

**BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS No. 33-36, SECTOR-4, PANCHKULA- 134112, HARYANA**

Case No. HERC/PRO-33 of 2020

**Date of Hearing : 21.07.2020
Date of Order : 23.07.2020**

IN THE MATTER OF:

Petition seeking approval of the Commission for Demand Side Management Scheme for Installation of super-efficient air conditioners with ISEER 5.4 for replacement of inefficient Air-conditioners and for new installations in the Rural and Urban households in Haryana

Petitioner

Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)

Present on behalf of the Petitioner through Vidyo app

Sh. HC Panth, SE/UHBVNL

Sh. Manish Bansal, UHBVNL

Quorum

Shri D.S. Dhesi

Chairman

Shri Pravindra Singh Chauhan

Member

Shri Naresh Sardana

Member

ORDER

Brief Background of the case

1. The petitioner has filed the present petition seeking approval of the Commission for Demand Side Management Scheme for Installation of super-efficient air conditioners with ISEER 5.4 for replacement of inefficient Air-conditioners and for new installations in the Rural and Urban households of Haryana
2. The petitioner has submitted the following:
 - 1) That the Petitioner is a distribution licensee undertaking functions of distribution and retail supply of electricity to the consumers of Haryana under its jurisdiction in UHBVN, and is authorized as such in terms of the Distribution License No. DRS - 1 of 2004 granted by this Hon'ble Commission for distribution and retail supply of electricity in the North Zone of Haryana.
 - 2) That the Petitioner respectfully submits that under the provisions of the Haryana Electricity Regulatory Commission (Demand Side Management) Regulations, 2014, (hereinafter referred to as the "DSM Regulations, 2014"), it is obligatory on the part of the Petitioner to plan and implement various Demand Side Management (DSM) programs. Further, all these DSM programs/proposals need to be approved by the Commission. It has been submitted that the DSM Scheme has been prepared as under: -
 - i. Replacement of inefficient Air Conditioners installed in the Urban and Rural households with super-efficient air conditioners with ISEER 5.4. A minimum of

25,000 and up to a maximum of 37,500 inefficient ACs would be replaced in rural households and same number of ACs are sought to be replaced in urban households.

- ii. Supply/installation of super-efficient air conditioners with ISEER 5.4 or above for new installations in Rural and Urban households. The target is to provide 10,000 to 15000 super efficient ACs each in the rural and urban households.
- iii. The target for replacement and new installation under the Scheme is summarized as under:

Particular	Replacement	New
Rural Households	25,000 to 37,500	10,000 to 15,000
Urban Households	25,000 to 37,500	10,000 to 15,000
Total	50,000 to 75,000	20,000 to 30,000

- iv. That the details of the Scheme are given in the following paragraphs.

- 3) That the Peak demand of the State of Haryana has grown from 6,914 MW in FY 2011-12 to 10,295 MW in FY 2018-19. The Peak demand is expected to increase to about 14,500 MW by FY 2024-25. This increase is driven by several factors such as industrial growth, increase in agriculture load, domestic load etc. Further there is seasonal variation in the Peak demand. The demand of domestic load increases mainly during summer seasons i.e. during May to September due to ACs load on the power distribution network. It has been observed that most of the ACs installed by the rural domestic consumers are non-star rated ACs which have quite high energy consumption. The AT&C loss level in the rural areas being around 40%, the higher consumption of inefficient ACs in the rural areas leads to higher energy losses as compared to energy losses for a similar AC installed in the Urban area. The AT&C loss level in the urban area is comparatively lower. Therefore, replacement of ACs in the rural areas will lead to higher saving in the energy as compared to replacement of ACs in the Urban areas. Accordingly, as of now the Petitioner has proposed implementing DSM based Energy efficient Air-Conditioner program for the RDS consumers in the rural areas of Haryana under Demand Side Management program. Under this scheme, the Petitioner intends to offer super-efficient air conditioners with ISEER 5.4 or above, to the licensee's domestic consumers in rural parts of Haryana for replacement for the existing non-star rated Air Conditioner in working condition and also for new installations. The super-efficient air conditioners with ISEER 5.4 or above will be procured by the Discoms and supplied to the consumers. The consumers opting for the scheme shall be given a rebate in the cost at which the air conditioners shall be procured by the Nigam through competitive bidding, as detailed in the subsequent paras.
- 4) That for procurement of super-efficient ACs with ISEER 5.4 or above, the Nigam has floated expression of interest, EOI No 06/UH/XEN/P-II/MM for empanelment of the firms/manufactures for supply of super-efficient ACs. The EOIs were received from 5 firms and was opened on 20.12.2019. Two firms were disqualified on account of non-submission of qualifying documents. Three firms which have qualified have finally offered the rates after discussion with the management as under.

