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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

AGENDA

Meeting	Date and Day	Time
28th Meeting of Renewable Energy Sources Sectional Committee, MED 04	25 September 2024 (Wednesday)	11:00 hrs
Chairperson/Convener: Mr A. K. Tripathi, Scientist 'G', Ministry of New and Renewable Energy, New Delhi		
Member Secretary: Ms Ankita Vidhyarthi, Scientist 'D'/Joint Director, Bureau of Indian Standards, New Delhi		
Meeting Link: https://bismanak.webex.com/bismanak/j.php?MTID=maa2f07dfd80fc1596a36a38095644be6		
Meeting number: 2516 664 8551		
Password: MED@123		

ITEM 0 WELCOME AND OPENING REMARKS

0.1 Welcome & Opening remarks by Head (Mechanical Engineering Department)

0.2 Welcome & Opening remarks by Chairperson, MED 04

ITEM 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The Minutes of the **27th Meeting** of Renewable Energy Sources Sectional Committee held on **26 June 2024** were circulated to all the members vide email dated **18 July 2024**.

No comments have been received.

The Committee may CONFIRM the minutes.

ITEM 2 SCOPE AND COMPOSITION OF THE SECTIONAL COMMITTEE

2.1 Scope

Formulation of standards in the field of Renewable energy sources such as solar energy, bio-gas energy, bio-mass energy etc.

The Committee may PROPOSE any addition/deletion required in the scope.

2.2 Composition of the Committee

2.2.1 The following directions have been received from the Competent Authority of the Bureau for reviewing the composition of the Sectional Committee:

- a) Associations of Micro and Small Industries are to be co-opted.
- b) New members are to be co-opted who are expected to contribute to emerging new technology.
- c) Efforts should be made to include representatives of different product segments as per the scope of the Committee.
- d) Major Government purchasing organisations like DGS&D, RDSO, CPWD, Defence etc. are to be given representation in the Committees wherever applicable.
- e) Members who have not attended two consecutive meetings may be considered for removal.
- f) Examine the justification and need for the continuation of a member in an individual capacity who is continuing for more than six years in a sectional committee.

The committee may NOTE.

2.2.2 As per directive of the Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India, which is the Controlling Ministry of the Bureau the composition of Sectional Committees be reviewed to replace the persons who are continuing for longer periods, to co-opt the members/organisations which are capable of contributing in emerging new technologies and new areas of work and strength of the manufacturers should be restricted to 1/3 of the total strength of the Technical Committees.

2.2.3 The present composition of the Renewable Energy Sources Sectional Committee, MED 04 is given in **Annex-A**. The list also shows the attendance of the members in the last three consecutive meetings. As directed by CA, members who have not attended **02 consecutive meetings** of MED 04 are to be terminated from the committee


The committee may NOTE.

2.3 Co-options & the Revised Nominations

No new co-option requests received. *The committee may NOTE.*

2.4 Programme of Work

The present programme of work of the Renewable Energy Sources Sectional Committee, MED 04 is attached below. (No.of Published Standards is **28**)

 POW_MED 04_SEP 2024 (2).pdf

The committee may NOTE.

2.4.1 Standards under Certification

As of date, the following standards prepared by MED 04 are under certification:

SI No.	IS Number	IS Title	No. of Licences
1)	IS 12933 (Part 1) : 2003	Solar flat plate collector - Specification: Part 1 requirements (Second Revision)	24
2)	IS 16544 : 2016	All glass evacuated tubes solar water heating system	14
3)	IS 13152 (Part 1): 2013	Portable solid bio - Mass cookstove (Chulha) - Specification (First Revision)	01

The committee may NOTE.

ITEM 3 ROLLING ANNUAL ACTION PLAN FOR THE YEAR 2024-25

3.1 Proposed meeting Calendar for FY 2024-25 is as follows:

Committee	Q1 2024-25	Q2 2024-25	Q3 2024-25	Q4 2024-25
		June	September	November
MED 04	26 June Wednesday	25 September Wednesday	29 November Friday	7 February Friday

The Committee may NOTE.




3.2 Standards National Action Plan (SNAP) 2022-2027

[SNAP BOOK 2022-2027](#)



The Committee may note and identify/suggest the subject areas relevant to the scope of this Committee and decide.

