HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS NO. 33-36, SECTOR – 4, PANCHKULA – 134113, HARYANA

Haryana Electricity Regulatory Commission – Guidelines on Cost Effectiveness Assessment of Demand Side Management Programmes, 2016

Notification

The 28th July, 2016

No. HERC/36/ 2016: - In exercise of the powers conferred on it by Haryana Electricity Regulatory Commission (Demand Side Management), Regulations, 2014, under Regulations 6.1 (iii), the Haryana Electricity Regulatory Commission hereby issues the Guidelines for Cost Effectiveness Assessment of Demand Side Management Programmes, providing methods and principles for assessing cost effectiveness of DSM programmes and charges recoverable by the Distribution Licensee in connection therewith and for matters incidental and ancillary thereto.

1.1 SHORT TITLE, COMMENCEMENT, EXTENT OF APPLICATION AND INTERPRETATION

(1) These Guidelines may be called the ***"Haryana Electricity Regulatory Commission (Cost Effectiveness Assessment of DSM Programmes) Guidelines, 2016".***

(2) These Guidelines are to be followed by Distribution Licensees in the State of Haryana as provided in their respective licences:-

(a) While formulating the DSM Plan pursuant to Regulation 10.1 (v) of the Haryana Electricity Regulatory Commission (Demand Side Management) Regulations, 2014;

(b) While selection and prioritisation of various DSM programmes in the DSM plan pursuant to Regulation 10.4 (i) of the Haryana Electricity Regulatory Commission (Demand Side Management) Regulations, 2014;

(c) While preparing Programme Document, for each DSM programme included in the DSM Plan pursuant to Regulations 12.1 and 12.2 and Regulations 20.2 of the Haryana Electricity Regulatory Commission (Demand Side Management), Regulations, 2014.

(3) These Guidelines shall come into force on the date of publication of the same and shall remain in force till such time it is modified by the respective Regulations. Any modifications in the assessment methodology, as and when required, can be incorporated in the subsequent version of the Guidelines.

1.2 DEFIITIONS

(a) In these Guidelines, unless the context otherwise requires:-

(a) "**Act**" means the Electricity Act, 2003 (36 of 2003);

(b) "**Bureau**" means the Bureau of Energy Efficiency established under subsection (1) of Section 2 of the Energy Conservation Act, 2001;

(c) **"Benefit/Cost ratio"** means the sum of the present value of the benefits from an investment divided by the sum of the present value of the costs of the investments;

(d) **"Commission**" means the Haryana Electricity Regulatory Commission;

(e) "**Cost Effectiveness Index**" shall have the same meaning as defined in Clause (3) of Regulation 20 of Haryana Electricity Regulatory Commission (Demand Side Management) Regulations, 2014;

(f) **"Cost of Conserved Energy"** shall have the same meaning as defined in Clause (4) of Regulation 20 of Haryana Electricity Regulatory Commission (Demand Side Management) Regulations, 2014;

(g) **"Capital Recovery Factor"** means a factor determining the annualized value of an appliance/equipment equivalent to the initial investment over its life;

(h) **"Demand Side Management (DSM)"** means the actions of a Distribution Licensee, beyond the consumer's meter, with the objective of improving the end-use efficiency 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;

(i) **Discount Rate for Consumers** shall be equivalent to the rate at which State Bank of India would lend to the consumers;

(j) "**Discount Rate for Distribution Licensee"** is equivalent to its "**Weighted Average Cost of Capital".** It is defined as average of the costs of various sources of financing including debt and equity, each of which is weighted by its respective ration in the total capital employed in the project;

(k) **"DSM Measure"** means individual energy efficiency and / or energy conservation installed in the residence or facility of the consumer;

(l) **"DSM Resource Acquisition"** means a mechanism to implement DSM programmes through customers, Energy Service Companies, Non-Government Organizations, manufacturers/suppliers, or other private sector organizations, with payment made to them by the Distribution Licensee normally out of the actual / expected savings from the resultant energy and load reductions except the programmes under 14(5) of Haryana Electricity Regulatory Commission