Description of item	Daikin Air Conditioning India Pvt. Ltd	Blue Star Limited	Voltas Limited
Design, manufacture, supply & installation of Super-efficient split inverter Air conditioners of			

Description of item	Daikin Air Conditioning India Pvt. Ltd	Blue Star Limited	Voltas Limited
1.5 tonne capacity with ISEER 5.4 or above with 1year of complete equipment and 10 years of compressor warranty:			
For New Installation	39,549	39,549	39,548
For Replacement of Old AC after deduction of buyback price of old AC	36,419	37,049	36,413
Optional Accessories beyond Standard Installation.			
Stabilizer 4 kVA	1,640	1,652	1,652
Copper piping	590	599	600
Electrical Wire	125	118	118
Drain Pipe	95	100	100

5) It may be observed that the lowest quoted rate inclusive of installation and warranty is under:

- a) New Installation : Rs 39,548/-
- b) Replacement : Rs 36,413/-
- c) Optional Accessories:
 - i. Stabilizer 4kVA : Rs 1640/-
 - ii. Copper Piping : Rs 590/-
 - iii. Electrical Wire : Rs 118/-
 - iv. Drain Pipe : Rs 95/-

6) All the three firms which have qualified will be empaneled as they have agreed to supply AC and optional accessories at the lowest quoted rate discovered as above at Sr. No. 5.

7) The scope of supply shall include the followings:

- i. Copper piping 3 Meter length.
- ii. Power supply cable 3 Meter length.
- iii. Insulation of copper piping.
- iv. Mounting of Indoor & outdoor units with requisite accessories and brackets (Stand).
- v. Joining of Indoor & outdoor units with copper piping.
- vi. Connecting Air conditioner with power supply.
- vii. Providing drain pipe 3 Meter length.
- viii. Minor civil work.
- ix. 10 Years Compressor Warranty

8) That the salient features of the proposed DSM scheme are as follows: -

i. Objective:

To accelerate the adoption of super-efficient Air Conditioners through consumers by incentivizing the consumers by offering rebate under the scheme in Urban and Rural households. The Scheme would not only reduce power consumption of households and consequently their electricity bills but would also create awareness among the consumers to use energy efficient products in the households such as fans, motors etc. The scheme would further help in reducing the peak demand on the state in the

summer and in flattening the load curve. The ultimate objectives of the Scheme are listed as under:-

- Reduce the impact of load contributed by Air Conditioners on the peak demand of the Discoms in summer,
- Flattening of load curve,
- Phasing out of inefficient Air Conditioners that have no star rating,
- To bring about change in consumers choice by enlightening them with the benefits/savings of using energy efficient Air Conditioners and other energy efficient products.
- Enhancing awareness about the cost and savings with regard to the usage of super-efficient air conditioners with ISEER 5.4 or above and other energy efficient products.

ii. Reduction in Peak Demand:

It is estimated that the Peak demand shall reduce by 75.6 MW for every 1.05 Lakh inefficient ACs replaced with super-efficient air conditioners or new super-efficient air conditioners with ISEER 5.4 or above instead of 3-Star ACs, Further, this will result in annual saving of Rs 11.36 Cr to the Discoms as details in the table hereinafter.

