

DRAFT

ANDHRA PRADESH STATE ELECTRICITY REGULATORY COMMISSION

Regulation of 2024

Draft Andhra Pradesh State Electricity Regulatory Commission (Demand Side Management) Regulation, 2024.

Preamble:

Demand Side Management (DSM) is described as the planning, implementation and monitoring of utility activities designed to encourage consumers to amend their electricity consumption patterns, both for timing and level of electricity demand, to help them use electricity more efficiently. DSM has various beneficial effects, including mitigating electrical system emergencies and exigencies and increasing system reliability. Possible benefits include reducing short-term/costly power procurement and reducing harmful emissions into the environment. DSM can also play a significant role in deferring investments in generation, transmission and distribution infrastructure. Hence, overall, DSM provides substantial economic, reliability and environmental benefits. Considering several benefits of DSM, in exercise of powers conferred by clause of sub-section (2) (zp) of Section 181 of the Electricity Act, 2003 (36 of 2003) and all powers enabling it in that behalf, the Commission proposes to issue DSM Regulation for advancement and implementation of cost-effective DSM initiatives in the State of Andhra Pradesh as below.

1. Short title, extent and commencement

- i) This Regulation shall be called the Andhra Pradesh State Electricity Regulatory Commission (Demand Side Management) Regulation, 2024.
- ii) This Regulation shall extend to the whole State of Andhra Pradesh
- iii) This Regulation shall come into force from the publication date in the Andhra Pradesh Gazette.

2. Definitions and interpretation

- i) In this Regulation, unless the context otherwise requires:
- a) **“Act”** means the Electricity Act, 2003 (36 of 2003) and subsequent amendments thereof;
 - b) **“Baseline Data”** means the initial base level consumption and/or demand for electricity before a DSM program begins to provide a starting point for comparison for assessing program impact;
 - c) **“Bureau”** means the Bureau of Energy Efficiency established under sub-section (1) of Section 2 of the Energy Conservation Act, 2001;
 - d) **“Commission”** means the Andhra Pradesh State Electricity Regulatory Commission;
 - e) **“Demand Side Management (DSM)”** means the actions of a Distribution Licensee beyond the consumer's meter to alter the end-use of electricity - whether it is to decrease demand, shift it between high and low peak periods, or manage it when there are intermittent load demands - in the overall interests of reducing Distribution Licensee costs;
 - f) **“Demand-Side Resource”** means a saving in consumption (kWh) and/or demand (kW/kVA) available as a result of the implementation of DSM programmes, expressed in terms of:
 - (i) Quantum – as to how much is available (kWh and/or kW);
 - (ii) Time – as to when it is available (at what time of day, on what days, in what season); and
 - (iii) The Cost – as to at what cost;
 - g) **“DSM Resource Acquisition”** means a mechanism for the Distribution Licensee to implement DSM programmes through Consumers, Energy Service Companies, manufacturers/suppliers, or other organisations, etc., for the resultant energy and load reduction;
 - h) **“Energy Efficiency Measures” or “Energy Efficiency Programs”** means activities or programs to stimulate consumers to use energy more efficiently while maintaining a comparable level of services to the consumers;

- i) **“Energy Services Company”** means a company which is in the business of providing energy efficient and load management equipment and/or services to end-user consumers as approved by the Bureau;
 - j) **“Evaluation, Measurement and Verification”** means activities which evaluate, measure and verify performance or other aspects of DSM/energy efficiency programs or their market environment;
 - k) **“Load Management”** means any action/program, including Demand Response Program, that will reduce or shift demand away from periods of peak/higher cost electricity to periods of non-peak/lower cost electricity periods;
 - l) **“Load Research”** means an activity embracing the measurement and study of the characteristics of electric loads to acquire a thorough and reliable knowledge of trends and general behaviour of the load characteristics of the consumers serviced by the electrical industry;
 - m) **“Monitoring and Reporting”** means activities which monitor and evaluate the progress of DSM/energy efficiency programs of the Distribution Licensee;
 - n) **“MYT”**- Means Multiyear Tariff;
- ii) *Words and expressions used and not defined in this Regulation but defined in the Act shall have the meanings assigned to them in the Act. Expressions used herein but not specifically defined in this Regulation or in the Act but defined under any law passed by a competent legislature and applicable to the electricity industry in the State shall have the meaning assigned to them in such law. Subject to the above, expressions used herein but not specifically defined in this Regulation or in the Act or any law passed by a competent legislature shall have the meaning as is generally assigned in the electricity industry.*

