

Minutes of Meeting

Name of the committee	Date & Time	Venue
Technical Committee Meeting of Washing Machine Labelling Program	04 th May 2018 (3:00 - 5:00 PM)	Conference Hall, Bureau of Energy Efficiency

The meeting was chaired by Sh. Sameer Pandita, Director, BEE. Chair welcomed all members of the Technical committee. Subsequently, the following points were discussed.

Agenda of the Meeting:

- Analysis of data received from Manufacturers
- Proposal of qualification criteria and star rating tables for front loaders, top loaders and semi-automatic machines
- Next steps and Way Forward for the labelling program

Discussions

- Initiating the discussions, Chair mentioned that the uptake of voluntary Washing Machine labelling program of BEE earlier launched in year 2010 has not been encouraging. Several reasons have together contributed to a poor acceptability of voluntary labeling program among the Manufacturers. Deficiencies in the existing Indian standard, availability of standard detergent, reference machine, standard soil strips and lack of test facilities have primarily deterred the acceptability and participation of the Washing Machine manufacturers in the labeling program till date. He stated that these issues are being adequately addressed as BIS is in the process of revising the existing Indian standard IS 14155 to align it with latest version of IEC 60456.
- Chair appreciated the support and cooperation extended by Washing Machine manufacturers especially in context of sharing performance data of respective product typologies with BEE. He stated that the data submitted by the manufacturers has acted as a basis for BEE in establishing fresh performance bandwidths for various Typologies of washing machines.
- Thereafter, BEE presented a detailed analysis of data provided by Washing Machine manufacturers related to Energy Consumption(kWh/kg/cycle), Water Consumption, Wash Performance, Water Extraction, and Rinse Performance. Analysis included data for all typologies namely the front loader, top loader and semi-automatic washing machines and was presented in form of comprehensible linear plots reproducing the spread of Energy consumption and Water consumption performance values for each of the machines typologies.
- Analysis of front loading washing machine data indicated an energy consumption bandwidth of 0.07 to 0.27 kWh/kg/cycle. In view of this, BEE

Sameer Pandita

proposed the following star rating table for front loading washing machine (at cotton 60-degree C) with MEPS at 0.18 kWh/kg/cycle.

Front loaders (drum type)	
Star rating	Energy consumption(max) kWh/kg/cycle
5-star	0.09
4-star	0.11
3-star	0.14
2-star	0.16
1-star	0.18

- Additionally, BEE presented an analysis of data on Water Consumption, Wash, Water extraction and Rinse performance, to the committee given the significance of these aspects as pre-requisites for seeking a label under the program. BEE proposed Minimum requirements for the front-loading washing machine as follows:

Minimum requirements for the program	
Parameter	Minimum requirement
Wash performance (Soil removal %)	$\geq 95 \%$
Water extraction performance	$\leq 55\%$
Water consumption (maximum)	$\leq 9 \text{ L/kg/cycle}$
Rinse performance	≤ 2.25

- Analysis of Top loading and semi-automatic washing machine data indicated an energy consumption bandwidth of 0.007 to 0.026 kWh/kg/cycle. In view of this, BEE proposed the following star rating table for Top loading and Semi-Automatic washing machine (at cotton 30-degree C) with MEPS at 0.0185 kWh/kg/cycle.

Top loaders and semi-automatic machines	
Star rating	Energy consumption(max) kWh/kg/cycle
5-star	0.0132
4-star	0.0145
3-star	0.0158
2-star	0.0171
1-star	0.0185

- Additionally, BEE presented an analysis of data on Water Consumption, Wash, Water extraction and Rinse performance, to the committee given the significance of these aspects as pre-requisites for seeking a label under

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the program. BEE proposed Minimum requirements for the top loading and semi-automatic washing machine as follows:

Minimum requirements for the program	
Parameter	Minimum requirement
Wash performance (Soil removal %)	$\geq 95 \%$
Water extraction performance	$\leq 70\%$
Water consumption (maximum)	$\leq 23 \text{ L/kg/cycle}$
Rinse performance	≤ 2.25