ITEM 4 ACTION TAKEN ON MINUTES OF THE LAST MEETING

4.1 The actions taken on decision of last meeting of Renewable Energy Sources Sectional Committee, MED 04:

SI No.	Background	Action Taken/Status since the last Meeting	Remarks
1)	<p>Comments were received regarding Amd 2 to IS 16544 from CMD 1 and Manak Manthan held by Bangalore Branch Office.</p> <p>Email_20_sep_2023.pdf</p> <p>Report on Manak Manthan .xlsx</p> <p>Email for panel meeting IS 16544_04 OCT 2023.pdf</p> <p>Email_AMD_IS_16544_19_DEC_2023.pdf</p> <p>Email_AMD_IS_16544_20_FEB_2024.pdf</p> <p>Discussion of the panel during the meeting held on 10 October, 2023 could not be done as majority of the members were not present during the meeting.</p> <p>The Committee discussed the issue at length.</p> <p>Recommendations on comments in Amd 2 to IS 16544 were to be provided by the panel.</p> <p>The constitution of the panel is as-</p> <p>a) Dr. Avadhesh Yadav, DDG NISE (<i>Convenor</i>)</p> <p>b) Shri Santanu Bandopadhyay of IIT Mumbai(New nomination received in place of Prof Kedare)</p> <p>c) Prof Anagha Pathak of RTC Pune</p>	<p>Panel Meeting reminder was sent to the members by MS vide email dated 08.08.2024.</p> <p> EMAIL_08-08-2024_PAN...</p> <p>The Panel meeting was organised by Shri Vikrant Yadav, NISE on 14.08.2024.</p> <p> EMAIL_VIKRANT_YAD...</p> <p>However, no actions could be taken in the meeting due to absence of the other members.</p> <p>Subsequently, comments from the members were invited by Shri Vikrant Yadav. Comments were received from Shri Asim Joshi via email dated 22.08.2024.</p> <p> Email_Asim_Joshi_22-08-...</p> <p>Draft is awaited from the panel.</p>	<p><i>The Committee may deliberate and decide.</i></p>

	<p>d) Shri Vikrant Yadav from NISE.</p> <p>e) Shri Asim Kumar Joshi, SPRERI</p> <p>f) Shri Vikram Dhaka, MNRE</p> <p>g) Prof K. Srinivas Reddy, IIT Chennai.</p>		
<p>2)</p>	<p>Suggestions/Comments of Panel regarding revision draft of IS 12933 (Part - 1, 2 & 5) ‘solar flat plate collectors’ were incorporated by MS and circulated to the committee. However, no comments have been received from the committee.</p> <p>IS 12933 (Part 1) changes identified.docx</p> <p>IS 12933 (Part 2) changes identified (1).docx</p> <p>IS 12933 (Part 5) changes identified.docx</p> <p>Comments by Member Secretary sent to members vide email dt.-09-05-2023(enclosed here for reference).</p> <p>Email IS 12933 9 5 2023.pdf</p> <p>Terminologies pending in the ISS were to be incorporated. Comparison between withdrawn IS 12934: 1990 and IS/ISO 9488: 2023 done by MS and missing definitions were identified.</p> <p>Solar_MissingDefinition_20022024.xlsx</p> <p>Comments were received from Shri Manjunath Ullur of M/s Emmvee</p>	<p>In the last meeting , Prof Anagha Pathak informed the committee that the recommendations on these IS (IS 12933 part 1, 2 and 5) have already been finalized by the same panel as mentioned in SI.No.1. with the following members-</p> <p>a) Dr. Avadhesh Yadav, DDG NISE (<i>Convenor</i>)</p> <p>b) Shri Santanu Bandopadhyay of IIT Mumbai (New nomination received in place of Prof Kedare)</p> <p>c) Prof Anagha Pathak of RTC Pune</p> <p>d) Shri Vikrant Yadav from NISE.</p> <p>e) Shri Asim Kumar Joshi, SPRERI</p> <p>f) Shri Vikram Dhaka, MNRE</p> <p>g) Prof K. Srinivas Reddy, IIT Chennai.</p> <p>Prof. Pathak informed the committee that they will hold Panel meetings and submit the final working draft on all the IS within one month.</p>	<p><i>The Committee may deliberate and decide.</i></p>

