



GERC allowed GUVNL to adopt tariff discovered under Competitive Bidding process for the procurement of power from 500 MW Grid connected SPV Projects with Green shoe option of additional 500 MW in the State of Gujarat and also allowed to sign the PPAs with the successful

bidders with allocated capacity and tariff as per below table.

Rank	Bidder's Name	Base Capacity (MW) (A)	Tariff (Rs/ kWh)	Green shoe Capacity (MW) (B)	Tariff (Rs/ kWh)	Total Capacity (MW) (A+B)	Wt. Avg tariff for total capacity
L1	Sprng Green Power Pvt. Ltd.	200	2.51	100	2.51	300	2.5100
L2	IB Vogt Singapore Pte Ltd.	130	2.52	70	2.51	200	2.5165
L3	Hinduja Renewables Energy Pvt. Ltd.	120	2.52	120	2.51	240	2.5150
L4	Solarcraft Power India Pvt. Ltd.	50	2.52	70	2.51	120	2.5142
	Total	500		360		860	



JSERC admitted the prayer of M/s Grasim Industries Ltd. and clarified that the calculation of demand charges in terms of JSERC (Utilisation of Surplus Capacity of Captive Power Plants Based on Conventional Fuel) Regulations, 2010 in case exceeding the maximum demand beyond the contracted demand, shall be billed for at 2 times on a pro-rata basis as per the actual hours of usage and also directed JBVNL to recalculate the demand charge of the



## Regulatory Updates

M/s Grasim Industries Ltd.



KERC declared that the second circuit line constructed on the DC towers from Hassan to Arakalgud with LILO near the Mini Hydel Projects of Hemavathy Power and Light Pvt. Ltd. as a dedicated transmission line. KERC approved

Hemavathy Power and Light Pvt. Ltd. to pay 1/3<sup>rd</sup> of the O&M charges out of O&M charges payable in terms of order dt. 14<sup>th</sup> December, 2018.

KERC ordered KPTCL to refund the amount of Rs. 26,98,920/- which was collected as one-time non-refundable charges. The refund, along with interest at a rate of 9% per annum, is to be provided to Hemavathy Power and Light Pvt. Ltd. within 8 weeks from the date of this order.

KERC directed BESCOM to pay Rs. 6,65,08,683/- towards payment of LPS to Aavanti Renewable Energy Pvt. Ltd. for supplementary bills raised between January 2018 & March 2021, within 8 weeks from the date of this order, in default to pay interest at 9% per annum from the date of default until the date of realisation.



KSERC approved KSEB Ltd. to adopt the tariff discovered through e-RA in the DEEP portal in collaboration with NVVNL for the purchase of 50 MW of electricity at a rate of Rs. 9.26/ kWh for the period from 21<sup>st</sup> May, 2023 to 31<sup>st</sup> May,

2023 during the peak hours 19:00 hrs to 23:00 hrs.

KSERC approved total income, expenditure and revenue surplus of Rs. 579.55 lakh, Rs. 640.35 lakh and Rs. 60.80 lakh respectively for Infopark while truing up of accounts for FY-21. The cumulative revenue surplus at the beginning of the FY-21 was Rs.1,391.53 lakh. The accumulated revenue surplus thus, at the end of the FY-21 would be Rs.1,621.29 lakh.



MPERC directed the MPPTCL to file a petition for re-computation of intra-state transmission charges applicable to non-conventional energy sources based generating plants and open access consumers within 30 days from 11<sup>th</sup> April,

2023 considering the capacities of non-conventional energy sources based generating plants connected with the distribution systems of the different distribution licensees of the State.



TNERC approved the tariff rate of Rs. 9.65/kWh for TANGEDCO for the procurement of 225 MW during 9<sup>th</sup> April, 2022 to 20<sup>th</sup> May, 2022 and 11<sup>th</sup> April, 2022 to 20<sup>th</sup> May, 2022 and deviations

sought subject to the observations and directions as per GoI Guidelines.

