

Draft DERC (Demand Side Management Implementation Framework) Regulations, 2012

February 2012

DELHI ELECTRICITY REGULATORY COMMISSION

Delhi Electricity Regulatory Commission (Demand Side Management Implementation Framework) Regulations, 2012

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Delhi Electricity Regulatory Commission (Demand Side Management Implementation Framework) Regulations, 2012

No. DERC / F.17()/2011-12/_____ - In exercise of the powers conferred by sub-section (1) of Section 181 and clause (zp) of sub-section (2) of Section 181 & Section 23 of the Electricity Act, 2003, and all other powers enabling it in this behalf, the Delhi Electricity Regulatory Commission hereby makes the following Regulations, providing for Demand Side Management implementation framework to be followed by distribution licensees and for matters in connection therewith and incidental and ancillary thereto.

1. Short Title, Applicability, Commencement and Interpretation

- 1.1 These Regulations may be called the "Delhi Electricity Regulatory Commission (Demand Side Management Implementation Framework) Regulations, 2012".
- 1.2. These Regulations extend to the whole of the State of Delhi.
- 1.3. These Regulations shall come into force from the date of their publication in the Official Gazette.
- 1.4 These Regulations shall be construed harmoniously with the Delhi Electricity Regulatory Commission (Terms and Conditions of Wheeling Tariff & Retail Supply Tariff) Regulations, 2011 & Delhi Electricity Regulatory Commission (Terms & Conditions for Determination of Transmission Tariff) Regulations, 2011 as amended from time to time.

2. Definitions

- 2.1 In these Regulations, unless the context otherwise requires:
 - (a) "**Act**" means the Electricity Act, 2003 (36 of 2003) as amended from time to time;
 - (b) "**Avoided Costs**" means the incremental costs avoided by the distribution licensee when it purchases power because of implementation of DSM programmes, or otherwise defers or avoids distribution related costs from existing/new distribution system upgrade investments;

- (c) **"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"
- (d) **"Bureau"** means the Bureau of Energy Efficiency established under sub-section (1) of Section 2 of The Energy Conservation Act, 2001
- (e) **"Commission"** means the Delhi Electricity Regulatory Commission constituted under sub-section (1) of Section 82 of the Act.
- (c) **"Cost Effectiveness"** means an indicator of the relative performance or economic 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 and as defined in "Delhi Electricity Regulatory Commission (Demand Side Management Measures and Programmes' Cost Effectiveness Assessment) Regulations, 2012";
- (d) **"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.
- (d) **"Demand-Side Resource"** means a saving in consumption (kWh) and/or demand (kW/KVA) available as a result of implementation of DSM programme, to be expressed in three important dimensions: Quantum – as to how much is available (kWh and/or kW); Time – as to when is it available (at what time of day, on what days, in what season); and the Cost – as at what would be the cost
- (e) **"Distribution Licensee"** shall have the meaning ascribed thereto in the Act
- (f) **"DSM"** means Demand Side Management;
- (g) **"DSM Consultation Committee"** means a Committee set up under the convenorship of Secretary DERC to facilitate DSM programme approval process for the Commission as detailed under Regulation 7 of these Regulations.
- (h) **"Energy Efficiency"** means activities or programmes that stimulate customers to reduce customer energy use by making investments in more efficient equipment or control that reduce energy use while

maintaining a comparable level of service as perceived by the customer.

- (i) **“Evaluation, Measurement and Verification (EM&V)”** means activities which evaluate, monitor, measure and verify performance or other aspects of DSM / energy efficiency programmes or their market environment;
- (j) **“Life”** means an estimate of the median number of years that the DSM measures installed under the programme are still in place and operable;
- (k) **Load Management:** Programmes that reduce or shift peak demand away from periods of high cost electricity to non-peak or lower cost time periods, with a neutral effect on or negligible increase in electric use. Such programs shall also cover Demand Response programs
- (l) **“Load Research”** means an activity embracing the measurement and study of the characteristics of electric loads to provide a thorough and reliable knowledge of trends, and general behaviour of the load characteristics of the customers serviced by the electrical industry;

2.2 Words and expressions used herein and not defined shall have the meanings assigned to them in the Act or the rules or regulations made there under.