	<p>Photovoltaic Power Private Limited.</p> <p>IS 12933 (Part 2) changes identified (002).docx Email IS 12933.pdf</p>	<p>The committee agreed to it and decided that the panel will also incorporate the terminologies pending in all the three IS due to withdrawal of IS 12934.</p> <p>Reminder email for conducting the panel meeting was sent on 08th August 2024.</p> <p> EMAIL_IS 12933-08-08-2...</p> <p>Draft is awaited from the panel.</p>	
3)	<p>Shri Asim Kumar Joshi, SPRERI informed that comparative study between test methods specified in Literature (new) and test methods specified by MNRE (old) is in progress. However, Shri Joshi was not available in the last two meetings.</p> <p>As directed by the committee, reminder emails were sent on 16.10.2023, 20.02.2024 & 25.04.2024.</p> <p>Email_Dish_Solar_Cooker_16_OCT_2023.pdf</p> <p>Email_Dish_Solar_Cooker_20_FEB_2024.pdf</p> <p>Email_Dish_Solar_Cooker_25_APR_2024.pdf</p> <p>Also, a proposal regarding COR of solar cookers was received for a NWIP from Dr S. K. Samdarshi, Professor and Head, Department of Energy Engineering, Central University of Jharkhand, Ranchi.</p> <p>The proposal was circulated to the</p>	<p>Reminder email for submission of the draft was sent to Shri Joshi on 07.08.2024.</p> <p> EMAIL_SOLAR_COOKER...</p> <p>Also, Shri Joshi was provided the indigenous template for Standards via the same email.</p> <p>Draft is awaited.</p>	<p><i>The Committee may deliberate and decide.</i></p>

	<p>committee in the 09th meeting and also vide email dated 05.02.2024.</p> <p>Email_cor_of_solar_cooker_05_feb_2024.pdf</p> <p>A meeting was also organized on 28.05.2024 by MS between Shri Asim Joshi and Dr Samdarshi for discussion regarding the applicability of COR in the draft to be prepared by Shri Joshi.</p> <p>The issue was discussed and Information was exchanged during the meeting, however, no definite conclusion was reached.</p>		
<p>4)</p>	<p>During its 24th Meeting, The Committee decided that a Panel may go through the draft on ‘Performance Guidance for Solar Air Heating for Industrial Process Heat Applications/Solar Dryer’ and provide their comment or suggestions within 01 month:</p> <p>draft_standard_provided_by_Shri_Palaniappan.pdf</p> <p>The committee reconstituted the panel as follows in the last meeting-</p> <ul style="list-style-type: none"> a) Prof Anagha Pathak of RTC Pune (Convener) b) Dr Avadhesh Yadav, DDG NISE c) Shri Vikrant Yadav from NISE. d) Shri Vikram Dhaka, MNRE e) Shri Anish Modi, IIT Mumbai f) Shri Asim Kumar Joshi, SPRERI. <p>Shri Vikrant Yadav and Dr. Avadhesh</p>	<p>Reminder for Panel meeting send vide email dated- 24.05.2023, 19.12.2023 20.02.2024, and 08.08.2024.</p> <p>■ EMAIL_DRAFT_SOLAR...</p> <p>Email_Reminder_1_24_may_2023.pdf</p> <p>Email_reminder_2_amd_19_dec_2023.pdf</p> <p>Email_reminder_2_16544_amd_19_dec_2023.pdf</p> <p>Email_reminder_3_IS_16544_20_FEB_2024.pdf</p> <p>Draft Awaited from the Panel.</p>	<p><i>The committee may deliberate and decide.</i></p>

