

February 2026

Submission on Draft RERC [Demand Flexibility (DF)/Demand Side Management (DSM)] Regulations, 2026

Submitted to Rajasthan Electricity Regulatory Commission



CENTRE FOR ENERGY, ENVIRONMENT & PEOPLE

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1. Introduction

Rajasthan Electricity Regulatory Commission (RERC) has issued *Draft Rajasthan Electricity Regulatory Commission (Demand Flexibility (DF)/Demand Side Management (DSM)) Regulations, 2026*, inviting public comments.

This submission is being made by the Centre for Energy, Environment & People, Jaipur (CEEP) with the objective of strengthening the proposed regulatory and procedural framework for enabling demand side management measures to ensure grid reliability in Rajasthan. The submissions are organised as below:

- i. General Comments
- ii. Section-wise Comments

We request the Commission to accept this submission on record and give us an opportunity to submit our oral submissions during the public hearing processes.

2. General Comments

2.1. Structured Rollout of DFPO targets beginning with a Preparatory Year in FY 2026-27

The Draft DF/DSM Regulations require the Discoms to achieve *Demand Flexibility Portfolio Obligations* (DFPO) targets based on previous financial year's peak demand starting from FY 2026-27. As outlined in the Draft Regulation, the Discoms are required to conduct detailed load research, market research, consumer willingness assessment, preparation of a five-year strategy, cost-effectiveness evaluation, EM&V framework development, and design of tariff-linked incentives while also meeting the prescribed target.

It is submitted that the Discoms must first undertake certain essential preparatory activities before committing to any targets under the DFPO framework. At this stage, it would be more appropriate to prescribe milestones aimed at ensuring institutional and operational preparedness, rather than imposing quantified DFPO targets. The Discoms in Rajasthan presently have limited experience in implementing structured Demand Flexibility (DF) or Demand Side Management (DSM) pilot programmes specifically focused on flexible demand resources. Key foundational elements remain to be operationalised, including: (i) comprehensive load research studies; (ii) identification of DF/DSM zones based on network constraints and system requirements; (iii) development of robust baseline methodologies accounting for seasonal and temperature variations; (iv) consumer surveys and market assessments; (v) design of appropriate incentive mechanisms; and (vi) empanelment of aggregators. Imposing quantified DFPO obligations from the first year, without completion of these foundational activities, may lead to implementation challenges, suboptimal programme design, inefficient allocation of resources, and uncertainty in compliance assessment. A phased approach that prioritises capacity building and framework development would therefore be more prudent and effective.

In this context, **we recommend that the Commission may consider FY2026-27 as a preparatory phase which clearly defines milestone-based deliverables focused on completion of load and market research, seasonal and temperature sensitive baseline data, pilot implementation, empanelment of Independent Verification Agencies, formulation of incentive and consumer engagement mechanisms and submission of detailed program implementation plans to the Commission.**

Quantified DFPO targets may thereafter be enforced from FY 2027-28, with a calibrated and progressive trajectory based on assessed potential and learnings from initial implementation.

2.2. Requirement of Clear Definitions

The Draft Regulations introduce certain new terms and refer to specific authorities without adequately defining their role, jurisdiction, or functional scope. The absence of precise definitions and clearly delineated roles creates ambiguity and is likely to give rise to avoidable disputes, inconsistent implementation, and administrative inefficiencies at a later stage.

This sub-section examines, in detail, those concepts and institutional references that carry regulatory significance but remain insufficiently defined in the present Draft.

2.2.1. Role of Aggregators, DERAs and Treatment of Distributed Solar PV

Regulation 2.1(b) defines “Aggregator(s)” as an entity registered/appointed by the Discoms to aggregate services such as demand response, distributed generation and energy storage within the licensee’s area. Regulations 3.3(vi) and 3.4.1 recognise Aggregators for DFPO compliance and program implementation.

However, the Draft Regulations do not clearly define the scope of authority, or accountability framework applicable to such entities. Particularly, they does not specify:

- (a) whether the Aggregator is a regulated entity with defined operational obligations or merely a intermediary engaged by the Discoms;
- (b) minimum eligibility, prudential or technical criteria for registration;
- (c) responsibility for telemetry, baseline determination, performance validation and deviation settlement; or
- (d) allocation of liability in case of non-performance or misreporting.

