

**TAMIL NADU ELECTRICITY REGULATORY COMMISSION**  
**Tamil Nadu Electricity Regulatory Commission (Demand Side Management)**  
**Regulations, 2012**

**Draft Notification No. TNERC/DSM/ ..... dated ..... - .... - 2012**

(Comments/suggestions are invited on or before 10-08-2012)

In exercise of powers conferred by Sub-section (1) of Section 181 and clause (zp) of sub-section (2) of section 181 of the Electricity Act, 2003 (Central Act 36 of 2003) and all other powers enabling it in this behalf and after previous publication, the Tamil Nadu Electricity Regulatory Commission hereby makes the following regulations for the Demand Side Management:

**Chapter I: General**

**1. Short title and commencement.-**

- (1) These regulations may be called the “Tamil Nadu Electricity Regulatory Commission (Demand Side Management) Regulations, 2012”.
- (2) These regulations shall come into force on the date of their publication in the Tamil Nadu Government Gazette.
- (3) These regulations shall be applicable to all the Distribution Licensees in the State.

**2. Definitions. -**

- (1) In these Regulations, unless the context otherwise requires, –
  - (a) “Act” means the Electricity Act, 2003 (36 of 2003);
  - (b) “Baseline data” means the initial base level consumption and/or demand for electricity before a Demand Side Management (DSM) programme begins to provide a starting point for comparison for assessing the programme impact”;
  - (c) “Bureau” means the Bureau of Energy Efficiency (BEE) established under sub- section (1) of section 2 of The Energy Conservation Act, 2001;

- (d) "Commission" means the Tamil Nadu Electricity Regulatory Commission;
- (e) "Cost Effectiveness Index" means an indicator of the attractiveness of any investment in DSM programme or when compared to the costs of energy produced and delivered in the absence of such an investment;
- (f) "Demand Side Management" means the actions of a Distribution Licensee, beyond the customer'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;
- (g) "DSM Resource Acquisition" means a mechanism to implement DSM projects through customers, 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;
- (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 customers and is approved by Bureau;
- (i) "Evaluation, Measurement and Verification (EM&V)" means activities which evaluate, measure and verify performance or other aspects of DSM/energy efficiency programs or their market environment; and
- (j) "Monitoring and Reporting" means activities which monitor and evaluate the progress of DSM/energy efficiency programs of the Distribution Licensee.

## **Chapter II: DSM Objectives, targets and guidelines**

### **3. DSM Objectives, benefits and types. -**

- (1) The objective of DSM is to control, reduce and influence electricity demand, breaking the economic barrier of the higher fixed cost, market transformation associated with efficient equipments, reduction of fossil fuel dependence, reduction of energy consumption, creation of economic value for the consumers and the electricity sector by implementation of suitable policies and measures;
- (2) Implementation of DSM leads to reduction of energy consumption and peak demand so that generation transmission and distribution network extension can be avoided or postponed. Consequently, there will be a drop in primary energy consumption and consequential reduction in greenhouse gas emissions. DSM is one of the rare types of investment which generates its own economy. The economical and efficient use of resources also results in lowering the overall cost of electricity. DSM actions are win/win solutions with positive impacts for all the stakeholders involved;
- (3) Types of DSM measures include the general measures that improve the consumers' level of information about the rational use of electricity, incentives to the use of more efficient equipments and the measures that influence the behaviour of consumption.

### **4. Basic Principles. -**

- (1) Every Distribution Licensee shall make DSM an integral part of their day-to-day operations, and undertake planning, designing and implementation of appropriate DSM programmes on a sustained basis;
- (2) All such DSM related activity/ programmes undertaken by the Distribution Licensee –
  - (a) shall need to be cost effective for the consumers' of the Distribution Licensee as well as to the Distribution Licensee themselves;
  - (b) shall protect the interest of consumers and be implemented in an equitable manner;

- (c) shall result in overall tariff reductions for all the consumers of the licensee.

(3) Distribution Licensee shall be guided by these regulations. -

- (a) while planning and submitting long-term power procurement plan to the Commission as part of their application seeking determination of tariff;
- (b) while submitting to the Commission the measures proposed to be implemented by them as regards load management, energy conservation and energy efficiency;
- (c) while submitting to the Commission the impact on energy and demand, together with the cost benefit analysis.

(4) While carrying out cost-effectiveness, Distribution Licensee shall be guided by the Commission's guidelines issued in this regard.