	<p>Yadav, MNRE were nominated as core members of the Panel. Shri Vikrant Yadav informed the committee that they will submit the draft within one month.</p> <p>Committee requested that MS may remind the panel to conduct the meeting at the earliest.</p>		
5)	<p>The Committee decided to send Draft MED 04 (21276) for STANDARDIZATION OF SOLAR AIR HEATER /SOLAR DRYER for printing.</p> <p>doc. 21276.pdf</p> <p>The committee decided that detailed discussion needs to be done related to material and hence the same may be sent for comments by email and will be discussed during the next committee meeting..</p>	<p>The draft is in the publication stage. 1 comment has been received. pl see Item 5.</p> <p>The committee decided to accept the comments, however, the grades/varieties of "aluminum/stainless steel/FRP are to be provided by the committee.</p> <p>An email reminder dated 08.08.2024 was sent to the committee for the same</p> <p>📧 EMAIL_REMINDER_212...</p>	<i>The committee may deliberate and decide.</i>
6)	<p>Panel was constituted for providing draft revision of IS 13152 (Part 1): 2013 as follows:</p> <p>a) Dr A.R Shukla of Biogas Forum (Convener)</p> <p>b) Dr S.K Tyagi of IIT Delhi</p> <p>c) Ms Svati Bhogale of M/s TIDE</p> <p>d) Asim Kumar Joshi SPRERI</p> <p>e) A representative of CSIR-IMMT</p> <p>f) Shri Ankit Gupta CSIR - NEERI, Nagpur</p> <p>g) Ms. Poonam Prasad CSIR - NEERI, Nagpur</p>	<p>Reminders for the panel meeting were sent via e-mail dated 14.09.2023 and 21.02.2024 and 08.08.2024.</p> <p>📧 EMAIL_IS 13152_08-08-...</p> <p>Email is 13152_14-09-2023.pdf</p> <p>Email is 13152_21-02-2024.pdf</p> <p>Dr. Shanmugam to provide the contact details for nomination of member from IMMT</p> <p>Draft is awaited from the panel.</p>	<i>The committee may deliberate and decide.</i>

	<p>Convenor of the Panel Dr. A.R. Shukla informed that the Panel will submit the draft within 1 month.</p>		
7)	<p>Chairman suggested for formulation of standard on ‘Terminologies for Renewable Energies’. Committee also suggested including Calculations in the draft standard. Pre standardization document to be provided by MNRE.</p> <p>The committee constituted the Panel as follows-</p> <p>a) Shri Hiren Chandra Bohra, MNRE</p> <p>b) Shri Vikram Dhaka, MNRE</p> <p>c) Dr Adinath Funde, RTC, Pune</p> <p>d) Dr. SK Shukla from IIT BHU</p> <p>e) Shri Santanu Bandopadhyay of IIT Mumbai(New nomination received in place of Prof Kedare) .</p> <p>f) Sh. K. Ravi Kumar from IIT Delhi</p> <p>g) Dr. Chandan Bannerjee from NISE</p> <p>h) Smt. Poonam Prasad from CSIR-NEERI</p> <p>i) Shri Asim Kumar Joshi of SPERI</p> <p>j) Representative from IIT Roorkee</p> <p>k) Representative from SIBE</p> <p>Shri Hiren Chandra Bohra, Convenor, informed that he will contact NIWE for the nomination and the panel will submit their report</p>	<p>Reminder for the panel meeting was sent on 08.08.2024.</p> <p>EMAIL_Terminologies for...</p> <p>Draft awaited from the panel.</p>	<p><i>The committee may deliberate and decide.</i></p>

	within one month.		
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4.2 Standards under development

Sl No.	IS No.	Title	Status	Remarks
1)	MED/04/25025 (IS 16648 : Part 5: 2017)	Concentrated solar thermal - Specification: Part 5 test methods Amendment - 2	In Wide Circulation stage	Pending for approval for WC stage . Approval request sent to chairperson via Email reminder Regarding Amd. 2 of IS 16648-5.pdf EMAIL IS 16648-5_07-08-2024...

The committee may NOTE.

4.3 Standards under publication

Sl No.	IS No.	Title	Status	Remarks
1)	MED/04/21276	Manifold Type Storage Water Tank For All Glass Evacuated Tubes Solar Collector Systems Specification	In Printing.	<i>Publication in process</i>
2)	MED/04/21413 (IS 16544 : 2016)	All glass evacuated tubes solar water heating system Amendment - 2	In Printing.	<i>Comment from CMD-III received. pl see Sl No.1 of Item 4</i>
3)	MED/04/21160 IS 13129 (Part 3): 1991	Solar Heating Domestic Water Heating Systems Part 3 Procedures For System Component Characterization And Prediction For Yearly Performance Using Component Performance Data	In Printing.	<i>Publication in process.</i>

The committee may NOTE.