Another issue arises regarding consistency across other regulations. The Draft does not clarify whether the “*Aggregator*” contemplated herein is the same entity as the “*Aggregator/DERA*” referred to in the Draft RERC (BESS) Regulations, 2025. If both Regulations refer to same entity, then its roles, objectives, functions and powers under each framework must be clearly distinguished. If different entities are intended, the distinction must be expressly stated.

Additionally, while the definition includes distributed generation, the Draft does not clarify whether grid-connected Distributed Solar PV Systems may form part of an Aggregator portfolio for the purpose of meeting DFPO or providing flexibility services. Pure solar is a non-dispatchable generation resource and does not, by itself, constitute controllable demand flexibility or DSM measures. Its inclusion without clear accounting and settlement rules may

create ambiguity in baseline assessment, injection versus load reduction treatment, and potential double counting where such systems are already compensated under net-metering or renewable frameworks.

In the absence of clarification on these aspects, the regulatory contours of the Aggregator/DERA framework remain uncertain. It is therefore submitted that **the Commission may clearly define or clarify:**

- (a) the regulatory status and obligations of Aggregators/DERAs;**
- (b) their relationship with similar entities under other Regulations, including the Draft RERC (BESS) Regulations, 2025; and**
- (c) the treatment of distributed generation, particularly grid-connected solar PV, within the DF/DSM framework.**

2.2.2. Inadequate Definition of Scope and Functional Framework of DSM Cell

The Draft Regulations define “*DF/DSM Cell*” under Regulation 2.1(l) as a specific cell to be set up by the Discom for targeted DF/DSM activities. Regulation 3.1.1 mandates that the Discom adequately staff the DF/DSM Cell under the leadership of an officer not below the rank of Chief Engineer, and Regulation 3.3(i) requires allocation of funds to the DF/DSM Cell. Beyond these limited provisions, the Draft Regulations do not articulate the functional scope, authority, accountability structure, or responsibilities of the DSM Cell.

Although DFPO obligations are imposed upon Discoms, the Regulation do not clarify whether the DSM Cell is responsible for preparation of DF/DSM action plans, program design and implementation, monitoring and verification, compliance reporting to the Commission, coordination with system operators, or achievement tracking against notified targets. The absence of a clearly defined mandate creates uncertainty about its institutional status and raises the question of whether it operates merely as an internal administrative unit or as the designated implementation authority under the Regulations.

We request the Commission **to clearly define the scope, roles, responsibilities, reporting obligations, and accountability framework of the DF/DSM Cell** to ensure regulatory clarity, institutional uniformity across licensees, and effective implementation of the DF/DSM objectives outlined under the Draft Regulations.

2.2.3. Define Network Constraint

Regulation 3.4.1(e) refers to “*network constraint*” in the context of identification of DF/DSM zone for implementation DF/DSM program. However, the Draft Regulations do not define the term “network constraint” anywhere in the definitional clause or elsewhere in the framework. This renders the operative portion of Regulation 3.4.1(e) open to interpretation and may lead to inconsistent application across Licensees.

From a distribution planning and operational standpoint, sustained loading of a substation beyond a prudent threshold, such as 70 percent of its rated capacity, may reasonably be

regarded as an early indicator of congestion, consistent with the principles embodied in the Rajasthan Electricity Regulatory Commission (RERC) Grid Code Regulations, 2024.

We **recommend that the Regulation 3.4.1(e) should be updated with an appropriate definition clearly specifying what constitutes a “network constraint,” including measurable criteria at the substation or feeder level.**

3. Section-wise Comments

3.1. Absence of Uniform Baseline Data Assessment Methodology

The Draft Regulation, in Clause 2.1(e), broadly defines *baseline data* without providing how that data is to be constructed, normalised, or adjusted.

First, in Clause 3.4.1(f), the regulation entirely leaves identification of baseline assessment methodology with the Discom, which creates a high probability of methodological divergence among the three operational discoms in Rajasthan. As the three Discom service areas differ in geography, climate, and consumer mix, the absence of minimum uniform standards will undermine comparability of DFPO achievement across licensees. Further, DF/DSM program performance, cost-effectiveness outcomes, and claimed savings may reflect Discoms’ methodological choices rather than actual program impact. In the absence of Commission-issued guiding principles, the regulation may lack adequate safeguards against potential distortion in the assessment of “measured impact.”