#### **5. Assessment of technical potential for DSM. -**

- (1) The Distribution Licensee in the State shall carry out assessment of potential for DSM in the State one year before the start of every MYT Control Period/financial year. Notwithstanding above provision, the first assessment of technical potential for DSM shall be carried out within six months of the notification of these Regulations;
- (2) Distribution Licensee shall be guided by methodology developed by Bureau and/or as guided by the Commission while assessing of technical potential for DSM.

#### **6. DSM Targets. -**

- (1) The Commission shall establish DSM targets for Distribution Licensee;
- (2) While setting DSM target for the Distribution Licensee, the Commission will give due consideration to factors such as consumer mix, load profile, etc.;
- (3) 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;
- (4) While establishing the targets, the Commission shall consider the technical potential in the State as assessed by the Distribution Licensee, techno-economic viability of the DSM projects, etc.

#### **7. Guidelines on DSM process. –**

- (1) General guidelines issued by the Bureau and the Commission will help the Distribution Licensee in execution of the following activities:
- (a) Load and market research;
  - (b) Implementation of DSM programmes;
  - (c) Cost Effectiveness Assessment of DSM programmes;
  - (d) Monitoring and Reporting of DSM Plans and programmes;
  - (e) Eligibility criteria for DSM programmes;
  - (f) Methodology for setting DSM targets and funding levels;
  - (g) Database development framework;
- (2) Issuance of such guidelines shall not be a pre-requisite for preparation and submission of the first DSM plan by the Distribution Licensee

### **Chapter III: DSM Cell**

#### **8. Constitution of DSM Cell, its roles & responsibilities. -**

- (1) The Distribution Licensee shall constitute DSM Cell at corporate level headed by an officer not below the rank of Superintending Engineer within one month of notification of these regulations. Further, sub cell at each region level headed by an officer not below the rank of Executive Engineer shall be formed especially to implement the DSM programmes within six months from the date of notification of these regulations.
- (2) The DSM cell and sub cells constituted in this regard especially shall look after the DSM activities and shall be given optimum workforce to carry out all the DSM related jobs;

- (3) The DSM cell and sub cells shall offer consultation either free or at nominal charge to the individual consumers to carry out DSM related activities in their homes/industries/establishments, etc.;
- (4) The DSM Cell and sub cells so constituted shall be provided with necessary authority and resources so as to execute the functions assigned to it under these Regulations;
- (5) 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; and
  - (f) Any other additional function that may be assigned by the Commission from time to time.

#### **Chapter IV: DSM Consultation Committee**

##### **9. Constitution of DSM Consultation Committee (DSM-CC) & its functions. –**

- (1) **Constitution of DSM-CC.** – DSM-CC shall be set up by the Commission which shall be the nodal agency to assist the Licensee & the Commission to drive the DSM programme under the DSM Regulations. The DSM-CC shall comprise of:
  - (a) Secretary of the Commission to act as the Convener;
  - (b) Director/Engineering to act as Secretary of DSM-CC;
  - (c) One representative from the distribution Licensee who is not below the rank of Chief Engineer;
  - (d) One representative from State Transmission Utility who is not below the rank of Chief Engineer;

- (e) Chief Electrical Inspector to the Government (State designated agency for energy audit and efficiency);
- (f) General Manager / Tamil Nadu Energy Development Agency;
- (g) One representative from BEE of senior rank;
- (h) Maximum five numbers representatives from educational and research institutions; industry, agriculture & general public who have special knowledge or experience of power sector to be nominated by the Commission;

**(2) Functions of DSM-CC. -**

- (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 approve awareness activities/campaigns/exhibitions, consumer interaction sessions developed by the licensee & to supervise the same thereafter;
- (c) To promote cross-learning among the stakeholders to design appropriate DSM programmes and plans;
- (d) To advise innovative Tariff offerings to promote DSM;
- (e) To review DSM programme and DSM Plans submitted by the licensee and to advise the Commission in assessment and in approval;
- (f) To evaluate the terms set by the financiers/ bankers for funding DSM Plan;
- (g) To provide support to the Commission for instituting DSM Plan/Programme monitoring, review, evaluation, measurement and verification (EM&V) as and when required;
- (h) To study the impacts of already implemented DSM programmes;
- (i) To apprise the Commission about all DSM related activities on quarterly basis.

## Chapter V: DSM Process

### **10. Load and market research and development of baseline data. -**

- (1) Distribution Licensee shall undertake load research to identify the target consumer segment/s and end uses for DSM programmes to build the necessary database;
- (2) 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;
- (3) On the basis of the results of load and market research, the Distribution Licensee shall develop baseline data for its area of supply;
- (4) Distribution Licensee may design, develop and implement the initial few DSM programmes on the basis of available data and studies completed by BEE till the complete baseline data is available for its area of supply and establishment of base line data shall not be a pre-requisite for design of such initial DSM programmes by the Distribution Licensee.