3. Basic Principles

- a) 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.
- b) Distribution Licensees may recover all justifiable costs incurred by them in any DSM related activity, including planning, designing, implementing, monitoring and evaluating DSM programmes, by adding these costs to their Annual Revenue Requirement to enable their funding through tariff or by implementing programmes at the Consumers’ premises that would attract appropriate Return on Investment. All such DSM related activity/ programmes undertaken by the Distribution Licensees –

- (i) will need to be cost effective for the consumers' of the Distribution Licensees as well as to the Distribution Licensees themselves;
 - (ii) shall protect the interest of consumers and be implemented in an equitable manner;
 - (iii) result in overall tariff reductions for all the consumers of the licensees.
- c) Distribution Licensees shall be guided by these regulations –
- (i) while planning and submitting long-term power procurement plan to the Commission as part of their application seeking determination of tariff;
 - (ii) while submitting to the Commission the measures proposed to be implemented by them as regards load management, energy conservation and energy efficiency;
 - (iii) while submitting to the Commission the impact on energy and demand, together with the cost-benefit analysis.
- d) Distribution Licensees shall be guided by the DERC (Demand side Management Measures and Programme's Cost Effectiveness Assessment) Regulations, 2012 while carrying out cost-effectiveness.

4. DSM Guiding Principles

The duties of the Distribution Licensees shall be as follows:-

- a) Distribution Licensees shall implement quick acting DSM programmes that provide long-term savings;
- b) Distribution Licensees shall propose and implement programmes bringing in energy-efficiency in the premises used for the following purposes - commercial, public-sector, residential, municipal, and industrial use;
- c) Distribution Licensees shall implement programmes that help reduce peak demand peak shifting and associated costly power purchase, specifically in the urban centres. Such programmes shall also include Demand Response initiatives involving consumers agreeing to modulate their load shapes through a contract with the licensee.

- d) Distribution Licensees formulate DSM programme designs that provide sustainable benefits (market transformation), and which particularly :-
 - (i) enhances consumer interest and inclination in adopting load management and energy efficiency, i.e., not only removes perceived barriers but goes beyond and motivates consumers to adopt energy efficiency;
 - (ii) enhances the interest and the willingness of the intermediaries such as the banks to lend for energy efficiency measures, and
 - (iii) enhances emergence or development of sustainable energy delivery entities.

- e) Distribution Licensees shall implement programmes that are:
 - (i) cost effective for total resources;
 - (ii) do not put undue burden on non-participants (those who do not participate in the DSM programmes) and participants (those who participate in the DSM programmes);
 - (iii) directly or indirectly benefit the consumers in all segments from the programmes.

- (f) Distribution Licensees shall design, develop and implement DSM programmes that supplement national level efforts, specifically those promoted by the Bureau of Energy Efficiency (BEE).
- (g) The DSM programme portfolio of Distribution Licensees will be designed on the basis of "market driven" approach to DSM portfolio selection.
- (h) DSM programme development, design and implementation shall be carried out in consultation with the stakeholders in the State to ensure pragmatic implementation of programmes and also to ensure consumer awareness and education.
- (i) DSM Consultation Committee set up under the Regulations shall be the nodal agency to drive the programme implementation under these regulations, and shall recommend DSM Programme to the Commission for approval.

5. DSM Programmes Eligibility Criteria

A DSM programme shall be eligible if in the opinion of the Commission the said programme meets with the DSM guiding principles specified in Regulation 4 of these Regulations.

6. Assessment of technical potential for DSM

- a) 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.

Notwithstanding above provision, the first assessment of technical potential for DSM shall be carried out within six months of the notification of these Regulations.

