

**BUREAU OF INDIAN
STANDARDS**

MINUTES

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Rotating Machinery Sectional Committee ETD 15	32 nd	Tuesday	27 th June 2023	10:30 AM	WebEx (Online)

CHAIRMAN : Shri Anish K Varshney

MEMBER SECRETARY : Ms. Neha Agarwal

Members Present:

S. No	Organization	Name
1.	In Individual Capacity	Shri Anish K Varshney (Chairman)
2.	ETD, BIS	Smt Neha Agarwal-Scientist-C
3.	Asea Brown Boveri Limited	Shri Atul Rana
4.	Bharat Bijlee Limited	Shri Salil Kumar
5.	Bharat Bijlee Limited	Shri Vivek Batra
6.	CG Power And Industrial Solutions	Shri Prashant Mahajan
7.	CG Power And Industrial Solutions	Shri Prashant Ankalkhope
8.	CG Power And Industrial Solutions	Shri A. Sudhakaran
9.	Electrical Research And Development Association	Shri R P Singh
10.	Havells India Limited	Shri Anil Akole
11.	Indian Electrical And Electronics Manufacturers Association	Shri Pragati Sohoni
12.	Indian Electrical And Electronics Manufacturers Association	Shri Praveen Kumar
13.	Indian Electrical And Electronics Manufacturers Association	Shri K. Seetharaman

14.	Indian Pump Manufacturers Association	Shri K.V. Karthik
15.	Integrated Electric	Shri Praveen Vijayraghavan
16.	International Copper Association, India	Shri Abhishek Dhupar
17.	KSB Pumps Limited	Shri Dattatray Katkar
18.	KSB Pumps Limited	Shri Rajesh Gote
19.	Marathon Electric Motors (India) Limited	Shri Rajiv Ranjan
20.	Scientific And Industrial Testing And Research Centre	Shri K Ullaganathan
21.	Scientific And Industrial Testing And Research Centre	Shri A. M. Selvaraj
22.	Scientific And Industrial Testing And Research Centre	Shri Krishnamoorthy
23.	Siemens Limited	Shri Ashish Shere
24.	Siemens Limited	Shri Prasad Hardikar
25.	Siemens Limited	Shri Neelesh Kirange
26.	Southern India Engineering Manufacturers Association	Shri Arun Kumar
27.	Southern India Engineering Manufacturers Association	Dr Subramanian
28.	Southern India Engineering Manufacturers Association	Shri Vignesh
29.	Southern India Engineering Manufacturers Association	Dr.C.Murugesan
30.	Thyssenkrupp Industrial Solutions (India) Private Limited	Shri Charuta Vikram Mulay
31.	Thyssenkrupp Industrial Solutions (India) Private Limited	Shri Vajjnath G. Sangekar
32.	Toshiba Mitsubishi-Electric Industrial Systems Corporation	Shri Manish Joshi
33.	Toshiba Mitsubishi-Electric Industrial Systems Corporation	Shri Sudheer Tapaskar
34.	Toshiba Mitsubishi-Electric Industrial Systems Corporation	Shri Venkatesulu Thumbur
35.	Shakti Pumps (Invitee)	Shri Sachin Bhandari

Item 0 GENERAL

0.1 Welcome and Opening Remarks by the Chairman

Shri Anish Varshney welcomed all the participants and wished for successful discussion on all agenda points. Further, he emphasized for developing indigenous standards wherever required.

Ms Neha Agarwal, Member Secretary welcomed all the members present during the meeting. She requested members to constrain their discussion within the agenda point to complete all agenda items.

The meeting started with brief introduction of members present during the meeting

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the 32nd meeting of Rotating Machinery Sectional Committee, ETD 15 held on 29th Nov 2022 were circulated vide BISDG letter no. ETD 15/A-2.31 dated 12-12-2022.

The Committee formally confirmed the minutes of the last meeting.

1.2 Presentation on the ‘Process Reforms in Standardization Activity of BIS’

Member secretary delivered a presentation on ‘Process Reforms in Standardization Activity of BIS’ and appraised the members regarding recent initiatives taken by BIS to improve functioning in areas such as stakeholder management, committee management strategy, enhancing international footprint, digital transformation etc. The committee noted the information.

