



**Delhi Electricity Regulatory Commission**  
**Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi – 17**

No. F. 11(1594)/DERC/2018-19/6175

**Petition No. 23/2018**

**In the matter of: Scheme for implementation of DSM based Energy Efficient Air-Conditioner program in UT of Delhi under Demand side management programme.**

BSES Yamuna Power Limited

**Through its: CEO**

Shakti Kiran Building,

Karkardooma,

Delhi 110 032.

**...Petitioner**

**Coram: Sh. B.P. Singh, Member**

**ORDER**

(Date of Order: 18.05.2018)

1. M/s BSES Yamuna Power Limited has submitted an application for implementation of DSM based Energy efficient Air-Conditioner program in UT of Delhi under Demand Side Management programme. The present application of BYPL is being treated as a Petition. The petitioner has sought in principle approval of the Commission for the scheme and allow cost incurred on the scheme to be recovered through ARR.

2. **Petitioner's Submission:**

The Petitioner through the application has made the following submissions:

- a. The DSM programme will lower the overall cost of electricity to it's consumers as well to the licensee by economical and efficient use of resources, in accordance with the provisions contained in the Regulation 4 of the Delhi Electricity Regulatory Commission (Demand Side Management) Regulations, 2014.
- b. A summary of the scheme along with it's Potential Load and Energy Savings with the target count of population have been tabulated below:

<b>S. No.</b>	<b>Particulars</b>	<b>Unit</b>	<b>Total</b>
1	Number of AC offered under this Scheme	Number	10000
2	Wattage of Non-star rated AC	Watt	2364
3	Wattage of Star rated AC	Watt	1465
4	Power Saving	Watt	899
5	Hours of Usage	Hrs/Day	6
6	Operating days per year	Days/Year	150
7	Energy saved per AC per day	KWh	5.39
8	Energy saved per AC per Year	KWh	809.10
9	Energy Demand saved per year	Million KWh	8.09
<b>10</b>	<b>Energy Demand Saved under the Scheme Per Annum</b>	<b>Million KWh</b>	<b>8.09</b>

11	Distribution Losses @ 11.69%	MU	1.07
12	Energy Requirement at periphery	MU	9.16
13	Intra State Transmission Losses(@98%)	MU	0.09
14	Saving in Energy Requirement per year	MU	9.25
15	Inter State Transmission Losses(@1.65%)	MU	0.16
16	<b>Total Energy Savings (R14+R15)</b>	<b>MU</b>	<b>9.41</b>
17	Deemed Demand Reduction	MW	8.99
18	<b>Deemed Avoided Peak Power @70%</b>	<b>MW</b>	<b>6.29</b>

Note: Loss figures have been taken from BYPL Tariff Order of Fy 18-19

- c. The petitioner further submits that under this scheme rebate to the various Air Conditioners are as follows:

Description offered	No. of AC	Rebate
AC-Split/Window Models	10000	a) Rs. 6400 (under buy back option) b) Rs. 3200 (under without buy back) Average rebate Rs. 4800

- d. Considering the average subsidy of Rs. 4800/- BYPL would be required Rs. 5.15 Cr. for implementation of the scheme. Below is the break-up of the estimated cost:

Parameters	Quantity	Details of Program	
No. of Ac	10000	Savings in unit (MU)	9.28
MRP of appliance (Rs/Ac)	30500	Cost of technology (Rs. Crore)	30.5
		Utility Rebate amount (Rs. Crore) (1.5 TR AC)	4.8
		Administartion and Maintenance cost of project (in Cr)	0.25
		<b>Estimated Program Expenditure Required (Rs. Crore)</b>	<b>5.15</b>

- e. The cost incurred on the scheme would be recovered through saving in power purchase cost, Transmission cost & distribution cost. Illustration of the same is as under:

S. no.	Particulars (Rs Cr)	Year 1	Year 2	Year 3	Year 4	Year 5
1	Saving in Power Purchase Cost	2.99	2.99	2.99	2.99	2.99
2	Transmission Charges	2.07	2.07	2.07	2.07	2.07
3	Distribution Network	0.91	0.94	0.96	1.00	1.04
4	<b>Total Deemed Benefits (Rs Cr)</b>	<b>5.98</b>	<b>6.00</b>	<b>6.03</b>	<b>6.06</b>	<b>6.10</b>