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

7. Development and Submission of DSM Portfolio and Plans

- a) Distribution Licensees shall submit its DSM Plans based on Load Research activities and submit the findings to the Commission and the resulting propositions to implement DSM Programmes to be aggregated as "DSM Plans".
- b) Distribution Licensees shall specify DSM targets and submit DSM plan based on multi-year planning horizon.
- c) The term of the DSM plan shall correspond with the Multi-year Tariff term.
- d) Distribution Licensees shall submit Multi-year DSM plans along-with the multi-year tariff filing.

8. DSM Targets

- a) The Commission shall establish DSM targets for each Distribution Licensee in the State.
- b) While setting DSM target for the Distribution Licensee, the Commission will give due consideration to factors such as consumer mix, load profile, etc.
- c) Examples of DSM targets may include the following:
Percentage reductions in load growth;
Savings in kWh;

- Savings as a percent of total resources to meet load;
- d) While establishing the targets, the Commission shall consider the technical potential in the State as assessed by the Distribution Licensee.

Provided that till the time the multi-year tariff filings are made, Distribution Licensees shall submit DSM plans as one-year targets and reconcile those as Multi-year plans when the multi-year tariff filings are made.

- e) DSM Plan shall contain prioritisation and implementation schedule for each DSM programme in the Plan, which shall form the basis for deriving aggregated year wise schedules for funds requirement, and DSM plan achievements in terms of savings or shifting/reduction of peak load.
- f) The aggregated year-wise funds requirement and proposed achievements shall be used as annual DSM budgets and annual targets, respectively.
- g) At the beginning of the multi-year planning cycle, the Commission shall accord approval to the DSM Plan, based on the Cost-effectiveness of the individual programmes and portfolio.

9. Formulation of DSM Plan

- a) Distribution Licensee shall formulate and submit to the Commission a perspective DSM Plan covering period of the control period, within one year of notification of these regulations. The Plan shall include
- (i) An overall goal for DSM Plan
 - (ii) Description of DSM programmes to form a part of DSM Plan
 - (iii) Implementation process and schedule of each programme in the plan as a whole
 - (iv) Plan for Monitoring and Reporting
 - (v) 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.

- b) 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.
 - (i) 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.
- c) Selection and prioritisation of various DSM programmes in the DSM Plan shall be guided by the following factors:
 - (i) The cost effectiveness guidelines issued by the Commission
 - (ii) DSM Objectives identified in Regulation 3
 - (iii) Whether the proposed programmes supplement National level efforts adopted by the Bureau
 - (iv) Programmes with high visibility and therefore potential for creation of awareness within consumers

10. DSM Cell

- a) Every Distribution Licensee shall, constitute DSM Cell within one month of adoption of these regulations
- b) 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
- c) 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 programmes
 - (v) Implementation of DSM programmes
 - (vi) Any other additional function that may be assigned by the Commission from time to time
- d) Distribution licensees shall nominate a nodal officer with whom the DSM Consultation Committee can interact with. The Role, Objective, Functions and Constitution of DSM-CC shall be as per Annexure-1.
- e) Any other activities suggested by the DSM-CC or as directed by the Commission.

11. DSM Funding

11.1 Without prejudice to the generality of Regulation 3.2, the following provisions shall apply:-

- a) Funding of all the DSM programmes and plans to be implemented by the Distribution Licensees shall be included in the Annual Revenue Requirements (ARR).
- b) Distribution Licensees 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.
- c) Since the DSM costs are being recovered through tariffs, only those DSM activities that adhere to the Regulations related to Cost Effectiveness Assessment shall be implemented by the Distribution Licensees.
- d) The Commission may direct the Distribution Licensees 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.
- e) Distribution Licensees 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.

- f) The Commission may provide incentives to Distribution Utilities for achieving or exceeding DSM Objectives as identified in Section 3 of the Regulations.”