(Demand Side Management) Regulations, 2014 for which the resources may be provided through the ARR or other sources;

(m) **"Energy Services Company or ESCO"** means a company which is in the business of providing energy efficient and load management equipment, processes and/or services to end use customers and is approved by Bureau;

(n) **"Evaluation, Measurement and Verification"** means activities undertaken to evaluate, monitor, measure and verify the progress, performance or other aspects of DSM/energy efficiency programmes or their market environment;

(o) **"Gross Savings"** means the changes in energy consumption or demand resulting from consumers participation in the DSM project;

(p) **"Marginal Cost of Power Purchase"** shall be equivalent to the weighted average cost of top 10% of actual power procurement by the Distribution Licensee during the previous financial year.

(q) **"Monitoring and Reporting"** means activities undertaken to monitor and evaluate the progress of DSM/energy efficiency programmes of the Distribution Licensee.

(b) All other expressions used herein but not specifically defined in these Regulations but defined in the Act shall have the meaning assigned to them in the Act. The other expressions used herein but not specifically defined in these Regulations or in the Act but defined in the Haryana Electricity Reform Act, 1997 (Act 10 of 1998) shall have the meanings assigned to them in the Haryana Electricity Reform Act, 1997 (Act 10 of 1998) or any law passed by the Parliament/Assembly/any other Regulations including CERC, provided that such definitions are not inconsistent with the provisions of the Electricity Act, 2003.

1.3 RELEVANT PROVISIONS OF HERC (DEMAND SIDE MANAGEMENT), REGULATIONS, 2014

The Demand Side Management Regulations notified by the Haryana Electricity Regulatory Commission require all Distribution Licensees in its service area to undertake cost effectiveness assessment using Cost Effectiveness Assessment Guidelines to be issued by HERC. The relevant provisions of the HERC (Demand Side Management) Regulations, 2014 are reproduced below:-

1) Regulation 6: Guidelines on DSM Process:-

"6.1 The Commission may issue Guidelines from time to time to the Distribution Licensee in execution of the following activities ……(iii) ***Cost Effectiveness Assessment of DSM Programmes";***

2) **Regulation 10: Formulation of DSM Plan:-**

"10.1 Distribution Licensee shall formulate and submit to the Commission a perspective DSM Plan covering period of the DSM control period, within six months of the beginning of every control period. The Plan shall include….. (v) ***Indicative cost effectiveness assessment of programme";***

"10.4 Selection and prioritization of various DSM programmes in the DSM Plan shall be guided by the following factors…….. (i) ***Cost effectiveness Guidelines issued by the Commission";***

3) **Regulation 12: Preparation of DSM Programme Document:-**

"12.1 Prior to implementation of any DSM programme the Distribution Licensee shall prepare and submit to the Commission a portfolio of DSM programme including but not limited to retrofits, new purchases, new building designs, water and energy conservation in agriculture, combined heat and power. The Distribution Licensee may design DSM programme for end uses including air conditioning & refrigeration, heating, water pumping, motors and motor driven systems, lighting, building, industry specific programmes for its domestic, commercial, agriculture, public water works, street lightings, railways and other consumers.

For each DSM programme included in the DSM Plan, a detailed description shall be provided in a separate programme document. The description shall include general information including objectives and rational, technology, schedule for deployment, budget, ***cost effectiveness assessment****, detailed implementation plan including consumer segment and estimated level of participation as well as implementation mechanism i.e. Energy Service Companies, DSM Bidding, DSM Resource Acquisition, estimation of baseline and savings, mechanism of recovery of cost and performance incentive, monitoring and evaluation plan.*

12.2 For each DSM programme cost benefit analysis shall be carried out as per Guidelines issued by the Commission on cost effectiveness from time to time".