- iii) **Interpretation:** *In the interpretation of this Regulation, unless the context otherwise requires:*
- a) *Words in singular or plural terms, as the case may be, shall also be deemed to include the plural or the singular term, respectively;*
 - b) *References herein to the “Regulation” shall be construed as a reference to this Regulation as amended or modified by the Commission from time to time.*
 - c) *References herein to “Distribution Licensee” shall also be construed as reference to a Deemed Distribution Licensee.*
 - d) *The headings are inserted for convenience and may not be taken into account for interpretation of this Regulation;*
 - e) *Reference to the Statutes, Regulations or Guidelines shall be construed as including all provisions consolidating, amending or replacing such Statutes, Regulations or Guidelines, as the case may be, referred to;*

DSM objectives, technical potential and targets

3. DSM objectives

- i) The Distribution Licensee shall undertake/implement DSM-related policy/activity/programs to lower the overall cost of electricity to the consumers as well as the Distribution Licensee, by economical and efficient use of resources, which shall include the measures/principles to:
 - a) Make DSM an integral part of the day-to-day operations of the Distribution Licensee to improve end-use efficiency of electricity, environmental conservation and cost reduction;
 - b) Control, reduce and influence electricity demand;
 - c) Encourage consumers to amend their electricity consumption pattern both for timing and level of electricity demand for efficient use of energy;
 - d) Complement supply-side strategies to help the utilities avoid or reduce or postpone (i) costly capacity (generation, transmission & distribution network) additions, (ii) costly power purchases;

- e) Reduce transmission and distribution (T&D) losses through implementation of end-use energy efficiency programs;
- f) Reduce the environmental damage by reducing the emission of greenhouse gases;
- g) Supplement National and State level efforts for implementation of various DSM programs set out by the Bureau;
- h) Make strategic efforts to induce lasting structural or behavioural changes in the market that shall result in increased adoption of energy-efficient technologies, services, and practices;
- i) Protect the interest of the consumers and shall result in an overall reduction in tariff for all the consumers;

4. Assessment of technical potential for DSM

- i) The Distribution Licensee shall assess the potential for DSM in its supply area for one (1) year before the start of every MYT Control Period.

Notwithstanding the above provision, the first assessment of DSM's technical potential shall be carried out within six (6) months of this Regulation's notification.

- ii) The Distribution Licensee shall be guided by the Bureau's methodology for assessing DSM's technical potential.

5. DSM targets

- i) The Commission shall establish DSM targets for each Distribution Licensee in the State.
- ii) The Commission will consider factors such as consumer mix, load profile, and other characteristics when setting the DSM target for the distribution licensee.
- iii) Examples of DSM targets may include the following:
 - a) Percentage reductions in load growth;
 - b) Savings in kW, kWh;
 - c) Savings as a per cent of total resources to meet load;
- iv) While establishing the targets, the Commission shall consider the technical potential in the State as assessed by the Distribution

Licensee.

DSM Cell

6. Constitution of DSM Cell, its roles & responsibilities

- i) Every Distribution Licensee shall constitute DSM Cell within one (1) month of notification of this Regulation. The composition of the DSM cell shall consist of the following.
 - One Executive Engineer
 - One Deputy Executive Engineer
 - Two Assistant Executive Engineers
- ii) The DSM Cell shall be provided with the authority and resources to execute the functions under this Regulation.
- iii) The DSM Cell shall be responsible for:
 - a) Load research and development of baseline data.
 - b) Formulation of DSM Plan.
 - c) Design and development of DSM projects, including cost-benefit analysis, plans for implementation, monitoring and reporting, and measurement and verification.
 - d) Seeking necessary approvals for DSM Plan and individual programs.
 - e) Implementation of DSM programs.
 - f) Any other additional function that the Commission may assign from time to time.
 - g) The Andhra Pradesh Energy Efficiency and Energy Conservation Policy, if any, may be considered while formulating DSM Plans.