ITEM 5 COMMENTS ON PUBLISHED/DRAFT INDIAN STANDARD

1) MED 04 (21276)- MANIFOLD TYPE STORAGE WATER TANK FOR ALL GLASS EVACUATED TUBES SOLAR COLLECTOR SYSTEMS SPECIFICATION

Sl No.	Clause / Sub Clause No.	Paragraph No./Figure	Type of Comment	Attachment

		No./Table No.		
1	Cl. 5.2	1	Editorial	N/A
Comments/Suggestions along with Justification for the Proposed Change			<p>1. When It is mentioned that "The material of outer cladding shall be pre-painted galvanized steel conforming to IS 14246", Then the clause should not provide an Alternative arrangement in the second line.</p> <p>2. If we are providing alternative arrangements with Either-Or requirement (Either both Shall or Both May), we should also fix the grades/varieties of "aluminum/stainless steel/FRP" otherwise it would be an open ended non-verifiable clause.</p>	
Proposed Change /Modified Wordings			Wordings may be suitably modified if the comments are accepted.	

The committee may NOTE.

ITEM 6 REVIEW OF PUBLISHED INDIAN STANDARD

6.1 Status of review/re-affirmation of standards in 2024-25.

Sl No.	IS No.	IS Title	Remarks	Decision taken
1)	IS 12933 (Part 1) : 2003	Solar flat plate collector — Specification: Part 1 Requirements (<i>second revision</i>)	Committee finalised the revision draft for WC	Pl see Sl. No 2 of Item 4 .
2)	IS 12933 (Part 2) : 2003	Solar flat plate collector — Specification: Part 2 Components (<i>second revision</i>)	Committee finalised the revision draft for WC	Pl see Sl. No 2 of Item 4 .
3)	IS 12933 (Part 3) : 2003	Solar flat plate collector — Specification: Part 3 Measuring instruments (<i>first revision</i>)	Reviewed In : 2019 <u>ToR</u>	<p>Dr. SK Shukla from IIT BHU has provided a modified ToR vide email. IS 12933-3 ToR.docx</p> <p>Committee agreed to the same and agreed that the project may</p>

				be awarded to Dr. SK Shukla from IIT BHU. ToR approval in process. Email approved tor_01_dec 2023.pdf
4)	IS 13429 (Part 2) : 2018	Solar cooker — Box type — Specification: Part 2 Components (<i>second revision</i>)	<u>ToR</u>	The committee agreed and finalised the modified ToR. IS 13429-2 ToR .docx IS 13429-3 ToR .docx
5)	IS 13429 (Part 3) : 2018	Solar cooker — Box type — Specification: Part 3 Test method (<i>second revision</i>)	<u>ToR</u>	Committee agreed that the project may be awarded to Dr. S K Samdarshi, Central University of Jharkhand, Ranchi. ToR approval in process. Email approved tor_01_dec 2023.pdf

The Committee may NOTE and SUGGEST.

ITEM 7 DATE AND PLACE FOR THE NEXT MEETING

The Committee may see Item no. 3.1.

ITEM 8 ANY OTHER BUSINESS WITH PERMISSION OF CHAIR

The Committee may DECIDE.

ANNEX A (Clause 2.2.3)

Composition for Renewable Energy Sources Sectional Committee, MED 04

Meeting No.	Date	Place
27 th	26 June 2024	Webex Online
26 th	08 Nov 2023	Webex Online
25 th	19 June 2023	Webex Online

Sl No	Organisation Represented	Principal Member/ Alternate Member	25 th	26 th	27 th	Total
1)	Ministry of New and Renewable Energy, New Delhi	Dr A. K. Tripathi (<i>Chairman</i>)	Y	Y	Y	3/3