4) **Regulation 20: Criteria for Assessment & Approval of DSM Programme:-**

"20.2 Programme Document shall also include ***Cost Effectiveness Assessment*** *of each DSM programme from Distribution Licensee perspective and participating Consumers investing in the DSM programme perspective".*

*"20.3 "****Cost Effectiveness Index" (CEI)*** *shall be used to assess the viability of the DSM programme from the perspective Distribution Licensee. CEI shall be based on financial evaluation technique 'Benefit/Cost ratio' (B/C ratio), which is sum of the present value of the benefits of DSM programme divided by the sum of the present value of the costs associated with the DSM programme. The CEI*

greater than one means that the full cost of an investment will be recovered through the benefits";

"20.4 ***"Cost of Conserved Energy (CCE****)" shall be used to assess the cost effectiveness of DSM programme from the point of view of the Participating Consumers investing in the programme. CCE shall be the annualized incremental cost of investment in efficient option divided by annual energy saved due to adoption of efficient option. If Average Tariff of the target consumer category is greater than CCE, DSM programme is viable from the point of the participating consumers who are also investing in the programme. Average Tariff shall be the average cost of supply of the target consumer category in the year of implementation of the DSM programme."*

"20.5 The Commission shall issue detailed ***Cost Effectiveness Assessment Guidelines*** *defining the criteria for assessment of DSM programme".*

1.4 GENERAL

These Guidelines shall be applicable for approval of costs associated with all DSM activities identified in the DSM process. These Guidelines shall be used to assess only those DSM programmes primarily where significant investments are expected from either Distribution Licensee and/or consumers.

1.5 ASSOCIATED WITH DEMAND SIDE MANAGEMENT PROCESS

Costs are involved at every stage of the DSM process. Costs should be categorised under "Programme Costs" and "General Costs" depending on whether these are directly associated with execution of any particular DSM programme or not.

The "Programme Costs" are defined as the costs incurred to undertake programme related activities such as design, development and implementation of DSM programmes, monitoring and reporting and Evaluation, Measurement & Verification (E, M & V), etc.

The costs associated with other activities such as load and market research, technical potential assessment, design and development of DSM plan and administrative costs that are not specific to any DSM programme are defined as "General Costs".

While "General Costs" are real costs incurred by the Distribution Licensee, there is no direct measurable benefit associated with the same. Hence, Distribution Licensee shall have to perform cost benefit analysis for programme specific costs.

The Distribution Licensee shall categorize all possible costs associated with a DSM programme under the following major cost codes:-

Major Costs	Description
Cost of design, development and implementation of DSM programme (C1)	The costs associated with design, development and implementation of DSM programme involve manpower costs of the Distribution Licensee. The Distribution Licensee may undertake all the activities on its own or may choose to hire a third party contractor/consultant to undertake some of the activities.
Capital Cost (C2)	Many DSM programmes involve replacement of old inefficient appliances or equipment or installation of new efficient appliances or equipment. The costs of purchasing and replacing these appliances/equipment depends on the number of participants in the programme and the price at which they are procured. This cost, which is referred to as Capital Cost may be borne by the Distribution Licensee or consumer or may even be shared between them. Government may also provide subsidy or fiscal incentive such as lower taxes, etc.
Cost of Installations of Efficient Appliances (C3)	DSM measures that involve higher star rated appliances such as air conditioner, chillers, pumping system etc., involve significant installation costs. Similar to capital costs, these costs may be borne by Distribution Licensee or consumers or may be shared between them.
Annual Operation and Maintenance Costs (C4)	The costs pertaining to O&M of appliances/equipment may be borne by the Distribution Licensee or the consumer or may be shared between them.
Monitoring and Reporting (C5)	Distribution Licensee shall undertake monitoring and reporting of DSM programmes as per the HERC (DSM), Regulations, 2014. The costs associated with this activity shall be borne by the Distribution Licensee.
Evaluation, Measurement and Verification Costs (C6)	The costs for providing necessary support to regulatory Commission in carrying out Evaluation, Measurement and Verification shall be borne by the Distribution Licensee.
Communication and Outreach Expenses (C7)	To maximise participation in DSM programme, Distribution Licensee or Government or funding agency, etc. may have to undertake marketing and awareness related activities. The Distribution Licensee or Government or funding agency will have to bear the corresponding expenses.
Third Party Contracting (C8)	DSM programmes where third party is involved for undertaking some of the activities, the Distribution Licensee will have to incur cost of contracting. This cost depends on the mechanism of cost sharing between the Distribution Licensee and the third party.
Safe Disposal Cost (C9)	The cost of old/inefficient equipment's safe disposal may be borne by the Distribution Licensee or the consumer or may be shared between them.