- f. The AC manufacturers as being channelized as per the details given below for the 1.5 Ton Window and split AC/Inverter Ac:

S. no.	Product Description	Company Name
1	AC 1.5 Ton 5 star-Split/window Models/Inverter AC	Voltas Air Cnditioners
2	Ac 1.5 Ton-Split/window Models/Inverter AC	Godrej Air Conditioners
3	Ac 1.5 Ton-Split/window Models/Inverter AC	Hitachi Air Conditioners
4	Ac 1.5 Ton-Split/window Models/Inverter AC	Daikin AC
5	Ac 1.5 Ton-Split/window Models/Inverter AC	Panasonic AC

### 3. Commissions Decision:

Considering the calculation of cost benefit analysis for AC replacement scheme based on all the aforesaid assumptions and the cost saving as prorated to the

ratio of energy saved for specified AC, the Commission approves this scheme for implementation of DSM based Energy Efficient Air Conditioner program in UT of Delhi as under:

**i. Buy back arrangement :**

The scheme shall be operated under 100% buy back arrangement so that the inefficient Acs must be taken out of the grid and disposed off in an environmental friendly manner.

**ii. Rebate/Discount rate:**

a. The rebate of 5 Star ratings of AC based on notification of Bureau of Energy Efficiency (BEE) dated 08.08.2017 shall be computed, as per the following equation:

$$\text{Rebate (in Rs.)} = 5181.34 + 29.50 \times (\text{Savings in MU})$$

b. The Savings in MU will be computed as follows:

- i. The installed capacity of 5 Star/Inverter Acs compared with 3 star rated AC of power consumption of 2364 Watts;
- ii. Hours of Usage 6 hours/day
- iii. No. of days Usage 150 days/year
- iv. Transmission and Distribution Losses @ 12.77%
- v. Compressor Life (savings in MU computed from i to iv is multiplied with compressor life and the resultant is input in the equation indicated above)

**vi. Expenses in ARR:**

The expenses on account of floating tender, hiring of implementation agency, administrative costs and the rebate cost along with interest thereon are allowed additionally in the Annual Revenue Requirement (ARR) of the petitioner to be recovered under the head of Demand Side Management (DSM) budget or any other head.

**vii. Eligibility of Consumers:**

- a. The consumer should have a valid consumer connection number/CA number.
- b. There shall be no outstanding dues as on date of application.
- c. A maximum number of 3 Acs shall be offered to a consumer.
- d. The scheme shall be applicable on first come first serve basis for the eligible consumers.

**viii. Implementing Agency:**

BYPL shall engage at least two implementing agencies discovered through competitive bidding process. The price to be quoted by the implementing agency in the bid process shall be net of the quoted price

of new AC minus the salvage value of the old AC, which shall be indicated separately as part of the bid. The implementing agency shall be responsible for the safe disposal of old Ac's.

**ix. Maintenance of Records:**

BYPL shall keep all the records related to this scheme separately. BYPL will submit following details related to the implementation of the scheme:

- a. Final price discovered through competitive bidding for the specified Acs;
- b. Actual saving of energy due to implementation of this scheme;
- c. Administrative cost incurred under this scheme; and
- d. Any other record relevant to the scheme.

**x. Proper and Safe Disposal of Old replaced ACs:**

BYPL shall ensure proper and environment friendly disposal of old replaced air-conditioners by the implementation agency to avoid misuse as well as safety hazards. For this purpose, the three leads (phase, neutral and capacitor point) from the sealed compressor tank shall be cut in the presence of the consumer Subsequently, the old ACs shall be stored in the petitioner's warehouse from where the same shall be disposed of as per the applicable laws through an authorized disposal agency. The disposal certificate shall also be issued by such agency.

**xi. Validilty of the Scheme:**

The scheme shall be valid for 12 months from the date of issue.

4. In view of the above, the case is disposed of accordingly.

**Sd/-  
(B.P. Singh)  
Member**