2)	Bharat Heavy Electricals, Hyderabad	Shri Amrish Gupta Shri Saumen Kumar Bhaumik (Alt-1) Shri Subhashish Gupta (Alt-2)	N	Y	Y	2/3
3)	Biogas Forum India, New Delhi	Dr A. R. Shukla	Y	Y	Y	3/3
4)	CSIR-Central Mechanical Engineering Research Institute, Durgapur	Dr Chanchal Loha Shri Subho Samanta (Alt)	Y	N	Y	2/3
5)	CSIR-National Environmental Engineering Research Institute, Nagpur	Er Ankit Gupta Ms Poonam Prasad (Alt)	Y	Y	Y	3/3
6)	Cement Manufacturers Association, New Delhi	Shri Raju Goyal Shri Manmohan Rathi (Alt-1) Shri Shubho Chakravarty (Alt-2)	Y	Y	Y	3/3
7)	Central Arid Zone Research Institute, Jodhpur	Dr H. L. Kushwaha Dr Surendra Poonia (Alt)	N	Y	N	1/3
8)	Central Public Works Department, New Delhi	Shri Vimal Kumar Shri Rajiv Gupta (Alt)	N	Y	N	1/3
9)	Consumer Coordination Council (CCC), Noida	Shri P. Ramarao Ms Neetu Chauhan (Alt)	N	N	N	0/3
10)	Emmvee Photovoltaic Power Private Limited, Bengaluru	Shri Vijay Kumar C. R. Shri Manju Nath Ullur H. (Alt)	Y	Y	N	2/3
11)	India Meteorological Department, New Delhi	Shri H. S. Sawhney Dr Anikender Kumar (Alt)	Y	N	N	1/3
12)	Indian Institute of Technology (BHU), Mechanical Engineering Department, Varanasi	Shri Shailendra Kumar Shukla	N	Y	Y	2/3
13)	Indian Institute of Technology Bombay, Mumbai	Prof Anish Modi (Alt) Shri Santanu Bandyopadhyay	N	Y	Y	2/3
14)	Indian Renewable Energy Development Agency Ltd, New Delhi	Shri Pradipta Kumar Roy Shri Puran Mal Meena (Alt)	Y	Y	Y	3/3
15)	International Copper	Shri Jyotish Pande	N	Y	Y	2/3

	Association India, Mumbai					
16)	Maharashtra Energy Development Agency, Pune	Shri Manoj A. Pise Shri Hemant Manik Kulkarni (Alt-1) Shri Anand V. Kulkarni (Alt-2) Shri Sameer Ghodake (Alt-3)	Y	N	Y	2/3
17)	Ministry of New and Renewable Energy, New Delhi	Dr S. R. Meena Dr Avinash K. Singhal (Alt-1) Shri Vikram Dhaka (Alt-2) Shri Hiren C. Borah (Alt-3) Shri Rajkumar Bhawariya <i>(Representative)</i>	Y	Y	Y	3/3
18)	Ministry of Ports, Shipping and Waterways, New Delhi	Shri Anil Pruthi Shri Ramji Singh <i>(Representative)</i>	Y	Y	Y	3/3
19)	National Institute of Solar Energy, Gurugram	Shri Kishore K. Menon Dr Chandan Banerjee (Alt) Shri Vikrant Yadav <i>(Representative)</i> Dr Avadhesh Yadav <i>(Representative)</i>	Y	Y	Y	3/3
20)	Rajagiri School of Engineering Tech. (RSET), Kochi	Dr Varghese Panthalookan Shri Joel George (Alt)	Y	Y	Y	3/3
21)	Regional Test Centre, Pune	Prof (Dr) Sandesh R. Jadkar Dr Anagha M. Pathak (Alt-1) Dr Adinath M. Funde (Alt-2)	Y	Y	Y	3/3
22)	Sardar Patel Renewable Energy Research Institute, Vallabh, Vidyanagar	Er Asim Kumar Joshi Dr Shaishav Sharma (Alt)	Y	N	N	1/3
23)	Solar Thermal Federation of India, Pune	Shri Jaideep N. Malaviya	N	Y	Y	2/3
24)	The Energy and Resources Institute, New Delhi	Shri N. K. Ram	N	Y	Y	2/3
25)	In Personal Capacity, New Delhi	Shri Atam Kumar	N	N	N	0/3