DSM process

7. Load and market research and development of baseline data

- i) The distribution licensee shall undertake load research to identify the target consumer segment(s) and end users for DSM programs to build the necessary database.
- ii) Distribution Licensee shall undertake market research to estimate

market potential for specific energy efficiency technologies and applications, establish key performance indicators, and determine existing baseline market conditions.

- iii) Based on the results of load and market research, the Distribution Licensee shall design, develop, and implement the initial few DSM programs on the basis of available data and studies completed by the Bureau until complete baseline data is available for its area of supply. Establishing baseline data shall not be a prerequisite for the distribution licensees' design of such initial DSM programs.

8. Formulation of DSM Plan

- i) The distribution licensee shall formulate and submit to the Commission a perspective DSM Plan covering the control period within one (1) year of notification of these regulations. The Plan shall include:
 - a) An overall goal for the DSM Plan;
 - b) Description of DSM programs to form a part of DSM Plan;
 - c) Implementation process and schedule of each program in the plan as a whole;
 - d) Plan for Monitoring and Reporting;
 - e) Indicative cost-effectiveness assessment of programs.

Notwithstanding the above, the first DSM Plan shall be prepared within one (1) year of notification of this Regulation and shall be for the period until the end of the ongoing MYT Control Period.

- ii) The Distribution Licensee shall include all relevant DSM programs (including multi-state programs) developed by the Bureau in its perspective plan as and when the Bureau announces such programs.
- iii) The Distribution Licensee shall submit, on a rolling basis, an annual plan for the upcoming year that is not inconsistent with the perspective plan, along with the Annual Performance Review.
- iv) The following factors shall guide the selection and prioritisation of various DSM programs in the DSM Plan:
 - a) The Cost-effectiveness assessment;

- b) DSM objectives;
- c) Whether the proposed programs supplement National and State level efforts adopted by the Bureau;
- d) Programs with high visibility and, therefore potential for the creation of awareness among consumers;

9. Commission's review and approval of DSM Plan

- i) Distribution Licensee shall submit the DSM Plan to the Commission for approval at least six (6) months before the start date of the MYT Control Period.
- ii) The Commission shall adopt procedures as specified in the Conduct of Business Regulations for approving the DSM Plan.

10. Preparation of the DSM program document

A separate program document shall provide a detailed description of each DSM program included in the DSM Plan. The description shall include general information, technology, a schedule for deployment, a budget, a cost-effectiveness assessment, a detailed implementation plan, an estimation of savings, etc.

11. Approval of the DSM program document

- i) Before implementing any DSM program, the Distribution Licensee must obtain approval from the Commission.
- ii) Each Program Document shall include the following:
 - a) Description of the program;
 - b) Objectives and rationale for the program;
 - c) Consumer segments and estimated level of participation;
 - d) Estimate of baseline;
 - e) Cost-effectiveness assessment of the program;
 - f) Mechanism for recovery of cost and performance incentives;
 - g) Marketing, delivery strategy and Implementation schedule;
 - h) Implementation mechanism, e.g. Energy Service Companies, DSM Bidding, DSM Resource Acquisition, etc.;
 - i) Monitoring and evaluation plan;

- j) Plan for training/seminars/workshops to increase consumer awareness;
- iii) The Commission shall approve a DSM program if it aligns with the Objectives set out in this Regulation. The Commission may direct modifications to proposed or ongoing programs to ensure consistency with the DSM Objectives. However, the Commission shall allow the Distribution Licensee adequate time to notify consumers of program modifications.

