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BUREAU OF INDIAN STANDARDS

AGENDA

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Rotating Machinery Sectional Committee ETD 15	35th	**Thursday**	**20th june 2024**	10:00	**hybrid**

CHAIRMAN : Shri Mukesh Maravi	**MEMBER SECRETARY** : Ms. Jatin Tiwari

Item 0 GENERAL

0.1 Welcome and Opening Remarks by the Chairman

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the 34st meeting of the Rotating Machinery Sectional Committee, ETD 15 held on 22th March 2024 were circulated on 6 May 2024

No comments received.

The Committee may note and formally confirm the minutes of the last meeting.

ITEM 2- COMPOSITION

Composition with attendance in last three meetings is in Annexure-1

New Nomination - Mr Umesh Balani, Rotomag. The committee may advise.

ITEM 3- ACTIONS ARISING OUT OF PREVIOUS MEETINGS

Sl. No.	Subject	Decision taken during the last meeting	Action/Remarks
1.	**ETD 15 (25631) Rotating electrical machines - Part 1: Rating and performance**	P draft circulated , comments may be reviewed approve for WC -Annex 4	
2.	**ETD 15 (25633) Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests excluding machines for traction vehicles**	P draft circulated , comments may be reviewed approve for WC -Annex 5	
3	**ETD 15 (25634) Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines IP code - Classification**	P draft circulated , comments may be reviewed approve for WC -Annex 6	
4	**Revision of IS 12065**	Committee may see the comments Annex 3 and approve for WC	
5	**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	WC complete, Document in printing, Approval for finalization.	
6	**ETD 15 (15753) (Third Revision of IS 996: 2009)** Single phase ac induction motors for general purpose	Comments may be reviewed Annex 2 and approve for WC	
7	**Revision of IS 9283: 2013/ Motors** for	Committee may discuss the technical comments received	

	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.	attached in Annex 7 and comments from MED may also be reviewed.	
7.	NWIP- PERMANENT MAGNET PMAC / DC / PMSM MOTORS FOR SUBMERSIBLE PUMPSETS - SPECIFICATION	Members may advise on scope and drafts.	
9.	Revision of IS 8151 'Specification for single - Speed three - Phase induction motors for driving lifts'	DC approval is awaited.	
10	Revision of IS 12615: 2018 Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (Third Revision)	Working group was reconstituted in last meeting as follows: Shri Prasad Hardikar, Siemens- Convener Shri Dilip Bhave, In personal capacity Shri Praveen Vijayraghavan,Integrated Electric Shri Ravi Singh, ERDA V Krishnamoorthy, SITARC Shri Praveen Kumar, IEEMA Working group may advise further.	
11	IEC 60034-23:2019-Edition 1.0 (2019-01-24)-Rotating electrical machines - Part 23: Repair, overhaul and reclamation	Approval for Wide Circulation	

Item 4 REVIEW OF PROGRAM OF WORK OF ETD 15

Annual Action Plan may be seen by all members . (website presentation)

-Standards pre 2000 are either to be withdrawn or revised

- Standards post 2000 that are due for 5 year reaffirmation are either to be reaffirmed or revised

Entire program of work (earlier circulated) and action to be taken is given in excel circulated via email dated 10 May and 27 May - ETD 15 complete Pending Reviews and recommendation . (Linked Excel to be presented and discussed.)

The committee members may give their inputs and confirm the action recommended.

Item 5 Archiving

Standards in which immediate action is not to be taken or are not relevant are to be archived-

In this connection, the following standards are proposed to be archived:

a) IS 2972 (Part 1) : 1979- Specification for textile motors: Part 1 loom motors (First Revision)

b) IS 2972 (Part 2) : 1979- Specification for textile motors: Part 2 card motors (First Revision)

c) IS 9919 : 1999- Guide for selection and use of carbon brushes in electrical rotating machines (First Revision)

d) IS 12642 : 1989- Brush - Holders for slip rings group R, type RA - Specification

e) IS 13466 : 1992- Brushes for electrical machines - Specification

f) IS 14376 : 1996- Brush holders for electrical machines - Specification

g) IS 14569 : 1999- Commutators for electrical machines - Specification

h) IS 14578 : 1999- Three - Phase induction motors for use in nuclear power plants - Specification

i) IS 13555 : 1993 Guide for selection and application of 3 - Phase AC induction motors for different types of driven equipment

Item 6 INTERNATIONAL ACTIVITIES

6.1 The present position of work of the corresponding IEC Technical Committee IEC/ TC 2 on Rotating Machinery is given at IEC TCs mapped onto ETD 15 **or** **https://www.iec.ch/dyn/www/f?p=103:22:600961044507047::::FSP_ORG_ID,FSP_LANG_ID:1221,25**

Documents for voting and comments:

Reference, Title	Downloads	Circulation Date	Closing Date	Of interest to Committees
2/2202/CD IEC 60034-8 ED4: Rotating electrical machines - Part 8: Terminal markings and direction of rotation	459 kB	2024-06-14	2024-08-09	
2/2200/CD IEC 60034-27-8 ED1: Rotating machinery - Part 27-8: Detection of interturn short-circuits in rotor windings of cylindrical rotor synchronous generator	1811 kB	2024-06-07	2024-08-02	
2/2192/CD IEC 60072-3 ED2: Dimensions and output series for rotating electrical machines - Part 3: Small built-in motors - Flange numbers BF10 to BF50	231 kB	2024-05-03	2024-07-26	