1.3 Actions Arising Out of Previous Meetings (31st Meeting)

Sl. No.	Item No. of Last Minutes	Subject	Decision taken during the last meeting	Action/Remarks	Decision taken during the meeting
1.	1.2 (1)	Revision of IS 9283: 2013/ Motors for Submersible Pump sets – Specification (Second Revision) ETD 15 (17922)/ P Draft circulated vide email dated 18 August 2021 with last date of comments as 17 Sep 2021.	The committee discussed the comments received on the draft document. Decisions are placed at Annex-1. Further, it was decided to revise the existing draft in line with the following changes: 1. Delete row (ii) of Table 6 2. Reference of IS 15999 (Part 1) in place of IS 3043. 3. Addition of separate annexure to specify cable	The modified draft is awaited.	Shri Murugesan, SIEMA informed that the draft has already been submitted to BIS after incorporating the all changes as discussed during the joint meeting held with MED 20. Further, Shri Sachin Bhandari requested to include EL 4 equivalent to IE1 class of IEC 60034-30-1.

			<p>sizes</p> <p>3. Title of performance characteristics tables needs to be in line with IS 8034.</p> <p>4. Clause 5.9 (note 2)- For single-phase motor output ratings below the rating specified may be permitted.</p> <p>SIEMA was requested to submit the revised draft in consultation with Shri Dilip Bhawe within 15 days.</p> <p>Upon receipt, the draft will be wide circulated for one month for seeking comments.</p>		<p>However, it was clarified that the modified document already covers the same.</p> <p>It was decided to wide circulate the modified draft for one-month time period.</p> <p>Meanwhile, as suggested by members, SIEMA was requested to review the acceptance criteria for resin filled submersible motor in which enameled winding wire used as they are capable to resist high temperature.</p>
2.	1.2 (2)	<p>Revision of IS 12075: 2008 Mechanical Vibration of Rotating Electrical Machines with Shaft Heights 56 mm and Higher - Measurement, Evaluation and Limits of Vibration Severity</p>	<p>ETD 15 (16745)/ WC Draft circulated vide email dated 10 June 2021 with last date of comments as 12 July 2021.</p> <p>The committee discussed the comments.</p> <p>However, it was decided to re-circulate the draft. ABB, Siemens and Bharat Bijlee were agreed to relook the draft and submit comments within one month.</p>	<p>The draft was re-circulated vide email dated 23 December 2022. However, no comments received.</p> <p>The committee may approve the draft for printing.</p>	<p>Shri Salil Kumar informed that he submitted comments to Shri Dilip Bhawe.</p> <p>It was decided to re-circulate the document along with comments for one month period time.</p>

3.	1.2 (3)	<p>ETD 15 (15753) (Third Revision of IS 996: 2009)</p> <p>Single phase ac induction motors for general purpose</p>	<p>The committee discussed that its not possible to achieve efficiency in single phase motors as in 3-phase motors. Therefore, here efficiency can not be aligned with IEC 60034-30-1.</p> <p>In addition, IEC 60034-30-1 does not define frame to output ratio also.</p> <p>Further, to modify Table 12 and Table 13, PICL would be requested to provide nominal efficiency value.</p> <p>IEEMA was also requested to share the draft with leading manufacturer of single phase ac motors for obtaining comments.</p>	<p>The reply is awaited from PICL.</p>	<p>The members opined to take views from fan manufactures and IFMA.</p> <p>Shri Anil Akole, Havells also agreed to take views from their appliances division.</p>
5.	1.2 (4)	<p>NWIP- PERMANENT MAGNET PMAC / DC / PMSM MOTORS FOR SUBMERSIBLE PUMPSETS - SPECIFICATION</p>	<p>A small working group was constituted to study the NWIP draft along with the draft on DC Motor (including BLDC motors) for used in DC water pump circulated earlier in order to discuss the comments and to find out the possibility if both drafts can be merged to avoid duplicity.</p> <p>The composition is as follows:</p> <ol style="list-style-type: none"> 1. IPMA 2. SIEMA 3. SITARC 4. ERDA <p>The WG was requested to submit the feedback within one-month time.</p>	<p>Mail was sent to working group on 28th Feb followed by 1 June 2023.</p> <p>The WG may kindly update the status.</p>	<p>WG members informed that the report will be submitted in one month time.</p>