1.6 CATEGORIZATION OF DSM PROGRAMMES

The DSM programmes can be categorised on the basis of the costs incurred by the stakeholders. The cost can be borne completely by the Distribution Licensee or by the consumers or may be shared between them. Further, there could be DSM programmes developed by Central and State Government but implemented by the Distribution Licensee with/without contribution by the consumers. The DSM programmes are categorised in the following five types of categories considering the costs to be incurred by the stakeholders:-

1) **Type 1: DSM Programme Costs to be borne by Distribution Licensee**
2) **Type 2: DSM Programme Costs to be borne by Consumers**
3) **Type 3: Partial sharing of DSM Programme Costs between Distribution Licensee and Consumers;**
4) **Type 4: DSM Programme Costs to be borne by Government/Funding Agency and Distribution Licensee;**
5) **Type 5: DSM Programme Costs to be borne by Government/Funding Agency and Consumers**

1.7 CRITERIA/PARAMETERS FOR ASSESSMENT OF DSM PROGRAMMES

The Distribution Licensee shall submit to the Commission the DSM programme and plan document that pass the Cost Effectiveness Assessment Criteria set-forth under these Guidelines. The programme document shall include Cost Effectiveness Assessment of each DSM programme from Distribution Licensee perspective and Participating Consumers investing in the DSM programme perspective.

1) **<u>Criteria for Assessment of DSM Programme from the Perspective of Distribution Licensee:</u>**

a) **Cost Effectiveness Index (CEI):-**

"Cost Effectiveness Index" (CEI) shall be used to assess the viability of the DSM programme from the perspective of Distribution Licensee. CEI shall be based on 'Benefit/Cost ratio' (B/C ratio), which is sum of the present value of the benefits of DSM programme divided by the sum of the present value of the costs associated with the DSM programme. It is presented in equation form as given below:-

$$Cost\ Effectiveness\ Index = \frac{PVB}{PVC}$$

Where
PVB = present value of benefits
PVC = present value of costs

Here, PVB and PVC are calculated using the following formulae:-

$$PVB = \sum_{k=1}^{n} \frac{B_k}{(1+\mathbf{d_{DL}})^k}$$

$$PVC = \sum_{k=0}^{n} \frac{C_k}{(1+\mathbf{d_{DL}})^k}$$

Where,

Parameter	Definition
B_k	Total benefits in the 'k'th year
C_k	Total costs in 'k'th year
N	Life of the programme
d_{DL}	Discount rate for the Distribution Licensee

Benefits to the Distribution Licensee is calculated by subtracting revenue loss due to lower sales from the benefits to the Distribution Licensee either due to lower power procurement at the marginal cost of procurement or sale of power to other consumer category for the power surplus and deficits scenarios respectively. Net Benefits to the Distribution Licensee in both the scenarios are calculated using the following formulae:-

- ***Net Benefits to Distribution Licensee in Power Deficit Scenario:-***

$$B_k = ES_k \times (T_{avg} - T_{tc})$$

Where,

Parameter	Definition	Example
B_k	Total benefits in the 'k' th year	In power deficit scenario, benefit should be quantified as sale of saved power to other consumer category minus loss of revenue due to lower sales to target consumer category.
ES_k	Energy Saved in the 'k' th year (Units)	Savings in quantum of energy due to implementation of DSM programme
T_{avg}	Average Tariff (considering all consumer categories), Rs./unit	Calculated as total revenue realisation by total energy sales of the Distribution Licensee
T_{tc}	Tariff of Target Consumer Category, Rs./Unit	Revenue realized from the target consumer category in the year of the implementation of the DSM programme