iii. Rebate Offered:

Under the proposed scheme an upfront rebate of Rs. 8000/- per AC (super-efficient air conditioners with ISEER 5.4 or above) in Rural Households and Rs. 4000/- per AC (super-efficient air conditioners with ISEER 5.4 or above) in Urban Households shall be offered on exchange of working old, non-star/one Star/two Star/three Star rated AC. Whereas, for purchase of new ACs rebate of Rs 4000/ per AC (super-efficient air conditioners with ISEER 5.4 or above) in Rural Households and Rs. 2000/- per AC (super-efficient air conditioners with ISEER 5.4 or above) in Urban Households shall be offered.

The consumers shall purchase the AC from empaneled firm at the lowest price discovered through the EOI floated by the Nigam less the rebate as stated above. The price includes standard installation, supply of requisite fittings and 10 years compressor warranty.

iv. Gain in respect of reduction in peak demand and savings

The estimated gain in terms of reduction in demand, annual saving and the payback period is detailed in the table given below.

Parameters	Existing	Proposed
	3 Star ACs	super-efficient ACs
Number of ACs connected	1,05,000	1,05,000
Kilo Watt of ACs	2.40	1.68
Hours of Usage	6.00	6.00
Operating days per year	150.00	150.00
Energy consumption per AC / Day	14.40	10.08
Energy consumption per AC / year	2,160.00	1,512.00
Total Energy consumption per year (Mus)	226.80	158.76
Annual cumulative Energy Savings	68.04	

Parameters	Existing	Proposed
	3 Star ACs	super-efficient ACs
(MUs)		
Average cost of supply (ACoS)	7.17	
Average Billing Rate (ABR) for domestic category	5.5	
Net benefit per unit	1.67	
Annual Savings per year (Cr)	11.36	
Rebate proposed to be given for purchase of super-efficient AC to Consumer	Rebate (Rs/Ac)	Qty of AC
Rural Households- Replacement	8000	37,500
Rural Households- New	4000	15,000
Urban Households- Replacement	4000	37,500
Urban Households- New	2000	15,000
Total Amount to be disbursed as rebate i.e. Cost of the scheme (Rs Cr.)	54	
Payback Period (Years)	4.75	
Reduction in Peak Demand (in MW)	75.6	

* Assumption considered for above calculations is that super-efficient ACs are 30% more efficient than 3 Star rated ACs.

- v. Target consumers: The target consumers are all consumers coming within the rural area of operations of Discom having a valid electricity connection and consumer number of the Discom.
- vi. Replacement of the old Air Conditioner: It shall be mandatory for the interested consumers to purchase a new super-efficient AC from the empaneled firms and handover the old non-rated AC to the firm. This is to phase out the old, inefficient AC and encourage the consumers to use new, energy efficient appliances.
- vii. Implementation Agency: Implementation agency shall be the OEMs (Original Equipment Manufacturer) to be empaneled by the Petitioner through competitive bidding as stated in the Para No 4 above. Subsequently, retailers/distributors across operational area of supply would be brought in for the wide spread execution of the program by the OEMs. 3 OEMs have been shortlisted as Implementing Agency by Petitioner as details in Para 4.
- viii. Marketing and promotion: Wide publicity and promotion of the scheme will be carried out by the Utility and IA/OEMs, distributors etc. so as to create awareness amongst the consumers in rural and urban areas of the State and apprise them of the benefits of using BEE 5 star rated appliances.
- ix. The Nigam will provide a Web Portal for the registration of the consumers willing to opt for the scheme and an access of the same shall be provided to the empanelled OEMs / authorised dealers of the empanelled OEMs.
- x. The consumer will approach OEMs/ authorised dealers of OEMs with procurement request along with its latest energy bill, Aadhaar No., bank details and Mobile No. registered with Nigam in energy bill A/c.