11.2 **DSM Budget**

- (a) Without prejudice to the generality of Regulation 6, the following provisions shall apply:-
- (i) Distribution Licensees 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.
 - (ii) The budget shall be spent only after approval of aggregated DSM Plans and/or individual DSM Programmes by the DSM Consultation Committee.
 - (iii) DSM implementation plan and associated budgets shall be substantiated with the prioritization of the possible programmes within the license area.
 - (iv) 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.
- (b) Distribution Licensees shall submit year-wise schedule of DSM plan implementation and corresponding budget allocations relevant to the savings or shifting/reduction of peak load.
- (c) The aggregated year wise funds requirement and achievements shall be the annual DSM budgets and annual DSM targets, respectively.
- (d) These annual DSM budgets and targets, determined and approved at the beginning of the planning cycle shall be revisited during the Annual Performance Review.

- (e) The DSM Consultation Committee may take special account of measures taken by Distribution Licensees 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.

11.3 Funding for DSM activities other than DSM plan implementation

Distribution licenses 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.

11.4 Allocation of funds for consumer awareness, audits and equity considerations

Distribution Licensees 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.

DSM Programmes that:

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)

12. DSM Programme, Portfolio and Annual Workplan and its Approval Process

- (a) Distribution Licensees shall follow the aforementioned contents for key documents in **Annexure 2** submitted for approval of the Commission.
- (b) Approval process shall come in to effect coinciding with the multi-year tariff setting process.
- (c) During the interim period, Commission shall accord approvals for all pilot and regular programmes through the process mentioned in these regulations; based on the recommendations by the DSM-CC.
- (d) **DSM plan document**
Distribution licensees in the State shall prepare a multi-year DSM plan and submit it for the approval of the Commission and in this regard shall be guided by the general elements that the DSM Plan document shall be required to contain and as provided in **Annexure 3** to these Regulations

13. DSM plan approval process

- The following elements shall guide in the approval process by the Commission for the DSM Plan:
- (a) The term of the plan shall coincide with the corresponding five year multi-year Tariff term
 - (b) The DSM Plan shall be submitted to the Commission coincident with the submission of Capital Expenditure Plans submitted by the distribution licensee.
 - (c) The distribution licensee shall submit the Plan in both, hard copy version (Three copies) and soft copy version.
 - (d) DSM-CC shall hold meetings for programme review and seek any inputs required from the distribution licensee.
 - (e) Any specific observations and required revisions shall be conveyed to the distribution licensee. Thereafter the licensee, after addressing all the comments contained in the communication of DSM-CC shall re-submit the revised DSM Plan to the DSM-CC within time stipulated in the DSM-CC communication.
 - (f) DSM-CC shall drive the process related to approval of pilot programmes and all approvals sought by the distribution licensee till such time that a multi-year tariff setting process does not come in to force.

14. Commission review and approval of DSM Plan

- a) Distribution Licensee shall submit the DSM Plan approved by the DSM-CC to the Commission for approval at least six months before the start date of the next MYT period.
- b) The Commission may adopt procedures as specified in the Conduct of Business Regulations for according approval to the DSM Plan.

15. Evaluation, Measurement & Verification (EM&V)

- a) Distribution Licensees shall be guided by the DERC (Evaluation, Measurement & Verification) Regulations
- b) Notwithstanding the above, till such time that such DERC (Evaluation, Measurement & Verification) Regulations come into force, the DSM programmes implemented by the Distribution Licensees shall be evaluated based on measurement & verification protocols submitted in the individual programmes or aggregated plans and validated by the DSM-CC.
- c) The Commission may empanel Independent Verification Contractors (IVC) to carry out the Evaluation, Measurement & Verification plans.
- d) The Distribution Licensees shall appoint the empanelled IVCs to carry out the EM&V plans.
- e) The Commission may decide to carry out EM&V activity for individual programme(s) or entire plans by directly appointing empanelled IVCs.

16. Monitoring & Reporting

- a) Distribution Licensees shall submit quarterly and annual DSM monitoring plans to the Commission.
- b) The evaluation methodology shall be governed by the DERC (Evaluation, Measurement & Verification) Regulations.
- c) Notwithstanding the above, till such time that such DERC (Evaluation, Measurement & Verification) Regulations come into force, the distribution licensee shall submit monthly and quarterly monitoring reports to the Commission for all pilot-phase and large-scale DSM programmes based on the proposed monitoring plans embedded in the programme/plan designs.