12. Implementation of DSM programs

- i) The distribution Licensee shall implement DSM programs as approved by the Commission.
- ii) The distribution Licensee shall undertake the implementation of quick gain DSM programs.
- iii) The distribution Licensee shall implement the activities assigned to it either by itself or through the engagement of an appropriate independent entity. While doing so, the Distribution Licensee shall ensure that continuity and consistency are maintained and the interests of the consumers are not compromised.

13. Mechanism for cost recovery

- i) The distribution Licensee shall identify the net incremental costs, if any, associated with program planning, design and implementation.
- ii) The cost of all DSM programmes and plans to be implemented by the Distribution Licensee shall be included in the Annual Revenue Requirement (IARR), and the licensee will clearly indicate the mechanism for financing each DSM Programme.
- iii) The Commission may direct the Distribution Licensee to undertake DSM programs that may not be cost-effective but are highly beneficial to society. The Commission will use available resources for such projects.
- iv) In order to qualify for cost recovery, each program must be
 - a) Approved before implementation;
 - b) Implemented following the approved program plan and;

- c) Implemented cost-effectively;
- v) Distribution Licensee shall provide all necessary assistance to the Commission or third-party agency assigned by the Commission in undertaking Evaluation Measurement and Verification of DSM programs implemented by it.

14. Monitoring and reporting of DSM programs

The distribution Licensee shall prepare a plan and undertake monitoring and reporting of DSM programs as approved by the Commission while approving the DSM program.

15. Evaluation, measurement and verification of the DSM programme

- i) The distribution Licensee shall prepare a plan for evaluating, measuring and verifying each DSM program and submit it to the Commission along with the DSM Program document. The plan shall contain the following details:
 - a) DSM Program Overview:
 - Goal and objective;
 - Target market;
 - Eligibility criteria for participants;
 - Key program elements;
 - Program timings;
 - Estimated participation;
 - Estimated savings (in terms of energy and demand);
 - Program implementation mechanism;
 - b) Brief description of previous similar program evaluations, including pilot program.
 - c) Evaluation overview:
 - List of evaluation objectives and how they support program goal;
 - Evaluation approach selected;
 - Evaluation Cycle (i.e., interval/frequency);
 - List of indicators to be reported;

- d) Detailed Evaluation Approach, Scope, Budget, Schedule and Staffing:
- Details of the evaluation approach selected;
 - Data collection details – assessment mechanism – interviews, surveys, secondary market research, sampling approach and criteria for sample selection, methods for measurement collection and data analysis;
 - Ways of dealing with uncertainty – discussions and presentations with the Commission, method of quality control, etc.;
 - Activity timelines with program deliverable dates;
 - Detailed budget for evaluation;
 - Reporting format of evaluation results;
- ii) The Commission or a third-party agency assigned by the Commission may evaluate, measure, and verify DSM programs. While engaging the third-party agency, the Commission shall ensure that the agency is not undertaking any other engagement that could conflict with the interests of the consumers in the State.
- iii) The Distribution Licensee shall make available necessary information/data to the Commission or a third-party agency assigned by the Commission to measure and verify the savings from DSM programs.
- iv) The Commission shall approve the evaluation, measurement, and verification plan before the distribution licensee implements the DSM program.

16. DSM Plan and Program Completion Report

- i) The Distribution Licensee shall submit reports on the progress of the DSM Plan and expenses incurred in implementing it every six (6) months.
- ii) The Distribution Licensee shall prepare and submit a detailed Program Completion Report and submit the same to the Commission within one (1) month of completion of such program.
- iii) The Report shall cover the program expenses, achievements, outcomes

and outputs, constraints and difficulties faced, conclusions, recommendations, lessons learned and way forward.

17. Incentives

The Commission may incentivise Distribution Utilities to achieve or exceed DSM Objectives as identified in this Regulation.