- xii. The details of the consumer i.e. Name, Address etc. will be generated from online database of the Nigam and OTP will be sent to the consumers mobile No. along with authorisation on OEM/Dealer mobile no. for installation.
 - xiii. On receipt of the consumer share of cost, the dealer arranges to install the new AC at the consumer premises on the address as per Nigam's Database and to remove old AC in case of replacement. The dealer will punch the details of the AC installed, date of commissioning and upload the commissioning report on the portal containing the signatures of the consumer. The dealer will collect the OTP from Consumer and punch in the portal authenticating the installation.
 - xiv. The old AC shall be removed by the Implementing Agency/OEM from the site/address of the consumer under receipt and shall be got disposed off by the registered electronic waste recycler in accordance with the applicable rules and in an environment friendly manner to the satisfaction of the Petitioner as per Rules notified vide Ministry of Environment, Forest & Climate Change (GoI) Notification GSR-338(E) dated 23/03/2016 with latest amendments. The OEM will punch in the details of the old AC disposed off along with a certificate of the disposal of the AC in green manner.
 - xv. The OEM/Implementing agency will submit the relevant documents along with no. of ACs sold, disposal certificate issued by electronic waste recycler in green manner (only in case of replacement of ACs) and installation reports to the Discom on a fortnightly basis for verification.
 - xvi. The details of the commissioning report /disposal certificate will be verified by the office of FA&CAO/MM and the balance payment (Nigam's share) shall be released by the Nigam online through the portal to the account details provided by the OEM/dealer.
 - xvii. The Nigam will appoint a Third party/ Agency through competitive bidding who will audit the complete transaction on a sample size of 10% right up to the disposal of old AC.
- 9) That the other conditions for implementation of replacement of non-star rated Air-conditioner with super-efficient air conditioners are as under:-
- i. Handing over/disposal of replaced ACs:
All the replaced ACs shall be collected by the OEM and disposed off in an environmentally friendly manner through registered electronic based recycler.
 - ii. Expenses in ARR:
The expenses on account of floating tender, hiring of implementation agency, administrative costs and the rebate cost along with interest shall be allowed additionally in the Annual Revenue Requirement (ARR) of the Discoms to be recovered under the head of Demand Side Management (DSM) budget or any other head.
 - iii. Eligibility of Consumers:
 - a) The consumer should have a valid consumer connection number.
 - b) There shall be no outstanding dues as on date of application.
 - c) A maximum number of 3 ACs shall be offered for replacement to a consumer.

- d) The scheme shall be applicable on first come first serve basis for the eligible consumers.
- iv. Maintenance of Records:
Discoms shall keep all the records related to this scheme separately along with the following details related to the implementation of the scheme: -
- a) Complete record of the procurement of super efficient ACs 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.
- v. Proper and Safe Disposals of Old replaced ACs:
Discoms shall ensure that implementing agency shall dispose off the old replaced air-conditioners in an environmentally friendly manner so as to avoid misuse as well as safety hazards. The disposal certificate shall also be issued by such agency.
- vi. Validity of the Scheme:
The scheme shall be in operation for a period of one year from the date of letter of award to the empaneled firm and further extendable for another one year with mutual consent of the OEM and Nigam.
- 10) That the Other accrued benefits upon implementation of this Energy Efficient Air Conditioners program are as given below:-
- a) Consumers
 - Shall get super-efficient air conditioners at reduced cost, with longer life and with 1 Year warranty for complete equipment and 10 years warranty of the compressor.
 - Reduction in electricity bills of the consumers.
 - b) Distribution Utility
 - Reducing the demand & Supply gap.
 - Reduce load shedding during peak hours.
 - The energy saved shall be supplied to other high-end consumers like commercial and industrial establishment, thus fetching additional revenue for the Discom.
 - c) Society
 - Reduction in carbon emission.
 - Mitigation of climate changes and protection of environment.
- 11) Prayer: The Petitioner prayed to consider this Petition and pass the necessary Orders on the following:-
- a) Allow the Petitioner to implement the DSM based Energy Efficient Air Conditioners program as part of DSM measures for the Rural and Urban Households of UHBVN and DHBVN.
 - b) Approve the expenses to be incurred/rebate to be given under this scheme.
 - c) Pass necessary orders as deem fit by the Hon'ble Commission.