Such methodological divergence would also complicate regulatory oversight, as the Commission would be required to evaluate three distinct frameworks adopted by the three Discoms in Rajasthan. Disputes concerning verification of savings may likewise increase if stakeholders perceive the baseline design to be discretionary rather than standardised.

Second, the definition lacks consideration of exogenous factors such as weather, seasons and temperature for normalisation. Electricity consumption and peak demand are highly temperature and weather sensitive. If baseline data is drawn from a hotter month and compared to a mild implementation month, apparent savings or load shift may be overstated or understated. A credible baseline framework, thus, must explicitly require normalisation for weather and other exogenous variables.

Therefore, **we submit that the Commission should consider prescribing minimum baseline design principles and a uniform baseline data assessment methodology with normalisation for exogenous variables influencing electricity demand such as weather and temperature, applicable to all Discoms.**

3.2. Energy Efficiency Targets

The proposed Draft Regulation, in Explanatory Memorandum, recognises that energy efficiency efforts are integral to present day needs of demand-side management. The memorandum further recognises efficiency measures as distinct from DSM measures. This

distinction has been widely recognised in academic¹ and regulatory literature². Energy efficiency has historically constituted the foundational element of demand-side management, delivering permanent reductions in load and sustained energy savings over time. In contrast, demand flexibility and demand response measures primarily address temporal variations in load rather than structural reductions in consumption.

However, the Draft Regulations do not prescribe any mechanisms to identify energy efficiency goals or any specific targets in relation to energy efficiency measures despite Clause 3.4.1.a (ii) including energy efficiency within the DFPO targets. Such an approach may skew the DFPO's emphasis toward short-duration flexibility solutions, thereby risking the under-prioritisation of structural and long-term efficiency gains.

We, thus, **request the Commission to consider introducing energy efficiency targets which would strengthen the regulation's alignment with the broader objective of sustained demand side management.**

3.3. Incentives for Discom upon DF DSM achievements beyond DFPO Targets

Clause 3.4.1(d), relating to DFPO incentives and disincentives, provides that a Discom shall be eligible for an incentive of RS. 0.20 Crore for every MW achieved in excess of DFPO and shall be subjected to a disincentive of RS. 0.20 Crore per MW for under-achievement. While the introduction of an incentive-disincentive mechanism is a constructive regulatory step, the present formulation raises material concerns.

3.3.1. Basis for Determination of Rs. 0.20 Crore per MW

The Draft does not indicate how the figure of Rs. 0.20 Crore per MW has been determined. In such case, it remains unclear whether this benchmark reflects avoided generation capacity costs, avoided intra-State transmission charges, deferred distribution network augmentation, system-level flexibility value, or any structured cost-effectiveness analysis.

Given that such incentives and disincentives will ultimately be reflected in tariff, it is desirable that the Commission place on record the rationale and methodology behind this figure to ensure transparency and regulatory defensibility.

3.3.2. Need for Performance-Linked and Tiered Incentive Design

In the absence of a transparent rationale for the fixed, capacity-based incentive (Rs. 0.20 Crore per MW), we propose a framework that would be to align incentives with the current incentive mechanism in the Tariff Regulations – *the Return on Equity (RoE)*. The incremental benefit from DF/DSM performance may be assessed against the allowed RoE translated into a per-unit (Rs./kWh) incentive value. At present, allowed RoE typically translates to approximately Rs.

¹<https://www.raponline.org/wp-content/uploads/2023/09/rap-lazarcolburn-layercakepaper-2013-sept-09.pdf>

²<https://www.epa.gov/sites/default/files/2015-08/documents/vision.pdf>

0.45 to Rs. 0.60 per unit in tariff terms. This range may serve as a justified benchmark for incentivising performance beyond prescribed targets.

For instance, if the RoE-aligned value is Rs. 0.60 per kWh and a DISCOM achieves 100 kWh of verified performance beyond its obligation, the incentive would be Rs. 60. This approach ensures proportionality between measurable system benefit and financial reward, while maintaining neutrality across licensees with differing financial structures.