TNERC ordered M/s T.R.K. Textile India Pvt. Ltd. (TTIPL) entitled to 75% of the tariff fixed and in cases where no tariff fixed, 75% of the tariff discovered in the competitive bidding shall be adopted for payment for the energy supplied over and above the sanctioned capacity of TTIPL.

TNERC approved implementation of Green Energy Tariff and issuance of "Green Energy Certificate" (GEC) by TANGEDCO for the HT Consumers who wish to avail GEC and also directed TANGEDCO for implementation of an online web portal for application of the same for the consumers.

UERC determined the additional surcharge to be levied by UPCL at Rs. 0.98/ kWh according to the provisions of UERC (Terms and Conditions of intra-state Open Access) Regulations, 2015 and will be effective for the period of 1<sup>st</sup> April, 2023 to 30<sup>th</sup> September, 2023.



UERC granted the in-principle approval to the revised DPR and allows the PTCUL to go ahead with construction of 400/220 kV GIS s/s at Landhora and its associated LILO lines under the conditions that after completion of the projects the PTCUL shall submit the completed cost and financing of the same. The project cost shall be allowed in the ARR of the PTCUL after the assets are capitalized and subject to prudence check of cost incurred.



UPERC directed UPPCL to pay an amount of Rs. 9.45 Cr. to URPVNL by UPPCL in 6 equal monthly installments starting, within 3 months, from the date of true-up order of UPRVNL for the control period of 2014-19.



WBERC allowed WBSEDCL to adjust the recoverable amount of Rs. 1,62,778.94 lakh with ARR of one or more years.

## Power Procurement



GERC resolved the disputes in respect of monetary claims of the M/s Essar Power Ltd. against the GUVNL under the PPA and Judgement passed by the Hon'ble APTEL in Appeal No. 02 of 2015 and allowed M/s Essar Power Ltd. to different heads of claim summing to Rs. 1,91,40,89,326/- and total delayed payment charge of Rs. 4,11,35,34,135/- on it to be paid by GUVNL.

## Regulatory Updates



HPERC allowed 50 MW solar power procurement through TBCB process from grid connected solar PV power projects located within Himachal Pradesh.



PSERC approved the proposed power purchase arrangement (PPA) of PSPCL for procurement of surplus power up to 3 MW from the 9 MW Biomass-based Cogeneration project of M/s Om Sons Marketing Pvt. Ltd., at the fixed tariff of Rs. 3.50/kWh without escalation for a tenure of 5 years.



UPERC approves the extension of PPA dt. 29<sup>th</sup> August, 2002, SPPA dt. 7<sup>th</sup> March, 2005 and 5<sup>th</sup> May, 2012, b/w M/s J. K. Sugar and UPPCL for procurement of 12.5 MW from its 19 MW bagasse-based power plant located at Meerganj, Dist.-Bareilly, for the next 5 years from 26<sup>th</sup> November, 2022 to 25<sup>th</sup> November, 2027.

UPERC approved the amendment in the PPA b/w Gobind Sugar Mills Ltd. (GSML) and UPPCL dt. 16<sup>th</sup> November, 2022 for balance tenure of the PPA dt. 14<sup>th</sup> March, 2014 for change in name of the firm due to merging of GSML with Zuari Industries Ltd. (ZIL) provided that there are no financial implications to UPPCL and all the obligations of the generating company ZIL shall be discharged as mentioned in the PPA.

UPERC directed UPPCL to enhance, establish and operationalize monthly revolving LC amounting to Rs. 149 Cr. within 3 months of date of the order in compliance with its contractual obligations. The LC limit is subjected to revision based on average monthly billing at normative availability for each contract year as per PPA provision.

## Renewable Energy, RPO and REC

AERC directed APDCL to recover the liquidate damages for the delays beyond the extended SCOD i.e. 28<sup>th</sup> November, 2021 from the M/s Azure Power Forty Pvt. Ltd. after discussion on all the components arrived at a mutual settlement of extension of SCOD for all the projects considering various factors including Force Majeure events.