17. End of DSM Programme Completion Report

- a) At the completion of the programme, the Distribution Licensees shall prepare a detailed programme completion report and submit it to the Commission within one month of the completion of the programme.
- b) The completion report, apart from providing information on the actual amount expended on the programme, shall also cover, programme accomplishments in terms of achievement of results, outcomes and outputs; constraints/difficulties faced, if any; conclusions, recommendations, lessons learnt; regulatory support needed, if any; and future steps envisaged.

18. Miscellaneous

(a) Power to Amend - The Commission may, at any time add, vary, alter, modify or amend any provisions of these regulations.

(b) Power to Remove Difficulties

If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission may by general or special order, take suitable action, not being inconsistent with the Act, which appears to the Commission to be necessary or expedient for the purpose of removing difficulties.

(c) Issue of Order and Practice Directions

Subject to the provisions of the Act, the Commission may from time to time issue guidelines, orders, circulars and practice directions in regard to the implementation of these Regulations.

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

Annexure 1: Role / Objectives, Functions & Constitution of DSM Consultation Committee (DSM-CC)

(1) A DSM Consultation Committee (DSM-CC) shall be appointed by the Commission consisting of the following members:-

- a) Director (Tariff) of the Commission to act as the Convenor;
- b) One representatives each from the Distribution Licensees in the State of NCT of Delhi;
- c) One representative each from GoNCTD & BEE.
- d) Representatives of educational and research institutions
- e) Consumer representatives authorized on a standing basis under Section 94 of the Act.
- f) Other independent external members from the industry and government departments as nominated by the Commission and who, in the opinion of the Commission, have special knowledge or experience of power sector.

(2) The objectives and functions of the DSM Consultation Committee shall be to:

- a) Assist the Commission in DSM programme implementation and DSM Plan evaluation;
- b) Advise the Distribution Licensees on conducting perpetual Load Research to seek in-formation on end-use technologies, usage patterns, willingness to pay, perception studies and impacts of already implemented DSM programmes;
- c) Promote cross-learning among the Distribution Licensees and other stakeholders to design appropriate DSM programmes and plans;
- d) Undertake or direct research and analysis work related to:
 - (i) Development of database and centralized information system
 - (ii) Development of guidelines/regulations resulting in facilitation of DSM programme implementation;

- (iii) DSM and demand response potential studies;
 - (iv) Development of innovative Tariff offerings to promote DSM.
- e) Review DSM programme, portfolio and DSM Plans submitted by the distribution licensee;
- f) Review common programmes across Distribution Licensees (common procurement common specifications for equipment/technology);
- g) Oversee activities of the Distribution Licensees related to DSM Plan preparation and DSM Programme Design;
- h) Create avenues for training/capacity building within Distribution Licensees;
- i) Assist in maintaining centralized information system and data base;
- j) Drive market research and consumer surveys that would be useful for the Distribution Licensees to design DSM Programmes and Plans;
- k) Provide assistance to the Commission to institute DSM Plan/programme monitoring and EM&V as and when required;
- l) Act as a platform for:
 - (i) Sharing of experience with respect to the entire DSM implementation cycle, comprising creating knowledge-base among the employees of licensee, DSM Plan preparation, Load Research, Integrated Resource Planning (IRP), DSM programme design, implementation, monitoring, review and evaluation;
 - (ii) Interaction and coordination with the Commission and knowledge partners;
 - (iii) Sharing of experience with respect to DSM technology development;
 - (iv) Joint interaction with financiers and bankers;
 - (v) Joint development/running of: Awareness campaigns, awareness activities, establishment and running of EC/EE Centres, Joint Organization of Consumer inter-action sessions, Exhibitions, etc.
 - (vi) Development of Case studies, consultant/vendor directories and technology database.