Further, the Commission may consider a tiered incentive structure, whereby progressively higher achievement beyond DFPO attracts incrementally higher per-unit rewards. This would incentivise substantive over-performance rather than marginal compliance.

3.3.3. Accountability for Under-Performance

While a monetary disincentive is prescribed for under-achievement, the Draft does not clarify the regulatory treatment of such disincentives. It is not specified whether the amounts will be adjusted through ARR true-up, whether persistent shortfall will trigger corrective action plans or prudence review, or whether repeated non-compliance will have implications for future approvals or incentive eligibility. Since DFPO is framed as a binding regulatory obligation, the accountability and enforcement framework should be explicitly articulated to ensure enforceability and regulatory discipline.

3.3.4. Conclusion

In view of the above, **the Commission may consider clarifying the economic basis for the Rs. 0.20 Crore per MW benchmark, and restructuring the mechanism towards a RoE-aligned, per-unit, performance-linked and tiered framework supported by clear measurement and accountability provisions.** Such refinements would strengthen regulatory coherence and prudence, and economic efficiency.

3.4. Prohibiting Use of Diesel Generator for Delivering Demand Response

Regulation 3.4.1(f) provides an illustrative list of Demand Response initiatives including storage systems, smart charging, agricultural load shifting, and aggregation models. While the clause is technology-neutral and inclusive in approach, it does not expressly prohibit or discourage the use of diesel generator (DG) sets as a means of delivering demand flexibility or load modulation. In the absence of such clarification, there remains a risk that diesel-based self-generation could be treated as a permissible demand response mechanism under broad language of “*programs proposed and implemented through these Regulations.*”

We, therefore, **suggest to expressly clarify within Regulation 3.4.1(f) that diesel generator sets shall not qualify as eligible resources for providing Demand Response or DSM savings under these Regulations.**

3.5. Recommending Inclusion of Communication Strategy for Consumers

Clause 3.4.1(f), read with subsequent provisions, obligates Discoms to plan, design, and implement demand response programs, safeguard consumer interests and data privacy, and

secure consumer awareness and wilful consent. However, Draft Regulations do not expressly require them to develop and implement a structured communication strategy as an integral component of DF/DSM program design and execution.

CEEP's experience in assessing the impact of Demand Response programs through a pilot program with more than 60,000 consumers across various categories highlight that effective demand program also depends on timely, accurate, and comprehensible communication with participating consumers. Operational communication channels, event notifications, program updates, grievance redressal interfaces, and periodic disclosure of program outcomes positively impact the demand response savings.

Thus, we **recommend that the Regulations expressly incorporate communication planning and strategy within the defined roles and responsibilities of Discom in Clause 3.4.1(f).**

3.6. Suggestion on Public Online Disclosure of DF/DSM Programs

We welcome the Commission's proposal for such Regulations as these regulations have the potential to ensure Discoms to work towards developing and implementing DSM/DF programs to improve energy efficiency at consumer end and reduce peak demand using these measures. However, we believe, as the DF/DSM program involve regulated expenditure and system-wide impacts, transparency in implementation and outcomes is necessary to ensure accountability and stakeholder confidence.

We, therefore, submit that **the Commission may consider requiring each Discom to maintain a dedicated online dashboard or webpage disclosing, in a standardised format, key information such as approved programs, participation levels, demand flexibility achieved, expenditure incurred and verified performance outcomes.** Periodic public disclosure would strengthen regulatory oversight, promote informed participation, and support objective evaluation of program effectiveness.

3.7. Ambiguity in Base for DFPO Percentage

The Draft prescribes a DFPO trajectory beginning at 0.25% and increasing in subsequent financial years. However, the provision requires clearer drafting to eliminate ambiguity.

While the table refers to DFPO "*as percentage of peak demand experienced in previous Financial Year,*" the Regulations should expressly and unambiguously state within the operative clause that:

- (a) The percentage is to be calculated on the actual peak demand (in MW) recorded in the immediately preceding financial year; and
- (b) The source and methodology for determination of such peak demand shall be clearly identified (e.g., SLDC-certified data).

Given that DFPO is a obligation with financial consequences, including incentives and disincentives, precision in defining the base variable is essential. It is therefore submitted that **the Commission may consider redrafting the relevant clause to explicitly define the base parameter and its computation methodology.**