- ***Net Benefits to Distribution Licensee in Power Surplus Scenario:-***

$$B_k = ESk\,x\,\{(PP_{MC} / (1\text{-}TD_k)) - T_{tc}\}$$

Where,

Parameter	Definition	Example
B_k	Benefit in the 'k'th year	In power surplus scenario, benefit should be quantified as reduction in power procurement at the marginal cost minus loss of revenue due to lower sales to target consumer category.
ES_k	Energy Saved in the 'k'th year (Units)	Savings in quantum of energy due to implementation of DSM programme
PP_{MC}	Marginal Cost of Power Purchase	Weighted average cost of top 10% of actual power procurement by the Distribution Licensee during the previous financial year
TD_K	T&D losses in the 'k'th year	Latest value of Transmission and Distribution Losses defined as under: TD_K = (1-(1-Transmission losses)*(1-Distribution losses))
Tt_C	Average Tariff of Target Consumer Category, Rs./Unit	Revenue realized from the target consumer category in the year of the implementation of the DSM programme

The CEI greater than one means that the full cost of an investment will be recovered through the benefits.

b) Demand Versus Supply Side Options:-

This criterion should be used to assess and ensure that proposed DSM programme is cost effective (cheaper alternative) as compared to the supply side options available to the Distribution Licensee. This is based on the principle that total cost incurred for the implementation of DSM programme per unit of energy saved should be lesser than marginal cost of the power purchase by the Distribution Licensee in the year of the implementation of the DSM programme. The formula used for calculating cost of DSM programme per unit of energy saved shall be:-

$$C_{ES} = \frac{\mathbf{PV}(TC_{DSM})}{\sum_{k=0}^{n} ES_K}$$

$$PV(TC_{DSM}) = \sum_{k=0}^{n} \frac{(TC_{DSM})_k}{(1 + \mathbf{d_{DL}})^k}$$

Where,

Parameter	Definition	Example
C_{ESK}	Present Value of total Cost of DSM programme per unit of Energy Saved during the life of programme, Rs./Unit	Total Cost incurred for the implementation of DSM programme in order to save per unit of energy;
TC_{DSM}	Total Cost of DSM programme	It includes all costs such as design and development of programme, purchase and installation of efficient appliance, monitoring and reporting, E, M&V, etc. associated with a particular DSM programme.
N	Life of the Programme	Life of the programme
$\mathbf{ES_k}$	Total Energy Saved during life of Programme (Units)	Savings in quantum of energy due to implementation of DSM programme
d_{DL}	Discount rate for the Distribution Licensee	

2) <u>Criteria for Assessment of DSM Programme from the Perspective of Investing Consumers:-</u>

"Cost of Conserved Energy" (CCE) shall be used to assess the cost effectiveness of DSM programme from the point of view of the participating consumers investing in the programme. CCE shall be the annualised incremental cost of investment in efficient option divided by annual energy saved due to adoption of efficient option. The formula used for calculating cost of conserved energy is:-

$$\mathbf{CCE} = \frac{(\mathbf{PVC_{EE}} \times \mathbf{CRF_{EE}}) - (\mathbf{PVC_{IE}} \times \mathbf{CRF_{IE}})}{\mathbf{Annual\ Energy\ Saved\ in\ kWh}}$$

Where,

$$\boldsymbol{PVC} = \sum_{k=0}^{n} \frac{\boldsymbol{c_k}}{(\mathbf{1} + \mathbf{d_c})^k}$$

$$\mathbf{CRF} = \frac{[\mathbf{d_c}(\mathbf{1} + \mathbf{d_c})^{\mathbf{n}}]}{[(\mathbf{1} + \mathbf{d_c})^{\mathbf{n}} - \mathbf{1}]}$$

The capital recovery factor enables the determination of the annualized value equivalent to the initial investment. The CRF is dependent on the equipment life 'n' and the discount rate 'd'.