MERC allowed TPSL and MSEDCL to enter into short-term PPA for wind power of 100 MW at the tariff of Rs. 2.56/ kWh from TPCL's wind capacity which is developed under 300 MW RE Hybrid Project. The wind

power procured/ developed shall be taken into account for meeting the non-solar RPO of MSEDCL.

MERC determined the project specific levelised tariff for the Jambre HEP of M/s Sanjay Babaso Patil (SBP) as Rs. 5.99/ kWh without considering eligible subsidy component and Rs. 5.28/ kWh after considering the maximum eligible subsidy component of Rs. 200 lakh. The tariff along with the subsidy component has been considered by the MERC to be applicable for over a period of 35 years from the date of its Commercial Operation. If SBP fails to receive the full or part subsidy till 24<sup>th</sup> April, 2027, SBP may file the petition before the MERC to revise the tariff without considering the subsidy and part thereof. MERC shall also determine the carrying cost on lower tariff received due to consideration of subsidy in capital cost of the project. The additional tariff will be recovered from MSEDCL. MERC allows recovery of charges payable to Water Resources Dept., Govt. of Maharashtra (GOMWRD) on reimbursement basis.

MERC allowed MSEDCL to enter into PPA with successful bidder for a period of 25 years for the procurement of 500 MW on long-term basis from grid connected solar power projects. The solar power procured shall be taken into account for meeting the solar RPO of MSEDCL. The STU shall coordinate with all Discoms in the state for their 10-year plan for power procurement and shall submit a plan to enhance the transmission capacity to avoid the situation of calling only intra-state tenders.

MERC adopted short-term power procurement u/s 63 of the Act for the period of 1<sup>st</sup> April, 2023 to 30<sup>th</sup> April, 2023 from the duration 09:00 hrs. to 18:00 hrs. for 75 MW by Brihanmumbai Electricity Supply and Transport Undertaking (BEST). The quantum is distributed amongst three sources, Dhariwal Infrastructure Ltd.(DIL) (13 MW), DB Power Ltd., Chhattisgarh (50 MW) and Prayagraj Power Generation Company Ltd. Uttar Pradesh (12 MW), through the traders namely DIL, Manikaran Power Ltd., Tata Power Trading Company Ltd. respectively. For the month of May and June, 2023, BEST shall evaluate other options to procure cheaper power from power exchanges and/ or additional power from TPC-G before going for costly power procurement.

MERC approved the Short Term Power Procurement proposal of The Tata Power Company Ltd. (Distribution) (TPC-D) through competitive bidding for months of April, 2023 to June, 2023 u/s 63 of the Act.

MERC allowed MSEDCL and Dodson-Lindblom Hydro Power Pvt. Ltd. (DLHPLL) to amend PPA dt. 28<sup>th</sup> June, 2006 to reflect the duration of 30 years to 20 years.

## Regulatory Updates

MERC allowed AA Energy Ltd. and MSEDCL to extend their PPA by 8 months. The power consumed by AA Energy Ltd. during the period of shutdowns from October, 2022 to February, 2023 and April, 2020 to June, 2020 to be adjusted against units exported in July, 2020 and March, 2020.

TNERC approved and ratified the action of the TANGEDCO for the procurement of re-allocated power from the CGS, as per the approval of MoP and also ratified the PPA with NTPC and NLCIL sources, and payment of fees as prescribed under TNERC's Fees and Fines Regulations, 2022 for the power procurement.

TNERC granted permission to M/s Dollar Industries Ltd. to set up 4 MWh BESS powered by their allied 2 MW solar power plant in same site, first of its kind in the State and permitted to adjust the stored energy exported in to the grid in the respective slots/ blocks including peak hour slot.

