

# UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION



## U.P.ELECTRICITY REGULATORY COMMISSION (DEMAND SIDE MANAGEMENT) REGULATIONS 2014

**April, 2014**

**UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION**

**LUCKNOW**

**(DEMAND SIDE MANAGEMENT) REGULATIONS 2014**

**PREAMBLE**

Demand Side Management (DSM) is described as the planning, implementation and monitoring of utility's activities designed to encourage customers to amend their electricity consumption patterns, both with respect to timing and level of electricity demand so as to help the customers to use electricity more efficiently. Various factors such as increasing economic activity and population growth are resulting in additional pressure on ever increasing power demand when the State is already facing acute power shortage. The power shortage also causes the need for re-evaluation of Gadgil Formulae in reference of allotment of power to the State from Central Sector.

In such a scenario, DSM can complement supply-side strategies to help to meet electric service demands by assisting utilities to avoid or delay costly capacity additions by slowing demand growth. To promote DSM, the Government is continuously introducing various policies and programs targeting different sectors such as appliances, buildings, industries, etc. Despite these policies, the potential remains largely unrealized due to technical, financial, economic and institutional barriers.

One of the reasons for non-deployment of larger scale DSM programs is the absence of Regulations/guidelines for design, development and implementation of DSM activities. Also, there is a lack of institutional mechanism for coordination between various stakeholders such as State Designated Agencies (SDAs), distribution utilities, Bureau of Energy Efficiency (BEE) and SERCs to undertake EE&DSM.

UPERC has developed these regulations on the basis of Modal Regulations as framed by Forum of Regulators (FOR).

The salient features of DSM Regulations are:

- The Regulations provide for DSM Objectives and targets to be set by the SERC

for the Distribution Licensee, to mandate it to undertake DSM activities.

- The Distribution Licensee is required to constitute a dedicated team of officials with significant authority to undertake the responsibilities envisaged under the Regulations. Hence, constitution of DSM Cell within Distribution Licensee is deemed necessary.
- The Regulations provide for various activities including load research and development of baseline data, formulation of DSM Plan, Commission review and approval of DSM plan, preparation of DSM Program Document, approval of DSM Program Document and implementation of DSM programs.

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**The framework under which the Uttar Pradesh Electricity Regulatory Commission (Demand Side Management) Regulations, 2014 has been developed**

WHEREAS section 23 of the Electricity Act 2003 provides that *“If the Appropriate Commission is of the opinion that it is necessary or expedient so to do for maintaining the efficient supply, securing the equitable distribution of electricity and promoting competition, it may, by order, provide for regulating supply, distribution, consumption or use thereof”*;

AND WHEREAS Section 42 (1) of the Electricity Act 2003 provides that *“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 and to supply electricity in accordance with the provisions contained in this Act”*

AND WHEREAS Section 61 of the Electricity Act 2003 provides that *“The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:-“Clause (c) “the factors which would encourage competition, efficiency, economical use of resources, good performance and optimum investment”*

AND WHEREAS Section 86(2) of the Electricity Act 2003 provides that *“State Commission shall advise the State Government on all or any of the following matters, namely:- “Clause (i) “promotion of competition, efficiency and economy in activities of the electricity industry;”*

AND WHEREAS Clause 5.9.2 of the National Electricity Policy provides that *“The potential number of installations where demand side management and energy conservation measures are to be carried out is very large. Bureau of Energy Efficiency (BEE) shall initiate action in this regard. BEE would also make available the estimated conservation and DSM potential, its staged implementation along with cost estimates for consideration in the planning process for National Electricity Plan”*;

AND WHEREAS Clause 5.9.4 of the National Electricity Policy provides that *“In the field of energy conservation initial approach would be voluntary and self-regulating with emphasis on labeling of appliances. Gradually as awareness increases, a more*

*regulatory approach of setting standards would be followed”;*

*AND WHEREAS Clause 5.9.6 of the National Electricity Policy provides that “In order to reduce the requirements for capacity additions, the difference between electrical power demand during peak periods and off-peak periods would have to be reduced. Suitable load management techniques should be adopted for this purpose. Differential tariff structure for peak and off peak supply and metering arrangements (Time of Day metering) should be conducive to load management objectives. Regulatory Commissions should ensure adherence to energy efficiency standards by utilities;*

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## **Uttar Pradesh Electricity Regulatory Commission**

No. UPERC/Secy/DSM Regulation/2014.....

Dated: 4<sup>th</sup> April, 2014

In exercise of the powers conferred by clause(zp) of sub-section(2) of section 181 of the Electricity Act, 2003 (36 of 2003), the Uttar Pradesh Electricity Regulatory Commission hereby makes the following regulations namely Uttar Pradesh Electricity Regulatory Commission (Demand Side Management) Regulations, 2014.

### **Chapter I: General**

#### **1. Short Title, extent and Commencement**

- 1.1. These Regulations may be called the “Uttar Pradesh Electricity Regulatory Commission (Demand Side Management) Regulations, 2014”.
- 1.2. These Regulations shall be applicable to the Distribution Licensees in the State in their respective areas of supply.
- 1.3. These Regulations shall come into force from the date of these Regulations.