Parameter	Definition
PVC_{EE}	Present value of costs of efficient option
PVC_{IE}	Present value of costs of inefficient option
CRF_{EE}	Capital recovery factor for efficient option
CRF_{IE}	Capital recovery factor for inefficient option
c_k	Cost of the option borne by consumer in kth year
N	Life of the option
d_C	Discount rate for the consumer

If Average Tariff of the target consumer category > CCE, DSM programme is viable from the point of the participating consumers who is also investing in the Programme.

Where Average Tariff shall be the average cost of supply of the target consumer category in the year of implementation of the DSM programme.

1.8 CRITERIA FOR APPROVAL OF DSM PROGRAMME COSTS & GENERAL COSTS

1) Criteria for Approval of DSM Programme Costs

The criteria for approval of DSM programme shall depend on the categorisation of the DSM programme. The Distribution Licensee shall place the proposed DSM programmes in one of the five category types specified in section 1.6 of this Guidelines. The criteria for five types of DSM programmes shall be as given below:-

a) Type 1: DSM Programme Costs to be borne by Distribution Licensee

In Type 1 DSM programmes, all the costs related to DSM programme shall be borne by the Distribution Licensee. The Commission shall approve the programme costs for Type 1 DSM programme if:-

- CEI should be greater than one; and
- Total cost of implementation of DSM programme per unit of energy saved should be less than marginal cost of power procurement by the Distribution Licensee in the year of implementation of the DSM programme;

In case limited resources available with the Distribution Licensee, programmes with higher CEI should be given priority over those programmes with lower CEI.

b) Type 2: DSM Programme Costs to be borne by Consumers

In Type 2 DSM programmes, all the costs related to DSM programme shall be borne by the consumers only. The Commission shall approve the programme costs for Type 2 DSM programme if:-

- CCE should be less than average tariff paid by that particular consumer category;
- Total cost of implementation of DSM programme per unit of energy saved should be less than marginal cost of power procurement by the Distribution Licensee in the year of implementation of the DSM programme;

In case of multiple programmes satisfying above criteria and limited resources available with Distribution Licensee, those DSM programmes with bigger difference between CCE and Average Tariff should be given priority.

c) Type 3: Partial Sharing of DSM Programme Costs between Distribution Licensee and Consumers

In Type 3 DSM programmes, all the costs related to DSM programme shall be shared between the Distribution Licensee and consumers. Distribution Licensee shall have to perform all three tests such as CEI, CCE and Demand vs. Supply Side Options to assess the cost effectiveness of the programmes. The Commission shall consider the proposed DSM programme as cost effective and approve the programme costs for Type 3 DSM programme if:-

- Proposed DSM programme shall satisfy all three criteria;
- CEI should be greater than one;
- CCE should be less than average tariff paid by that particular consumer category; and
- Total cost of DSM programme per unit of energy saved should be less than marginal cost of power procurement by the Distribution Licensee in the year of implementation of the DSM programme;

In case of multiple programmes satisfying all criterion and limited resources available with Distribution Licensee, those DSM programmes with bigger difference between CCE and Average Tariff should be given priority.

d) Type 4: DSM Programme Costs to be borne by Government/Funding Agency and Distribution Licensee

In case of Type 4 DSM programmes, all the costs related to DSM programme shall be shared between the Government/funding agency and Distribution Licensee. Also, the regulatory approval shall be required only for the costs proposed to be

incurred by the Distribution Licensee, irrespective of the cost incurred by the Government of any other funding agency. Similar to Type 1 DSM programmes, the Commission shall consider the proposed DSM programme as cost effective and approve the programme costs if:-

- CEI should be greater than one;
- Total cost of DSM programme per unit of energy saved should be less than marginal cost of power procurement by the Distribution Licensee in the year of implementation of the DSM programme;

e) Type 5: DSM Programme Costs to be borne by Government/Funding Agency and Consumers