Annexure 2: List of DSM Implementation Actions

Activities to be carried out by the Commission

- Development and issuance of guidelines and regulations for DSM planning, designing and its administration

Activities to be carried out by the Distribution Licensees

- Load research & consumer survey
- Load forecasting at aggregate system level, segment level and end-use level
- Conduct of DSM and Demand Response Potential Studies, also including relationship with Integrated resource planning (IRP) exercises
- Setting short- and long-term DSM targets (e.g., kWh, MW)
- DSM Programmes, Portfolio and Plans preparation, documentation, routine monitoring and Regulatory reporting
- Preparation of Annual work-plan for DSM Programmes, Portfolio and Plans
- Preparation of annual DSM Budgets
- DSM programme level dispute resolution
- Development of DSM related centralised information system and database to aid DSM planning, programme design, cost assumptions, and EM&V
 - Inventory of DSM programmes, costs, achievements, lessons learned
 - DSM measure wise estimation of deemed savings, costs and timing
 - Avoided costs – generation, transmission and distribution
- Research and analysis in support of DSM plans
- Any other items that may be deemed important by the Commission to support DSM activities in the State

Annexure 3: Elements of DSM Plan Document

DSM Plan Document to be submitted by the Distribution Licensees for the approval of the Commission shall be required to include the following general elements:

- 1. Executive summary:** Provide here an overview of the Plan, including the DSM target for the Plan period; total funding envisaged for the Plan period with a break up of funds for programmes and funds for administration and management of DSM effort by the licensee, listing and brief description of the DSM programmes proposed to be implemented for meeting the DSM targets set by the Commission; Plan level and individual DSM programme level cost effectiveness, including impact on consumer tariffs; qualitative and/or quantitative contribution of the Plan towards Commission's key policy objectives; year wise break up of achievement of targets and funds requirement; major assumptions and risks
- 2. Introduction:** Discuss here the achievements during the past Multi-year plan, including what targets were set, to what extent were they/are they achieved/ likely to be achieved and the reasons and explanations if the targets set have not been achieved; to what extent and how effectively the funds earmarked have been used; what were the major constraints faced in the implementation of various programmes; what lessons have been learned
- 3. Characteristics of Distribution Licensee System:** Present here time series (past 2 to 5 years) information about Power situation in general, including demand met, load shedding, if any; the consumer base of the licensee – total number of consumers, consumers by rate category; Total consumption and break-up of the same by consumer and rate category; Source wise energy purchase and the average rate of purchase of power; Load duration curve, peak load by season, typical average daily, seasonal and weekly load curves; Forecast of demand, energy requirement, sales and revenue requirement over the next five years (Plan period), including elaboration of methodology used, data used, statement of underlying assumptions used and basis for the assumptions, sensitivity analysis carried

out and changes in assumptions and other conditions assumed for carrying out sensitivity analysis

4. **DSM Plan targets and the resource availability estimates:** Discuss here the proposed DSM targets and the resource requirements for meeting the targets
5. **Identification of sectors, segments and end-uses for the achievement of targets:** Discuss here what sectors (domestic, commercial, industrial, agriculture, municipal), segments (consumer category, such as – offices, hospitals, hotels, malls, banks, industrial cluster -MIDC industrial estate, geographical area, street lighting, grampanchayat water supply systems, specific feeders, etc.) and end-uses (lighting, pumping, heating, space cooling, air-conditioning, etc.) you intend to target for the achievement of the targets and justification for choosing these sectors, segments and end-uses
6. **Identification of DSM measures/technology options/programmes/portfolio/plans to achieve DSM targets:** Discuss here the process (including justification) that has been used for identification of DSM measures and technologies (within the identified sectors, segments and end-uses) that you intend to target for achievement of the targets. Also discuss here the DSM measures and technologies that were considered but were finally rejected and reasons for their rejection, including screening criteria used, if any, assumptions used, if any, basis for the assumptions, etc.
7. **Individual Programme Description:** For each of the DSM programme included in the final identified portfolio of DSM programmes, provide information highlighted in **Annexure 4**.
8. **Annual and cumulative achievements:** Present here annual contribution that will come forth from various DSM programmes in the final identified portfolio (to ensure that the Plan cumulative targets are met).
9. **Administration and management of DSM implementation by the distribution licensee:** Discuss here the proposed organisation for the administration and management of the DSM effort over the Multi-year Plan period, in terms of capacity building for employees, load research and potential studies, and all other requirements to implement DSM Programmes, Portfolio and Plans.