- Members of the committee were of the view that a minimum Wash performance of 95% is difficult to be achieved in a top loading and semi-automatic washing machines and therefore need to be reviewed.
- Manufacturers also submitted that the water extraction performance for front loaders at $\leq 55\%$ is too high. Moreover, manufacturers were of the view that the water extraction performance value should be same irrespective of the types of washing machine so as to provide same degree of satisfaction to the consumer after the washing and rinsing cycles are complete. To this, BEE requested the committee members to propose a feasible value of water extraction performance for both front loading and top loading/semi-automatic washing machine.
- BEE clarified that the MEPS agreed to and recommended by the committee for all washing machine typologies shall also be adopted by BIS as a part of performance parameters in IS 14155 which is presently under revision.
- NABL informed the committee that there are 9 labs in in India as on date accredited for safety and quality performance testing of Washing Machines. NABL requested BEE to help in capacity building of these labs for performance testing of Washing Machines.

Decisions

Consequent to the detailed deliberations, Technical committee decided the following:

1. The star rating table for energy performance of front loading, top loading and semi-automatic washing machines shall be as proposed by BEE and agreed by the technical committee.
2. The wash performance of top loading and semi-automatic washing machine shall not be less than **85 percent** instead of 95 percent proposed by BEE, while for the front-loading wash performance shall be minimum **95 percent**.

3. Water extraction performance for both front loader machines and top loading/semi-automatic machines should be $\leq 75\%$.
4. BEE in coordination with NABL will take necessary measures to capacity build labs for testing Washing Machines as per IS 14155.

Meeting concluded with vote of thanks from the chair.



**Annexure
Technical Committee Members**

S.No	Name	Designation	Organisation
1	Mr.Sameer Pandita	Director and Chairman of Technical Committee	BEE
2	Mr.Manish Kumar	Project Engineer	BEE
3	Mr.Dharmendra Kumar	Project Engineer	BEE
4	Ms.Deepshikha Wadhwa	Project Engineer	BEE
5	Ms.Neha Kumari	Project Engineer	BEE
6	Mr. A.A.Acharekar	G.M(R&D)	Godrej
7	Mr. B.Anand	Sr. Engineer	BSH
8	Mr.Sheoraj Singh	Manager-R&D	Videocon
9	Ms.Mallika Gope	Jt. Director	NABL
10	Mr.K.Shankar Ganesh	Dy.Manager-R&D	Whirlpool
11	Mr.Anish	G.M	Whirlpool
12	Mr.Nitin Gola	Deputy Manager	Intertek
13	Mr.Vineet Sehgal	Deputy Manager	Intertek
14	Mr.Sandeep Aggarwal	Asst.Manager	TUV Rheinland
15	Mr.Rajesh Gupta	G.M	TUV Rheinland
16	Mr.Abhishek Babbar	AGM	Panasonic India
17	Mr.S.Sundaramoorthy	Dy.Manager	Panasonic India
18	Mr.I.Vijayan	DGM	Panasonic India
19	Mr.K.C.Chaudhary	Senior Manager	VOICE
20	Mr.Mohan Kumar.S	AGM	Godrej
21	Mr.Aditya Anil	Manager	LG Electronics
22	Mr.Jay Prakash Sharma	DM	LG Electronics
23	Mr.Pankaj Sharma	Deputy Manager	Haier
24	Mr.Furqan	Manager	Haier
25	Mr.B.M.Shetye	V.P	IFB
26	Mr.Nikhil Ducle	A.M	IFB
27	Mr.Sanjeev Kumar	DM	Intex
28	Mr.Sameer Arya	DGM	Intex
29	Mr.Mohit Verma	Manager	PwC
30	Mr.Jwalant Mehta	Consultant	PwC
31	Dr. Archana Walia	Director	CLASP
32	Mr. P.K.Mukherjee	Senior Advisor	CLASP
33	Ms. Neha Dhingra	Senior Associate	CLASP
34	Mr. Kishore Kumar	Senior Associate	CLASP