Proceedings in the Case

3. The case was heard by the Commission on 21.07.2020 through virtual court.

Commission's Analysis and Order

4. At the outset, UHBVNL briefed the facts of the case and submitted that the Commission may approve the DSM based Energy Efficient Air Conditioners program as part of DSM measures for the Rural and Urban Households of UHBVN and DHBVN and also approve the expenses to be incurred/rebate to be given under this scheme.
5. The Commission has considered the submissions made by UHBVNL in the hearing and the petition filed by them.
6. The Commission, from the proposal submitted by the Discoms, observe that if properly implemented, the scheme shall contribute to conserve energy as well as shave off peak demand in line with the objectives of the HERC DSM Regulation in vogue. Additionally, the payback period of 4.75 years worked out by the Discoms lends further credence to the proposed DSM scheme. Resultantly, the Commission accords in principle approval to the same, subject to the following:-

Particulars to be furnished by the petitioner as per the requirements of DSM Regulations, 2014:

“Regulation 12, Preparation of DSM Programme Document – (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 lights, 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 rationale, technology, schedule for deployment, budget, cost effectiveness assessment, detailed implementation plan including consumers 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 for recovery of cost and performance incentive, monitoring and evaluation plan .

(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.

Regulation 13. Approval of DSM Programme Document. – (1) Prior to implementing any DSM programme, distribution licensee shall obtain approval of the Commission.

(2) Each programme document shall include the following:-

- i. Description of the programme;*
- ii. Objectives and rationale for the programme;*
- iii. Consumer segments and estimated level of participation;*
- v. Estimate of baseline;*
- vi. Assessment of programme in line with Cost Effectiveness Guidelines issued*

- by the Commission;*
- vii. Mechanism for recovery of cost and performance incentives;*
 - viii. Marketing, delivery strategy and Implementation schedule;*
 - ix. Implementation mechanism e.g. Energy Service Companies, DSM Bidding, DSM Resource Acquisition, etc;*
 - x. Monitoring and evaluation plan;*
 - xi. Plan for Training/Seminars/Workshops to increase consumer awareness."*

It is observed that petitioner has submitted the scheme, detailing the features of proposed scheme, along with validity. Also, record maintenance, eligibility of consumers, treatment of expenses in ARR along with accrued benefits have been enumerated by the petitioner in the petition. Accordingly, the Petitioner is directed to submit the above-mentioned documents in format provided in the Regulation 12 and 13 of DSM Regulations, 2014. Additionally, the scheme shall be monitored and evaluated in accordance with the following guidelines issued by the Commission which is an integral part of the HERC DSM Regulations in vogue.

- i. Haryana Electricity Regulatory Commission- Guidelines on Evaluation, Measurement and Verification of Demand Side Management Programme, 2016
- ii. Haryana Electricity Regulatory Commission- Guidelines on Cost Effectiveness, Assessment of Demand Side Management Programme, 2016

Having accorded in-principle approval to the proposed DSM scheme, the Commission is of the view that a database may be created regarding number of A/Cs (both windows and split), in Haryana, its segment wise actual growth rate and energy consumption; so that a more comprehensive and sharply focused DSM scheme can be designed for future implementation. The Commission is of the view that considering the wide spread usage of window Air Conditioners in rural areas, the Discoms may consider covering the same in the next phase of the scheme.

This Order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 23rd July, 2020.

Date: 23.07.2020
Place: Panchkula

(Naresh Sardana)
Member

(Pravindra Singh)
Member

(D.S. Dhesi)
Chairman