UPERC accepted the proposed RfS and PPA for procurement of grid connected solar power plants through TBCB process from plants connected to segregated agricultural feeder of distribution substation for cumulative capacity of 150 MW and sale of power to UPPCL through RESCO model under feeder level solarization of PMKUSUM scheme.

## Others

BERC approved the installation of 23.50 Lacs Smart Pre-Paid Meters at a monthly meter rent of Rs. 86.23/- with monthly meter charges for the 8 years of project life and such expenses of smart metering solutions allowed as a part of A&G and directed the discoms to ensure compliance of provisions relating to testing of meters, as required under the Act, Rules and Bihar Electricity Supply Code, 2007 to ensure data privacy protection and cyber fraud prevention and place the SOP with respect to Smart Metering Solution on its website.

MPERC observed that the Biomass can also be used in thermal captive power plants similar to thermal generating stations. Therefore, the MPERC directed to extends the applicability of methodology to the captive power plants using co-firing of biomass with coal.

MERC allowed the impact of Change in Law on account of increased BCD on inverters and increased GST, and directed MSEDCL to pay Rs. 3.28 Cr. towards increased BCD and Rs. 2.69 Cr. towards increased GST rate. MSEDCL is also directed to communicate its option of payment of Change in Law compensation to Renew Sun Bright Pvt. Ltd. till 24<sup>th</sup> June, 2023.

MERC directed MSEDCL to settle principal liability of

Rs. 3.279 Cr. by 31<sup>st</sup> May, 2023 and Rs. 2.74 Cr. by 17<sup>th</sup> June, 2023 with NuPower Renewables Pvt. Ltd. (NRPL). MSEDCL is also directed to compute Late Payment Surcharge (LPS) by considering the payment date as 31<sup>st</sup> May, 2023 and settle it along with the principal payment. If MSEDCL fails to pay within the timeline provided in the order, NRPL may act under Electricity (Late Payment Surcharge and Related matters) Rules, 2022 for recovering its due amount.

PSERC approved the One Time Settlement (OTS) scheme for a period of 15<sup>th</sup> May, 2023 to 14<sup>th</sup> August, 2023 by the PSPCL and directed to give wide publicity on this scheme. Various consumer associations/ individual consumers should also be informed after issuing the circular directly.

UPERC declared that the imposition of SGD on the solar cells falls under tariff items 8541 40 11 or 8541 40 12 of the first schedule to the Customs Tariff Act, 1975 vide 2020 SGD notification. Hence, the imposition of Safeguard duty will be considered as an event of “change in law” in case of Tata Power Renewable Energy Pvt. Ltd. vs UPPCL.

UPERC found that UPPCL has deducted banking energy twice from Dwarikesh Sugar Industries Ltd. (DSIL) first while computing withdrawal units and second while computing sale units out of withdrawable units, thus violating the terms of CRE Regulations, 2019 and directed UPPCL to verify the bills for balance payment.

UERC granted the in-principle approval to the revised Detailed Project Report (DPR) for construction of separate building for SLDC at 132 kV s/s Majra Campus, Dehradun under the conditions that the construction to be done through competitive bidding process, explore possibility of swapping the loan taken for the said project with cheaper option available in the market, submission of complete cost, DPR and financing of the scheme and the cost of the project allowed in ARR after the capitalization of the assets subject to prudence check.

UERC granted the in-principle approval to capital investment for procurement of one number 132/11 kV 20 MVA Generator Transformer for Dhalipur Powerhouse under the conditions that the construction to be done through competitive bidding process, explore possibility of swapping the loan taken for the said project with cheaper option available in the market, submission of complete cost and financing of the scheme and the cost of the project allowed in AFC of the UJVNL after the capitalization of the assets subject to prudence check.