6.	1.2 (5)	Revision of IS 12065	<p>Shri Ashish Shere informed that draft document based on Latest edition of IEC 60034-9 will be submitted in 3 months time. He was requested to expedite the work.</p> <p>The same WG was also requested to review IS 4758: 1968 'Methods of measurement of noise emitted by machines' and recommend for withdrawal, if requirements are already covered in IS 12065.</p>	Reply is awaited.	Shri Ashish Shere informed that the revised draft will be submitted shortly. He also requested member secretary to share word copy of IS 12065.
7.	4.1	New Work Item Proposal: Standards for Design, Manufacture, Assembly of Micro Back Pressure Steam Turbines in Processing Industries	Shri Anish Varshney informed that draft standard is required to move forward.	The subject will be transferred to MED 22.	The committee noted the information.
8.		Revision of IS 8151 'Specification for single - Speed three - Phase induction motors for driving lifts'	The committee decided to wide circulate the standard for seeking comments.	<p>ETD 15 Doc. (21497)/ Revised draft for IS 8151 was wide circulated vide letter dated 16-12-2022.</p> <p>No comments received.</p>	The committee opined to share the draft with lift & Escalators Sectional Committee, ETD 25 of BIS for getting feedback.
9.		Revision of IS 12615: 2018 Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (Third Revision)	The committee decided to revise IS 12615: 2018 in order to bring more clarity in the scope as well as to incorporate all the suggestions received during the last meeting of ETD 15.	The committee may decide the future course of action in this regard.	<p>The committee decided to constitute a small working group with the following composition:</p> <p>Shri Prasad Hardikar, Siemens-Convener</p> <p>Shri Dilip Bhave, In personal capacity</p> <p>Shri Praveen Vijayraghavan,</p>

					<p>Integrated Electric Shri Ravi Singh, ERDA Representative from SIEMA Shri A. M. Selvaraj, SITARC Shri K. Seetharaman, IEEMA</p> <p>Further, to resolve issues faced by manufacturers regarding dual IP test report as per IS/ IEC 60034-5, Shri Praveen Vijayraghavan was requested to submit detailed proposal to ETD so the same may be discussed with CMD 3 for brining necessary modifications in SIT and into the standard, if required.</p>
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Item 2 COMPOSITION OF ROTATING MACHINERY SECTIONAL COMMITTEE, ETD 15

2.1 The composition of the Sectional Committee ETD 15 is given in **Annexure 1**.

Cooption request received-

a) Smt Smita Nisal, GM (Design & Development) Kirloskar Oil Engines Limited, Pune

It was decided to add Smt Smita Nisal into additional mailing list of ETD 15 to offer comments/ feedback on the documents circulated by ETD 15.

b) Shri S Prashob, CPRI

It was decided to coopt Shri S Prashob, CPRI into ETD 15 sectional committee.

2.2 Status of participation of members in the previous three meetings inviting suggestions for improvement

The committee reviewed the participation of members and decided the following:

a) Delete the following organizations in view of no participation since last 3-4 meetings:

1. Bureau of Energy Efficiency
2. SJVN Limited, Shimla
3. Steel Authority of India Limited (SAIL), New Delhi
4. Testing Electrical Standards Laboratory and R&D Institute Private Limited, Gandhinagar

b) Write letters to following organizations once again for active participation:

1. IIT Delhi
2. Development Commissioner Micro-Small and Medium Enterprises

c) As informed during the meeting, nominations will be updated for the following organizations:-

1. IEEMA
2. BHEL (Shri Anish Varshney, Chairman kindly agreed to provide the fresh nominations)

2.3 Creation of pool of experts

The committee noted the information.

Item 3 APPROVALS OF DRAFT INDIAN STANDARDS FOR FINALIZATION/WIDECIRCULATION

SI No.	Draft Standards
1.	ETD/15/21497/ IS 8151: 1976 Specification For Single-Speed Three-Phase Induction Motors For Driving Lifts
2.	ETD/15/15753 IS 996: 2009 Single Phase AC Induction Motors For General Purpose Third Revision
3.	ETD/15/22577 IS 7572: 1974 Guide For Testing Single-Phase Ac Motors First Revision
4.	ETD/15/17922 IS 9283: 2013 Motors For Submersible Pump-Sets - Specification Third Revision

The committee noted the information.

Item 4 REVIEW OF PROGRAM OF WORK OF ETD 15

Mechanical Engineering Division Council has discussed and agreed on the transfer of the turbine standards from ETD 15 to MED 22. In view of same, total 16 Indian Standards on steam, hydraulic

and gas turbines will be transferred to MED 22 sectional committee.

The Committee noted the information.

4.1 (a) Review of scope of ETD 15

Present Scope: To prepare standards on rotating electrical machines like induction, synchronous, motors, generators, dc machines and turbines including carbon brushes for electrical machines (with the exception of traction machines and rotating machinery coming under the purview of other Committees).