#### **2. Definitions**

- 2.1 In these Regulations, unless the context otherwise requires –
  - i. “Act” means the Electricity Act, 2003 (36 of 2003);
  - ii. “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”;
  - iii. “Bureau” means the Bureau of Energy Efficiency established under subsection (1) of Section 3 of The Energy Conservation Act, 2001
  - iv. "Commission" means the Uttar Pradesh Electricity Regulatory Commission constituted under sub-section (1) of Section 82 of the Act;

- v. “Cost Effectiveness Index” means an indicator of the attractiveness of any investment in DSM program or when compared to the costs of energy produced and delivered in the absence of such an investment
- vi. “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.
- vii. “DSM Resource Acquisition” means a mechanism to implement DSM projects through customers, Energy Service Companies, Non-Government Organizations, manufacturers/ suppliers, or other private sector organizations, with payment made to them by the Distribution Licensee for the resultant energy and load reductions
- viii. “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
- ix. “Evaluation, Measurement and Verification” means activities which evaluate, measure and verify performance or other aspects of DSM/energy efficiency programs or their market environment
- x. “Monitoring and Reporting” means activities which monitor and evaluate the progress of DSM/energy efficiency programs of the Distribution Licensee

## **Chapter II: DSM Objectives, Assessment of DSM Potential targets and guidelines**

### **3. DSM Objectives**

The objectives include:

- (i) Power shortage mitigation

- (ii) Seasonal peak reduction
- (iii) Cost effective energy savings
- (iv) Lowering the cost of electricity
- (v) Reduction in emissions of greenhouse gases etc.

**The Key Elements are:**

- Promotion of energy efficient appliances
- Promotion of energy efficiency in new commercial buildings
- State-wide education and awareness campaign for energy conservation
- Improvement in process and operational efficiency in the industrial sector
- Public procurement of energy efficient appliances.
- Feeder segregation
- Strategic utilization of energy conservation fund and DSM fund approved by the regulator
- Strengthening of SDA

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

4.1 The Distribution Licensee in the State shall carry out assessment of potential for DSM in the State one year before the start of every Tariff Control Period.

Notwithstanding above provision, the first assessment of technical potential for DSM shall be carried out within six months of the date of these Regulations which shall be utilized for ongoing tariff period.

4.2. Distribution Licensee shall be guided by methodology developed by Bureau while assessing of technical potential for DSM.



## **5. DSM Targets**

- 5.1. The Commission may establish DSM targets for each Distribution Licensee in the State.
- 5.2. While setting DSM target for the Distribution Licensee, the Commission may give due consideration to factors such as consumer mix, load profile, etc.
- 5.3. Examples of DSM targets may include the following:
  - Percentage reductions in load growth;
  - Savings in kW, kWh;
  - Savings as a percent of total resources to meet load;
- 5.4. While establishing the targets, the Commission may consider the technical potential in the State as assessed by the Distribution Licensee.

## **6. Guidelines on DSM process**

- 6.1. The Commission may issue guidelines to guide the Distribution Licensee in execution of the following activities
  - i. Load and market research
  - ii. Implementation of DSM programs
  - iii. Cost Effectiveness Assessment of DSM programs
  - iv. Monitoring and Reporting of DSM Plans and programs
  - v. Eligibility criteria for DSM programs
  - vi. Methodology for setting DSM targets and funding levels
  - vii. Database development framework
- 6.2. The Commission may issue guidelines on these matters from time to time
- 6.3. Issuance of such guidelines shall not be a pre-requisite for preparation and submission of the DSM plan by the Distribution Licensee

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

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

- 7.1. Every Distribution Licensee shall, constitute DSM Cell within one month from the date of these regulations
- 7.2. The DSM Cell so constituted shall be provided with necessary authority and resources so as to execute the functions assigned to it under these Regulations
- 7.3. The DSM Cell shall be responsible for:
  - i. Load research and development of baseline data
  - ii. Formulation of DSM Plan
  - iii. Design and development of DSM projects including cost benefit analysis, plans for implementation, monitoring & reporting and for measurement & verification
  - iv. Seeking necessary approvals to DSM Plan and individual programs
  - v. Implementation of DSM programs
  - vi. Any other additional function that may be assigned by the Commission from time to time

### **Chapter IV: DSM Process**

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

- 8.1. Distribution Licensee shall undertake load research to identify the target

consumer segment/s and end uses for DSM programs to build the necessary database

- 8.2. 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.
- 8.3. On the basis of the results of load and market research, the Distribution Licensee shall develop baseline data for its area of supply.
- 8.4. Distribution Licensee shall design, develop and implement the initial few DSM programs 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 programs by the Distribution Licensees.