## Tariff Orders

State/ Union Territory (SERC)	Licensee/ Utility	True-up	Annual Performance Review (APR)	Aggregate Revenue Requirement (ARR)	Tariff
Jharkhand (JSERC)	JBVNL	2019-20	2020-21	-	2021-22
Sikkim (SSERC)	SPDCL	2021-22	2022-23	2023-24	2023-24
Tamil Nadu (TNERC)	TANGEDCO, TANTRANSCO	2021-22	-	-	2023-24
Punjab (PSERC)	PSPCL, PSTCL	2021-22	2022-23	2023-24, 2024-25, 2025-26	2023-24
Madhya Pradesh (MPERC)	East DISCOM, West DISCOM, Central DISCOM, MPPMCL	-	-	2023-24	2023-24
Meghalaya (MSERC)	MePGCL, MePTCL, MePDCL	2020-21	-	2023-24	2023-24
Rajasthan (RERC)	RRVUNL	2021-22	-	-	-
Uttar Pradesh (UPERC)	DVVNL, MVVNL, PVVNL, PuVVNL, KESCO, NPCL, UPPTCL	2021-22	2022-23	2023-24	2023-24
Karnataka (KERC)	BESCOM, HESCOM, MESCOM, GESCOM, CESC, AEQUS SEZ, MSEZ, KTPCL, HRECS	-	2021-22	2023-24	2023-24


## Regulations

Title	Date of Approval/Notification
JSERC (Modalities of Tariff Determination) Regulations, 2023	3 <sup>rd</sup> May, 2023
TNERC (Procedure for Payment of Subsidy by the State Govt.) (Amendment) Regulations, 2008	3 <sup>rd</sup> April, 2023
HERC (Green Energy Open Access) Regulations, 2023	24 <sup>th</sup> April, 2023
HERC (MYT Regulations, 2019) (3 <sup>rd</sup> Amendment) Regulations, 2023	12 <sup>th</sup> April, 2023
HERC (Forum and Ombudsman) (2 <sup>nd</sup> Amendment) Regulations, 2023	1 <sup>st</sup> May, 2023
APERC (Licensees Standards of Performance) (4 <sup>th</sup> Amendment) Regulations, 2023	17 <sup>th</sup> April, 2023
AERC (Electricity Supply Code) (6 <sup>th</sup> Amendment) Regulations, 2023	29 <sup>th</sup> April, 2023
AERC (Standard of Performance of Distribution Licensees) (1 <sup>st</sup> Amendment) Regulations, 2023	18 <sup>th</sup> April, 2023
CSERC (Redressal of Grievances of the Consumers) Regulations, 2023	3 <sup>rd</sup> April, 2023
MPERC (Conduct of Business for holding inquiry by Adjudicating Officer) Regulations, 2023	4 <sup>th</sup> May, 2023
MPERC (Terms and Conditions for Intra-State Open Access in Madhya Pradesh) (Revision-I) (2 <sup>nd</sup> Amendment) Regulations, 2023	5 <sup>th</sup> April, 2023
TERC(Methodology for determination of Green Energy Open Access Charges) Regulations, 2023	10 <sup>th</sup> May, 2023
TERC (Multi Year Distribution Tariff) Regulations, 2023	10 <sup>th</sup> May, 2023
JERC (M & M) (Metering for Grid Connected Renewable Energy) (3 <sup>rd</sup> Amendments) Regulation, 2023	12 <sup>th</sup> April, 2023
JERC for the UT of Jammu & Kashmir and the UT of Ladakh (Electricity Trading) Regulations, 2023	25 <sup>th</sup> April, 2023
JERC for UT of Jammu & Kashmir and UT of Ladakh (Appointment of Consultants) Regulations, 2023	25 <sup>th</sup> April, 2023
RERC (Electricity Supply Code and Connected Matters) (1 <sup>st</sup> Amendment) Regulations, 2023	20 <sup>th</sup> April, 2023
UERC (Tariff and Other Terms for Supply of Electricity from Renewable Energy Sources and non-fossil fuel based Co-generating Stations) Regulations, 2023	2 <sup>nd</sup> May, 2023
HPERC (Terms and Conditions for Determination of Transmission Tariff) (3 <sup>rd</sup> Amendment) Regulations, 2023	10 <sup>th</sup> April, 2023
MERC (Multi Year Tariff) (2 <sup>nd</sup> Amendment) Regulations, 2023	8 <sup>th</sup> June, 2023
KSERC (Terms and Conditions for Determination of Tariff) (1 <sup>st</sup> Amendment) Regulations, 2023	29 <sup>th</sup> May, 2023