Proposed Scope: To prepare standards on rotating electrical machines like induction, synchronous, motors, generators, dc machines including carbon brushes for electrical machines (with the exception of traction machines and rotating machinery coming under the purview of other Committees).

The committee approved the proposed scope of ETD 15. The same will be put up to ETDC for its consideration and approval.

4.1(b) Review of Standards - Taking up Revision of Pre-2000 Standards

BIS has identified a list of standards which are very old (pre year 2000). Status of such Indian Standards as discussed during the last meeting of ETD 15 are given at **Annex 3**.

The committee may consider.

The committee reviewed the annexure 3. All concerned members were requested to review the pre 2000 standards and suggest changes as per the latest practices for developing draft standard.

4.1 (c) Reaffirmation of Standards

The committee noted the information.

4.2 Rolling Annual Action Plan – 2023-24 for ETD 15 (carried over from AAP 2022-23)

Sl No.	Subject / IS	Priority	Action Taken/ Proposed
1.	Revision of IS 9283: 2013 Motors for Submersible Pump sets – Specification (Second Revision)	High	P Draft stage completed

2.	Revision of IS 996: 2010 Single Phase AC Induction Motors For General Purpose	High	WC stage completed
3.	Revision of IS 12065 Permissible limits of noise levels for rotating electrical machines	Medium	P draft is awaited
4.	Revision of IS 12075 Mechanical Vibration of Rotating Electrical Machines with Shaft Heights 56 mm and Higher - Measurement, Evaluation and Limits of Vibration Severity	Medium	WC stage completed

The committee noted the AAP 2023-24.

4.3 New Work Item Proposals (NWIPs) received from IEC TC 2

Project Reference	Scope
IEC TS 60034-16-2 ED1 Rotating electrical machines - Part 16-2: Excitation systems for synchronous machines - Models for power system studies	This report recommends modelling guidelines and appropriate models for excitation systems for use in power system stability studies and includes a nomenclature defining the parameters and variables used.
IEC 60034-27-8 ED1 Rotating machinery - Part 27-8: Detection of inter turn short-circuits in rotor windings of cylindrical rotor synchronous generator	This document establishes the testing conditions, testing methods and evaluation principles for inter turn short-circuit faults in the cylindrical rotors during hand-over, maintenance and operation of synchronous machines.
IEC TS 60034-38 ED1 Guidelines for condition-based evaluation and maintenance of cylindrical-rotor synchronous generators	This document specifies the basic methods for condition-based evaluation and condition-based maintenance for cylindrical-rotor synchronous generators, including condition information classification, criteria acquisition and quantization standards, component and overall evaluation, the strategy, content, category, and effect evaluation of condition-based maintenance.

The committee decided to take up these subjects later.

4.5 Scientific and Periodic Journals to be subscribed

The committee may suggest scientific and periodic journals which may be subscribed by BIS to discover latest technological development taking place in the field of rotating machinery and its related activities all over the world.

The committee noted the information.

4.6 Participation in National and International events related to Rotating Machinery

The committee noted the information.

Item 5 INTERNATIONAL ACTIVITIES

5.1 The present position of work of the corresponding IEC Technical Committee IEC/ TC 2 on Rotating Machinery is given at **Annex 4**.

5.2 Status of standardization in the areas dealt by the committee at international level and suggestions for improving participation in the related committees of ISO/IEC.

India is the participating member in IEC TC 2 'Rotating Machinery'. The next plenary meeting of IEC TC 2 is scheduled during 02-06 October 2023 in Paris.

The committee noted the information. Members were requested to send their willingness to participate in IEC TC 2 meeting. Detailed proposal along with agenda will be circulated through mail shortly.

The committee approved the participation of Ms Neha Agarwal, Member Secretary to IEC TC 2 meeting for presenting India's view points at International forum.

Item 6 WTO-TBT ENQUIRY POINT

The committee noted the information.

Item 7 INFORMATION ON E-SALE OF STANDARDS BY BIS

7.1 The committee noted the information.

Item 8 TRAINING PROGRAMME

The committee noted the information.

Item 9 DATE AND PLACE OF NEXT MEETING

9.1 Annual Meeting Calendar of ETD 15

Committee	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ETD 15	27 June 23	-	Nov 2023	-

The committee noted the annual meeting calendar of ETD 15.

Item 10 ANY OTHER BUSINESS

In view of no other business, the meeting ended with vote of thanks to chair.