### **11. Formulation of DSM Plan. -**

- (1) Distribution Licensee shall formulate and submit to the Commission a perspective DSM Plan covering the control period, within one 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 year of the date of these Regulations and shall be for the period till the end of ongoing MYT Control Period.



- (2) 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.
- (3) 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.
- (4) Selection and prioritisation of various DSM programmes in the DSM Plan shall be guided by the following factors:
  - (a) Cost effectiveness;
  - (b) DSM Objectives identified in Regulation 3;
  - (c) Whether the proposed programmes supplement National level efforts adopted by the Bureau; and
  - (d) Programmes with high visibility and therefore potential for creation of awareness within consumers

## **12. Commission review and approval of DSM plan. -**

- (1) Distribution Licensee shall submit the DSM Plan to the Commission for approval at least six months before the start date of the next MYT period. The term of the plan shall coincide with the corresponding MYT term. The DSM plan submitted by the Distribution Licensee shall be in both hard and soft copies;
- (2) The Commission may adopt procedures as specified in the Conduct of Business Regulations for according approval to the DSM Plan and a miscellaneous petition shall be filed in line with Fees & Fines Regulations;
- (3) DSM-CC shall scrutinise the DSM programmes submitted by the Distribution Licensee. The Committee shall hold meetings, record all its observations in regard to the programmes, shortcomings, if any, shall be got removed. Thereafter, the Committee shall evaluate each programme and if satisfied, the Secretary shall put up the programmes to the Commission with comments. The Commission may get clarifications, if any, from the DSM-CC and / or the Distribution Licensee and will apply its wisdom to accord

approval to the programmes. If necessary, Commission may also refer the DSM programmes submitted by the Distribution Licensee to the State Advisory Committee before according approval;

- (4) The Commission may encourage the DSM measures related to implementation of building Code, use of energy efficient or star rated appliances including agricultural pump sets;

### **13. Preparation of DSM Programme Document. -**

- (1) After approval of the DSM plan, the Distribution Licensee shall prepare, for all DSM programmes included in the approved DSM plan, “DSM Programme Document” (PD);
- (2) The PD will guide implementation, monitoring, review etc. of all the approved individual DSM programmes contained in the plan. Each PD 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) Assessment of programme in line with Cost Effectiveness;
  - (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; and
  - (j) Plan for Training/Seminars/Workshops to increase consumer awareness.

### **14. Approval of DSM Programme Document. -**

- (1) Prior to implementing any DSM Programme, the Distribution Licensee must obtain approval of the Commission;
- (2) The Commission shall approve a PD if it is in line with the Objectives set out in Section 3 of the Regulations. 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.

#### **15. Implementation of DSM programmes**

- (1) Distribution Licensee shall undertake implementation of DSM programmes in line with the guidelines issued by the Commission from time to time;
- (2) The implementation of the programme shall be undertaken in the manner approved by the Commission;
- (3) Distribution Licensee shall undertake implementation of quick gain DSM Programmes;
- (4) 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

#### **16. Mechanism for Cost Recovery. -**

- (1) Distribution Licensee shall identify the net incremental costs, if any, associated with planning, design and implementation of programmes;
- (2) Distribution Licensee may propose methodology for recovery of net incremental costs through tariff or any other mechanism. The amounts so earmarked may be named as DSM fund and should be exclusively used for DSM objectives;
- (3) 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
  - (c) Implemented cost effectively.
- (4) The Commission may direct the Distribution Licensee to undertake

DSM programmes that may not be cost effective but is highly beneficial to the society;

- (5) Distribution Licensee shall be allowed to recover all costs incurred by them in any DSM related activity, including planning, conducting load research, designing, implementing, monitoring and evaluating DSM programmes, by adding these costs to their ARR to enable their funding through tariff structure;
- (6) The Commission may direct the Distribution Licensee to adopt other complementing DSM funding approaches such as creating a pool of funds through collection of public benefits charge at a later date; if such an approach is found beneficial;
- (7) Distribution Licensee shall obtain the prior approval of the Commission for implementing DSM Programmes at the consumer premises through equity placements, provided that such programmes shall be eligible for Return on Investment and would be evaluated during the ARR approval process.

