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# TELANGANA STATE ELECTRICITY REGULATORY COMMISSION

## NOTIFICATION

No.TSERC/\_\_\_\_\_/2020

22.09 2020

### DRAFT REGULATION

#### Preamble:

Demand Side Management (DSM) is described as the planning, implementation and monitoring of utility's activities designed to encourage consumers to amend their electricity consumption patterns, both with respect to timing and level of electricity demand so as to help the consumers to use electricity more efficiently. DSM has various beneficial effects including mitigating electrical system emergencies and exigencies and increasing system reliability. Possible benefits can also include reducing short term / costly power procurement and reducing harmful emissions to the environment. DSM can also play a major role in deferring investments in generation, transmission and distribution infrastructure. Hence overall, DSM provides significant economic, reliability and environmental benefits. Considering several benefits of DSM, the Commission has decided to put in place DSM Regulation for advancement and implementation of cost-effective DSM initiatives in the State of Telangana.

In exercise of powers conferred by clause (zp) of sub-section (2) of Section 181 of the Electricity Act, 2003 (36 of 2003) and all powers enabling it in that behalf, the Telangana State Electricity Regulatory Commission hereby makes the following Regulation:

#### 1. Short title, extent and commencement

- i) This Regulation shall be called the Telangana State Electricity Regulatory Commission (Demand Side Management) Regulation, 2020.
- ii) This Regulation shall be applicable to the Distribution Licensees, in the State of Telangana in their respective area of supply.
- iii) This Regulation shall come into force from the date of publication in the Telangana 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 programme begins to provide a starting point for comparison for assessing programme 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 Telangana State Electricity Regulatory Commission;
  - e) "**Demand Side Management (DSM)**" means the actions of a

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- Distribution Licensee, beyond the consumer's meter, with the objective of altering the end-use of electricity - whether it is to increase demand, decrease it, 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) **“DSM Resource Acquisition”** means a mechanism to implement DSM projects through consumers, Energy Service Companies, Non-Government Organisations, manufacturers/ suppliers, or other private sector organizations, with payment made to them by the Distribution Licensee for the resultant energy and load reductions;
  - g) **“Energy Efficiency Measures” or “Energy Efficiency Programmes”** means activities or programmes to stimulate consumers to use energy in a more efficient manner while maintaining a comparable level of services to the consumers;
  - h) **“Energy Services Company”** means a company which is in the business of providing energy efficient and load management equipment and/or services to end use consumers and is approved by Bureau;
  - i) **“Evaluation, Measurement and Verification”** means activities which evaluate, measure and verify performance or other aspects of DSM/energy efficiency programs or their market environment;
  - j) **“Load Management”** means any action/programme, including Demand Response Programme, that will reduce or shift demand away from periods of peak/higher cost electricity to periods of non-peak/lower cost electricity periods;
  - k) **“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 electrical industry;
  - l) **“Monitoring and Reporting”** means activities which monitor and evaluate the progress of DSM/energy efficiency programs of the Distribution Licensee;
- 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 interpretation of this Regulation, unless the context otherwise requires:
    - a) Words in singular or plural term, 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

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- time to time in accordance with the applicable laws in force;
  - c) References herein to 'Distribution Licensee' shall also be construed as reference to a Deemed Distribution Licensee and the Co-operative Electric Supply Society Limited, Siricilla;
  - d) The headings are inserted for convenience and may not be taken into account for the purpose of 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/programmes with an objective 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 with the objective of improving 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 with respect to timing and level of electricity demand for efficient use of energy;
  - d) Complement supply side strategies to help the utilities to 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 programmes;
  - f) Reduce the environmental damage by reducing the emission of greenhouse gases;
  - g) Supplement National and State level efforts for implementation of various DSM programmes 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 overall reduction in tariff for all the consumers;

#### **4. Assessment of technical potential for DSM**

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

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

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- ii) The Distribution Licensee shall be guided by methodology developed by Bureau while assessing of technical potential for DSM.

## **5. DSM targets**

- i) The Commission shall establish DSM targets for each Distribution Licensee in the State.
- ii) While setting DSM target for the Distribution Licensee, the Commission will give due consideration to factors such as consumer mix, load profile, etc.
- iii) Examples of DSM targets may include the following:
  - a) Percentage reductions in load growth;
  - b) Savings in kW, kWh;
  - c) Savings as a percent 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.
- ii) The DSM Cell so constituted shall be provided with necessary authority and resources so as to execute the functions assigned to it 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 & reporting and for measurement & verification.
  - d) Seeking necessary approvals to DSM Plan and individual programmes.
  - e) Implementation of DSM programmes.
  - f) Any other additional function that may be assigned by the Commission from time to time.

## **DSM process**

### **7. Load and market research and development of baseline data**

- i) Distribution Licensee shall undertake load research to identify the target consumer segment(s) and end uses for DSM programmes 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) On the basis of the results of load and market research, the Distribution

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Licensee shall develop baseline data for its area of supply.

- iv) Distribution Licensee shall design, develop and implement the initial few DSM programmes on the basis of available data and studies completed by Bureau till the complete baseline data is available for its area of supply and establishment of baseline data shall not be a pre-requisite for design of such initial DSM programmes by the Distribution Licensees.