10. **Funds Requirement and Financing:** Present here the year wise (for each of the multi-years of the Plan period) funds requirement for the total Plan covering programme implementation and management costs and financing plan.
11. **DSM Plan EM&V:** Describe here the EM&V Plan for the DSM Plan. The EM&V Plan to be included here will be guided by the EM&V regulations of the Commission
12. **DSM Plan monitoring and reporting:** Describe here the monitoring and reporting Plan (frequency, minimum content, format, indicators and means of verification chosen).
13. **Implementation Plan:** Present here the schedule of implementation of different elements of the programmes, portfolio and plan; also qualifying the same with submission of activity charts.

Annexure 4: Elements of DSM Programme Document

The Programme Document should act as a reference document for the licensee and all stakeholders. It will have information on the consumer segments where identified DSM measures are to be implemented. It will also have information on incentives and features of consumer/vendor interface, delivery options, institutional relationships, detailed programme implementation plan with time lines and implementation responsibilities. The Programme Document shall include the following elements.

1. Programme description:

- a. Description of DSM measure & technologies, the programme is intending to implement, including Listing of brands and manufacturers/vendors that will be eligible for inclusion in the DSM programme, relevant pricing, quality assurance and replacement/guarantee policy
- b. Consumer segments the programme is targeting including eligibility criteria to be used for identification of potential consumers within the identified target segment
- c. Other stakeholders (financiers, energy services companies, equipment vendors, consultants, energy auditors, trade associations, groups of persons, NGOs, academic institutions, government organisations) involved in the implementation process, description of their roles and responsibilities and manner of participation
- d. Barriers the programme is addressing
- e. Strategy the programme proposes to use, including proposed incentives, if any, strategies to motivate consumers and other stakeholders to participate in the programme, description of payment and collection mechanism and equipment/appliance/service delivery mechanism
- f. Description of Programme management and implementation arrangements, including description of institutional relationships and internal programme tracking systems to be followed by the licensees.

2. EM&V, monitoring & reporting:

The section will describe EM&V and monitoring and reporting plans

- a. Description of base line calculation and description of monitoring and verification methodology
- b. Description of DSM programme monitoring, review and impact (in terms of programme participation, in terms of increases in penetration level of efficient devices and technologies, and in terms of load reduction/energy savings) analysis system/mechanism – who will monitor, what will be monitored, how will be monitored, who will verify, how frequently will be monitored, who will prepare monitoring/progress reports, etc.

3. Detailed Implementation Plan

- a. This section will describe if the programme will have any phases (e.g. demonstration/pilot etc.).
 - b. The section will also have description of main activities, and indication about their sequencing and interdependence. For each main activity, the section will also provide description of who will be responsible for the activity and when will the activity be performed.
4. **Estimate of annual and cumulative savings** due to the programme with all the assumptions used in savings estimation process, including base line considered
 5. **Annual programme funding requirements.** This section will have description of financing arrangement, including share of distribution licensee, vendors, consumers, retailers, State government, Central government, etc
 6. **Cost effectiveness calculation details**, including programme costs and benefits, impact on consumer tariffs, with explicit description of all the input values considered and all the assumptions used in cost effectiveness calculations and for input values
 7. **Dispute Resolution Mechanism:** Appropriate mechanism to be followed for resolution of disputes arising during programme implementation stage. Statement of how the distribution licensee will resolve concerns and issues that the distribution licensee may have as regards the manner in which the programme is being implemented

Secretary
Delhi Electricity Regulatory Commission