## **9. Formulation of DSM Plan**

- 9.1. Distribution Licensee shall formulate and submit to the Commission a perspective DSM Plan covering period of the control period, within one year of the date of these regulations. The Plan shall include
  - i. An overall goal for DSM Plan
  - ii. Description of DSM programs to form a part of DSM Plan
  - iii. Implementation process and schedule of each program in the plan as a whole
  - iv. Plan for Monitoring and Reporting
  - v. Indicative cost effectiveness assessment of programs

Notwithstanding above, the first DSM Plan shall be prepared within one year from the date of these Regulations and shall be for the period till the end of ongoing Tariff Control Period.

- 9.2. The Distribution Licensee shall include all relevant DSM programmes (including multi-state programs) developed by Bureau in its perspective plan as and when such programs are announced by Bureau.
- 9.3. 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.
- 9.4. Selection and prioritisation of various DSM programs in the DSM Plan shall be guided by the following factors:
  - i. The Cost effectiveness
  - ii. DSM Objectives
  - iii. National level efforts adopted by the Bureau
  - iv. Potential for creation of awareness within consumers

## **10. Commission review and approval of DSM plan**

- 10.1. Distribution Licensee shall submit the DSM Plan to the Commission for approval at least six months before the start date of the next Tariff control period.
- 10.2. The Commission may adopt procedures as specified in the Conduct of Business Regulations for according approval to the DSM Plan

## **11. Preparation of DSM Program Document**

- 11.1. For each DSM program included in the DSM Plan, a detailed description

shall be provided in a separate Program Document. The description shall include general information, technology, schedule for deployment, budget, cost effectiveness assessment, detailed implementation plan, estimation of savings, etc.

11.2. For each DSM program cost benefit analysis shall be carried out.

## **12. Approval of DSM Program Document**

12.1. Prior to implementing any DSM program, Distribution Licensee must obtain approval of the Commission.

12.2. Each Program Document shall include the following:

- i. Description of the program;
- ii. Objectives and rationale for the program;
- iii. Consumer segments and estimated level of participation;
- iv. Estimate of baseline;
- v. Assessment of program in line with Cost Effectiveness Guidelines issued by the Commission
- vi. Mechanism for recovery of cost and performance incentives;
- vii. Marketing, delivery strategy and Implementation schedule;
- viii. Implementation mechanism e.g. Energy Service Companies, DSM Bidding, DSM Resource Acquisition, etc.
- ix. Monitoring and evaluation plan;
- x. Plan for Training/Seminars/Workshops to increase consumer awareness

12.3. The Commission shall approve a DSM program if it is in line with the Objectives set out in the Regulations. The Commission may direct

modifications to proposed or on-going programs to ensure consistency with the DSM Objectives. However, the Commission shall allow Distribution Licensee adequate time to notify consumers of program modification.

### **13. Implementation of DSM programs**

- 13.1. Distribution Licensee shall undertake effective implementation of DSM programs
- 13.2. The implementation of the program shall be undertaken in the manner as approved by the Commission
- 13.3. Distribution Licensee shall undertake implementation of quick gain DSM programs
- 13.4. 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

### **14. Mechanism for Cost Recovery**

- 14.1. Distribution Licensee shall identify the net incremental costs, if any, associated with planning, design and implementation of programs
- 14.2. Distribution Licensee may propose methodology for recovery of net incremental costs through tariff or any other mechanism
- 14.3. In order to qualify for cost recovery, each program must be
  - i. Approved prior to implementation

- ii. Implemented in accordance with the approved program plan and
- iii. Implemented cost effectively

14.4. The Commission may direct the Distribution Licensee to undertake DSM programs that may not be cost effective but is highly beneficial to the society. The Commission may make available resources for such project.

#### **15. Monitoring and reporting of DSM Programs**

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

#### **16. Evaluation Measurement and Verification of DSM Program**

16.1. Distribution Licensee shall prepare plan for evaluation, measurement and verification of savings from DSM programs.

16.2. Third party Evaluation Measurement and Verification of DSM programs may be undertaken by the Distribution Licensee with the approval of the Commission.

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

16.3. Distribution Licensee shall make available necessary information/data to the third party to measure and verify the savings from DSM programs.

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

17. Reports on progress of DSM Plan and expenses incurred on implementation of DSM Plan shall be submitted by the Distribution Licensee every six months.

18. 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 program.
19. The Report shall cover the program expenses, achievements, outcomes and outputs, constraints and difficulties faced, conclusions, recommendations, lessons learned and way forward.

#### **Chapter VI: Incentives**

20. The Commission may provide incentives to Distribution Utilities for achieving DSM Objectives as identified in the Regulations. The Distribution utilities may provide incentives to the Consumers with the approval of the Commission to promote DSM activities.

#### **Chapter VII: Miscellaneous**

21. The Commission has made the Regulations vide order dated 25.3.2014 which shall come into effect from 4<sup>th</sup> April, 2014. The order has been annexed with these Regulations.
22. The Commission may, at any time add, vary, alter, modify or amend any provisions of these regulations.
23. 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



24. The Commission may, from time to time, issue orders, practice directions and guidelines in regard to the specific objectives, targets, DSM Cells, Review/Approval and procedures to be followed for implementation of these regulations.
25. 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 Commission

(A. K. Srivastava)  
Secretary