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




## Regulatory Certification Program





**Centre for Energy Regulation (CER)**  
Department of Industrial & Management Engg. & Centre for Continuing Education, IIT Kanpur


**Regulatory Certification Program (RCP) on "Power Market Economics and Operation", June 03 - June 18, 2023**


**Speakers & Dignitaries**


  
 Shri Alok Kumar, Secretary (Power),  
Ministry of Power, GoI


  
 Shri Sanjay Dubey, Principal Secretary,  
Energy & NRE, GoMP


  
Prof. Anoop Singh


  
Mr. Sushil Kumar Soonee


  
Mr. Akhilesh Awasthy


  
Ms. Shilpa Agarwal


  
Mr. Bikram Singh


  
Mr. Pardeep Jindal

  
Mr. Rajiv Porwal


  
Mr. Jogendra Behara


  
Mr. P.V. Shathish


  
Mr. Abhishek Ranjan


  
Mr. Amit Goenka


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Mr. Roushan Kumar


  
Mr. Gurmeet Singh


  
Mr. Arjun Penumatsa


  
Mr. Siddharth Makhija


  
Mr. Prasann Mandal


  
Mr. Siddharth Arora


  
Mr. Rishu Vasistha


  
Mr. Gaurav Grover


  
Mr. Hitesh Kumar Tiwari


  
Ms. Nuvodita Singh


  
Mr. Narasinga Kiran Addanki


  
Mr. Angshu Nath


  
Er. Abhinav Anand


  
Mr. Sarthak Adawadkar


  
Mr. Soudipan Maity


  
Mr. Dhruv Prakash


  
Mr. Mukesh Kumar

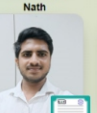
  
Mr. Alok Garg

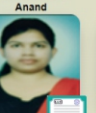
  
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Mr. Ritesh Gupta

  
Mrs. Angelica Pohshna

CER in association with EAL organised Regulatory Certification Program on “Power Market Economics and Operation” from 3<sup>rd</sup> June, 2023 to 18<sup>th</sup> June, 2023. The program was designed to understand the evolution, economic operation, regulatory structure of power market, power procurement planning, its products and its role in the Indian power market. This program was conducted under the aegis of the Centre for Continuing Education, IIT Kanpur. Shri Sanjay Dubey Principal Secretary, Energy & NRE, Govt. of Madhya Pradesh graced the inaugural session on 3<sup>rd</sup> June, 2023. The speakers included Mr. Akhilesh Awasthy (Former COO, HPX; Currently Partner with Lantau Group India Pvt. Ltd.), Prof. Anoop Singh (Professor, IITK), Ms. Shilpa Agarwal (Jt. Chief (Engg.), CERC), Mr. Bikram Singh (Exe. Vice President, PTC India Ltd.), Mr. Rajiv Porwal (Executive Director, Grid India), Mr. Abhishek Ranjan (Sr. Vice President, ReNew Power) amongst many more. The valedictory session have been conducted under the auspices of Shri Alok Kumar (Hon'ble Secretary, MoP) on 24<sup>th</sup> June, 2023. For further program details including program duration, key topics, please visit [https://cer.iitk.ac.in/index.php/OnlineLearningTool/Landing\\_Page\\_category3/?id=2](https://cer.iitk.ac.in/index.php/OnlineLearningTool/Landing_Page_category3/?id=2)

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*Regulatory Insights Team*

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### Other Initiatives



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