18. Role of APSECM/APSEEDCO for effective implementation of DSM

Measures:

- i. APSECM/APSEEDCO may extend necessary support and assist the Commission in identifying and assigning the 3rd party agency to evaluate, measure, and verify DSM programs.
- ii. APSECM/APSEEDCO may suggest various successful DSM Programs / Measures (Demos, pilot projects, etc.) implemented by BEE GoI, which are being rolled out in other States to the GoAP and AP distribution licensees in order to consider and implement them in the State.
- iii. APSECM/APSEEDCO may create awareness and capacity-building programs on various DSM measures for the distribution licensees to enhance the programs' outreach and penetration.
- iv. The expenditure incurred by APSECM/APSEEDCO towards the creation of such communication outreach programs and assistance rendered in conceptualisation and monitoring of implementation shall be borne by the DISCOMs as per the instructions of the Hon'ble Commission from time to time.

19. DSM Consultation Committee:

Constitution of DSM Consultative Committee (DSM-CC) and its functions-

- (1) The Commission may constitute a DSM Consultative Committee (DSM-CC), the nodal agency to assist the Licensee and the Commission in driving the DSM programme under DSM Regulations. The DSM-CC shall be constituted as indicated below:-

- (i) Secretary of the Commission or any other officer as nominated by the Commission- Convener

- (ii) One representative from each of the Distribution Licensee not below the rank of Chief Engineer- Members
- (iii) One representative from each of the Transmission Utilities not below the rank of Chief Engineer- Members
- (iv) Chief Executive Officer/APSECM State Designated Agency State designated agency for energy audit and efficiency, APSECM) – Member
- (v) Chief Executive Officer/MD of APSEEDCO
- (vi) The Commission may nominate a maximum of five representatives from educational and research institutions, industry, agriculture, and the general public who have special knowledge or experience of and interest in the power sector.
- (vii) The functions of the DSM-Consultation Committee —

The functions of the DSM-Consultation Committee shall be -

- a.** To advise the licensee on conducting continuous consumer surveys and Load Research to seek information on end-use technologies, usage patterns, willingness to pay, sensitivity studies, market research etc., to assess DSM potential;
- b.** To promote cross-learning among the stakeholders to design appropriate DSM programmes and plans;
- c.** To review the DSM programme and DSM Plans submitted by the licensee and to advise the Commission in assessment and approval;
- d.** To provide support to the Commission for instituting DSM Plan/Programme monitoring, review, evaluation, measurement and verification (EM&V) as and when required;
- e.** To study the impacts of already implemented DSM Programmes;
- f.** To apprise the Commission about all DSM-related activities quarterly.

20. Non-achievement of targets.

The Commission may disallow any expenditure incurred by any Distribution Licensee for non-achievement of DSM targets as specified by the Commission and the savings envisaged thereof or for failure to implement the programme according to the approved plan.

Miscellaneous

21. Power to amend

The Commission may, at any time, add, vary, alter, modify or amend any provisions of this Regulation.

22. Power to remove the difficulty

If any difficulty arises in giving effect to the provisions of this Regulation, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act as may appear necessary to remove the difficulty.

23. Power to give directions

The Commission may, from time to time, issue orders and practice directions regarding the implementation of the Regulation and the procedures to be followed.

24. Power to relax

The Commission may relax any of the provisions of these Guidelines on its own motion or on an application made before it by an interested person by general or special order for reasons to be recorded in writing.

25. Savings

Nothing contained in this Regulation shall limit or otherwise affect the inherent powers of the Commission from adopting a procedure in conformity with the provisions of the Act, which is at variance with any of the provisions of this Regulation, if the Commission, because of the special circumstances of the matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient to depart from the procedure specified in this Regulation.

26. Enquiry and investigation

All enquiries, investigations, and adjudications under this Regulation shall be handled by the Commission through the proceedings following the Conduct of Business Regulations 1999, as amended from time to time.

(By Order of the Commission)

Place : Kurnool
Date: 06.09.2024

Sd/- 06.09.2024
P.KRISHNA
Commission Secretary(i/c)