## **8. Formulation of DSM Plan**

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

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

- ii) The Distribution Licensee shall include all relevant DSM programmes (including multi-state programmes) developed by Bureau in its perspective plan as and when such programmes are announced by Bureau.
- iii) The Distribution Licensee shall submit on rolling basis, an annual plan, not inconsistent with the perspective plan, for upcoming year, along with the Annual Performance Review.
- iv) Selection and prioritisation of various DSM programmes in the DSM Plan shall be guided by the following factors:
  - a) The Cost effectiveness assessment;
  - b) DSM objectives;
  - c) Whether the proposed programmes supplement National and State level efforts adopted by the Bureau;
  - d) Programmes with high visibility and therefore potential for creation of awareness within 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 according approval to the DSM Plan.

## **10. Preparation of DSM programme document**

For each DSM programme included in the DSM Plan, a detailed description shall be provided in a separate Programme Document. The description shall

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include general information, technology, schedule for deployment, budget, cost effectiveness assessment, detailed implementation plan, estimation of savings, etc.

#### **11. Approval of DSM programme document**

- i) Prior to implementing any DSM programme, Distribution Licensee must obtain approval of the Commission.
- ii) Each Programme Document shall include the following:
  - a) Description of the programme;
  - b) Objectives and rationale for the programme;
  - c) Consumer segments and estimated level of participation;
  - d) Estimate of baseline;
  - e) Cost effectiveness assessment of programme;
  - 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 is in line with the Objectives set out in this Regulation. The Commission may direct modifications to proposed or on-going programmes to ensure consistency with the DSM Objectives. However, the Commission shall allow Distribution Licensee adequate time to notify consumers of program modification.

#### **12. Implementation of DSM programmes**

- i) Distribution Licensee shall undertake implementation of DSM programmes in the manner as approved by the Commission.
- ii) Distribution Licensee shall undertake implementation of quick gain DSM programmes.
- iii) Distribution Licensee shall carry out implementation of activities assigned to it either by itself or through engagement of appropriate independent entity.

While doing so, the Distribution Licensee shall ensure that continuity and consistency is maintained, and interest of the consumers is not compromised.

#### **13. Mechanism for cost recovery**

- i) Distribution Licensee shall identify the net incremental costs, if any, associated with planning, design and implementation of programmes.
- ii) Distribution Licensee shall propose methodology for recovery of net incremental costs through tariff or any other mechanism.
- iii) In order to qualify for cost recovery, each program must be
  - a) Approved prior to implementation;
  - b) Implemented in accordance with the approved program plan and;

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- c) Implemented cost effectively;
  - iv) 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 programmes implemented by it.
  - v) The Commission may direct the Distribution Licensee to undertake DSM programmes that may not be cost effective but is highly beneficial to the society.

#### **14. Monitoring and reporting of DSM programmes**

Distribution Licensee shall prepare plan and undertake monitoring and reporting of DSM programmes as approved by the Commission while approving the DSM programme.

#### **15. Evaluation, measurement and verification of DSM programme**

- i) Distribution Licensee shall prepare plan for evaluation, measurement and verification of each DSM programme and submit to the Commission along with the DSM Programme document. The plan shall contain the following details:
  - a) DSM Programme Overview:
    - Goal and objective;
    - Target market;
    - Eligibility criteria for participants;
    - Key programme elements;
    - Programme timings;
    - Estimated participations;
    - Estimated savings (in terms of energy and demand);
    - Programme implementation mechanism;
  - b) Brief description of previous similar programme evaluation including pilot programme.
  - c) Evaluation overview:
    - List of evaluation objectives and how they support programme 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 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 programme deliverable dates;
    - Detailed budget for evaluation;
    - Reporting format of evaluation results;

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- ii) Evaluation Measurement and Verification of DSM programmes may be undertaken by the Commission or third-party agency assigned by the Commission.

While engaging the third-party agency, the Commission shall ensure that the agency is not undertaking any other engagement which could conflict with the interests of the consumers in the State.

- iii) Distribution Licensee shall make available necessary information/data to the Commission or third-party agency assigned by the Commission to measure and verify the savings from DSM programmes.
- iv) The Commission shall approve evaluation, measurement and verification plan before implementation of the DSM programme by the Distribution Licensee.

#### **16. DSM Plan and Programme completion report**

- i) Reports on progress of DSM Plan and expenses incurred on implementation of DSM Plan shall be submitted by the Distribution Licensee 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 programme.
- iii) The Report shall cover the programme expenses, achievements, outcomes and outputs, constraints and difficulties faced, conclusions, recommendations, lessons learned and way forward.

#### **17. Incentives**

The Commission may provide incentives to Distribution Utilities for achieving or exceeding DSM Objectives as identified in this Regulation.

#### **Miscellaneous**

#### **18. Power to amend**

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

#### **19. Power to remove 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 to be necessary for removing the difficulty.

#### **20. Power to give directions**

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

#### **21. Power to relax**

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

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**22. 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, in view 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.

**23. Enquiry and investigation**

All enquiries, investigations and adjudications under this Regulation shall be done by the Commission through the proceedings in accordance with the provisions of the Conduct of Business Regulations, 2015 as amended from time to time.

**(By order of the Commission)**

Hyderabad  
22.09.2020

Sd/-  
Secretary [FAC]  
TSERC