In case of Type 5 DSM programmes, all the costs related to DSM programme shall be shared between the Government/funding agency and consumers. In case of Type 5 DSM programmes, the regulatory approval shall be required only for the costs proposed to be incurred by the consumer, irrespective of the cost incurred by the Government of any other funding agency. Similar to Type 2 DSM programmes, the Commission shall consider the proposed DSM programme as cost effective and approve the programme costs if:-

- CCE should be less than average tariff paid by that particular consumer category; and
- Total cost of implementation of DSM programme per unit of energy saved should be less than marginal cost of power procurement by the Distribution Licensee in the year of implementation of the DSM programme;

2) <u>Criteria for Approval of General Costs</u>

The Commission shall allocate up to 0.5% of the Annual Revenue Requirement (ARR) as DSM budget every year. This budget shall be available to the Distribution Licensee for recovering both Programme Cost and General Cost. The Commission shall allocate certain percentage of the total DSM budget every year for recovery of General Costs. The General Cost for DSM programmes shall be limited to 10% of total DSM budget, however, the Commission on merits of the case may consider specific programme and relax the limit of General Cost for such specific programme. The Distribution Licensee shall submit the expenditure incurred for general activities through its ARR. The Commission would approve the general costs while approving ARR after application of standard prudency principles.

1.9 CRITERIA FOR INDICATIVE ASSESSMENT OF DSM PROGRAMMES

The Distribution Licensee shall formulate and submit to the Commission a perspective DSM Plan covering period of the DSM control period within six months of the beginning of every control period. The Plan document shall include the indicate cost effectiveness assessment of proposed DSM programmes developed under these Guidelines.

The Distribution Licensee shall use CEI and CCE for indicative assessment of the DSM programmes. The cost effectiveness numbers shall be presented on the basis of design numbers. Distribution Licensee shall provide detailed justification to the Commission based on the technical studies and other studies at the time of DSM programme approval stage.

1.10 REGULATORY PROCESS FOR APPROVAL OF DSM PROGRAMMES

The Commission shall follow these Guidelines for approval of DSM programme Document submitted to it on the basis of the cost effectiveness of the DSM programmes.

The Commission may call for clarification, additional information and data as necessary. The Distribution Licensee shall furnish any additional information within fifteen days or with such longer period as the Commission may allow which shall in no case be more than two months from the date of first submission. The Commission shall evaluate revised Programme Document submitted by the Distribution Licensee and accord approval to the Programme Document after taking into consideration clarifications/additional information provided by the Distribution Licensee.

1.11 MISCELLANEOUS

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

(a) **Powers to remove difficulty**:- If any difficulty arises in giving effect to the provisions of these Guidelines, 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.

(b) **Powers to give directions**:- The Commission may, from time to time, issue amendments and practice directions as considered appropriate to ensure implementation of the Guidelines and procedures to be followed.

(c) **Powers 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.

(d) All disputes arising under these Guidelines shall be decided by the Commission based on an application made by the person aggrieved in accordance with the HERC (Conduct of Business) Regulations,2004 read with amendment thereof.

By orders of the Commission
-Sd-
Director/Tariff
Haryana Electricity Regulatory Commission

Annexure-I

ACRONYMS

Acronym	Definition
BEE	Bureau of Energy Efficiency
BU	Billion Units
CAGR	Compound Annual Growth Rate
CCE	Cost of Conserved Energy
CEI	Cost Effectiveness Index
Discoms	Distribution Licensees
DSM	Demand Side Management
EA 2003	Electricity Act, 2003
EC	Energy Conservation
ECM	Energy Conservation Measure
EE	Energy Efficiency
E,M&V	Evaluation, Measurement and Verification
FY	Financial Year
GW	Giga Watt
M&V	Monitoring and Verification
M&R	Monitoring and Reporting
O&M	Operation and Maintenance
PVB	Present Value of Benefits
PVC	Present Value of Costs
HERC	Haryana Electricity Regulatory Commission
T&D	Transmission and Distribution
WACC	Weighted Average Cost of Capital