#### **17. DSM Budget. -**

- (1) Without prejudice to the generality of these Regulations, the following provisions shall apply:-
  - (a) Distribution Licensee shall set up a Multi-year DSM plan and DSM programme budgets and submit the same during the MYT approval and Annual Revenue Requirements (ARR) approval process;
  - (b) The budget shall be spent only after approval of aggregated DSM Plans/ Programmes and/or individual DSM Plans/Programmes by the DSM Consultation Committee;
  - (c) DSM implementation plan and associated budgets shall be substantiated with the prioritization of the possible programmes within the license area;
  - (d) The DSM budget to be spent every year shall be substantiated with the kW and kWh savings targets where such targets shall be developed by

carrying out detailed load research activity and implementing DSM programmes that may be directed by the DSM Consultation Committee proactively for the benefit of consumers in the State.

- (2) Distribution Licensee shall submit year-wise schedule of DSM plan implementation and corresponding budget allocations relevant to the savings or shifting/reduction of peak load;
- (3) The aggregated year wise funds requirement and achievements shall be the annual DSM budgets and annual DSM targets, respectively;
- (4) These annual DSM budgets and targets, determined and approved at the beginning of the planning cycle shall be revisited during the Annual Performance Review;
- (5) The DSM-CC may take special account of measures taken by Distribution Licensee to develop carbon finance programmes using the Clean Development Mechanism of the United Nations Framework Convention on Climate Change (UNFCCC) or any other voluntary carbon financing protocol;
- (6) **Funding for DSM activities other than DSM plan implementation.** - Distribution licensee shall seek separate budget approval from Commission for additional expenses (beyond the DSM programme and DSM plan implementation) to be incurred for activities such as carrying out load research, consumer surveys, DSM plan and programme development activities, research and analysis, funding of any activities proposed by the DSM-CC, conduct of potential studies, training & development, etc.;
- (7) **Allocation of funds for consumer awareness, audits and equity considerations.** - Distribution Licensee shall be allowed to spend a reasonable amount, pre-approved by the Commission on recommendations by the DSM-CC to promote programmes of the nature described below:
  - (a) DSM Programmes that:
    - (a) Promote consumer awareness and education about why, how, when and where of load management/energy efficiency and include activities such as:
      - (i) Energy audits,
      - (ii) Awareness campaigns,
      - (iii) Energy Efficiency and Load Management demonstration projects,

- (iv) Training programmes, seminars, workshops, round tables, conferences, business exchange meets (buyer-seller meets)
  - (v) Establishment of permanent display/demonstration centres cum model “green”/ ultra energy efficient buildings (buildings that go beyond ECBC – Energy conservation Building Codes)
- (b) DSM Programmes for consumers below poverty line/consumers consuming less than 100 units per month (generally considered as low income consumers)

**18. Monitoring and reporting of DSM Programmes. -**

- (1) Distribution Licensee shall prepare plan and undertake monitoring and reporting of DSM programmes from time to time;
- (2) Reports on progress of DSM plan and expenses incurred on implementation of DSM plan shall be submitted by the Distribution Licensee every three months to the Commission.

**19. Evaluation Measurement and Verification of DSM Programme. -**

- (1) Distribution Licensee shall prepare plan for evaluation, measurement and verification of savings from DSM programmes;
- (2) Third party Evaluation Measurement and Verification of DSM programmes may be undertaken by the Commission or third party. Such third party shall be either appointed by the Commission directly or by the Distribution Licensee as per eligibility criteria that shall be set by the Commission and engagement of third party shall be got approved from the Commission. While engaging the 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;
- (3) Distribution Licensee shall make available necessary information/data to the Commission or third party assigned by the Commission to measure and verify the savings from DSM programmes.

## **Chapter V: DSM Plan and Programme Completion Report**

**20.** The Distribution Licensee will prepare and submit a detailed Program Completion Report and submit the same to the Commission within one month of completion of such programme;

**21.** The Report shall cover the programme expenses, achievements, outcomes and outputs, constraints and difficulties faced, conclusions, recommendations, lessons learned and way forward.

## **Chapter VI: Incentives**

**22.** The Commission shall consider to provide appropriate tariff interventions to support DSM, viz. extending Time of day metering up to LT services, load management, rebate for energy efficient buildings / appliances etc.;

**23.** The Commission may provide incentives to Distribution Utilities commensurate with their achieving or exceeding DSM Objectives;

## **Chapter VII: Miscellaneous**

**24.** The Commission may, at any time add, vary, alter, modify or amend any provisions of these regulations;

**25.** If any difficulty arises in giving effect to the provisions of these Regulations, 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;

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

**27.** All disputes arising under these regulations shall be decided by the Commission based on an application made by the person aggrieved.

**(By order of the Tamil Nadu Electricity Regulatory Commission)**

**(S.Gunasekaran)  
Secretary**