2/2186/CD IEC 60034-18-41 ED2: Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters - Qualification and quality control tests	979 kB	2024-03-29	2024-06-21
2/2187/NP PNW 2-2187 ED1: Rotating electrical machines - Part 37: Product data and properties for information exchange	897 kB	2024-03-29	2024-06-21

Item 6 DATE AND PLACE OF NEXT MEETING

Item 7 ANY OTHER BUSINESS

ANNEX 1
COMPOSITION

S.no	Organization	Attend/Total
1	Bharat Heavy Electricals Limited, Bhopal	1/3
2	Asea Brown Boveri Limited, Faridabad	2/3
3	Bharat Bijlee Limited, Mumbai	2/3
4	Bharat Heavy Electrical Limited, New Delhi	0
5	CG Power and Industrial Solutions, Mumbai	1/3
6	Central Electricity Authority, New Delhi	1/3
7	Central Power Research Institute, Bengaluru	1/3
8	Electrical Research and Development Association, Vadodara	2/3
9	Engineers India Limited, New Delhi	1/3
10	Havells India Limited, Noida	2/3
11	Hindustan Electric Motors, Mumbai	1/3
12	INTEGRATED ELECTRIC COMPANY PRIVATE LIMITED, Bengaluru	1/3
13	Indian Electrical and Electronics Manufacturers Association, New Delhi	1/3
14	Indian Pump Manufacturers Association, Mumbai	2/3
15	Ingersoll Rand India Limited, Ahmedabad	0
16	International Copper Association India, Mumbai	1/3
17	KSB Pumps Limited, Pune	1/3
18	Marathon Electric Motors (India) Limited, Kolkata	1/3
19	NTPC Limited, New Delhi	1/3
20	Nuclear Power Corporation of India Limited, Mumbai	1/3
21	Scientific and Industrial Testing and Research Centre, Coimbatore	2/3
22	Siemens Limited, Mumbai	2/3

23	**Southern India Engineering Manufacturers Association, Coimbatore**	**2/3**
24	**Thyssenkrupp Industrial Solutions (India) Private Limited, Mumbai**	**2/3**
25	**Toshiba Mitsubishi-Electric Industrial Systems Corporation, Bengaluru**	**2/3**

Annex 2

S No.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings	Remarks
1	Name: Shri Ravi Singh	5.13	full	Technical	The cooling air temperature upper limit shall be increase to 45 Degree celcius. as the ambient temperature of India is going upto 45 degree also.	The cooling air temperature not exceeding 40 C	
	Organisation: N/A	N/A					
	Email: ravi.singh@erda.org						
	Mobile: 9978940998	12.4	first	Technical	IS 7572 shall also be reviewd, as the methos of testing is old and requires many changes.	may be discuss in committee meeting.	
	Comment ID #: ETD_2024-05-106399	N/A					
		ANNEX E	full	General	ANNEX E tital shall include testing also.	GUIDELINES FOR SELECTION and Testing OF FAN DUTY MOTORS	
		N/A					
2	Name: Bhagyashree Sanjay Pawar	Standard	Standard	General	No comments since we do not have expertise		

	Organisation: N/A	N/A			in this field.		
	Email: BHAGYASHREE.PAWAR@BHARATBIJLEE.COM						
	Mobile: 9870105374						
	Comment ID #: ETD_2024-05-244478						
3	Name: Bhagyashree Sanjay Pawar	Standard	Standard	General	No comments since we do not have expertise in this field.		
	Organisation: N/A	N/A					
	Email: BHAGYASHREE.PAWAR@BHARATBIJLEE.COM						
	Mobile: 9870105374						
	Comment ID #: ETD_2024-05-244144						

Annex 3

IS 12065 comments

SNo.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings	Remarks
1	Name: Shri Ravi Singh	1	1	General	Earlier IS 12065 is describes the test method for the Rotating machines and its limit.	Proposed to discuss in Technial committee meeting.	
	Organisation: N/A	N/A					

	Email: ravi.singh@erda.org				Here in IS/IEC 60034-9 the standard is refering many ISO stsndard and many test methods.		
	Mobile: 9978940998						
	Comment ID #: ETD_2024-05-209511				here sampel is fixed i.e. zrotating electrical machine so we shhould fix a the testing mehod, instead of refering various ISO standards.		
					We should go with review and reprint of IS 12065 instead of adopting IEC 60034-9.		
2	Name: Shri Salil Kumar	5.2	7	Technical	Add clause no. 5.3	5.3 Background noise : The background noise reading when the machine is not on test shall be determined at the same points as for the test. The reading at each point with the machine on test ought to exceed that due to the background alone by at least 10 dB. When the	
	Organisation: N/A	cmt_1716635436_6651c72c64852.pdf					

						differences are less than 10 dB, corrections can be obtained from the background correction curve shown in Fig. 1.	
	Email: salil.kumar@bharatbijlee.com	5.2	7	Technical	Add clause no. 5.3.1	5.3.1 In the case of rapidly fluctuating background noise a difference of 10 dB between the	
	Mobile: 9867407257	cmt_1716635436_6651c72c64852.pdf				maximum background level and the machine on test is essential.	
	Comment ID #: ETD_2024-05-254535	5.2	7	Technical	Add clause no. 5.3.2	5.3.2 When corrections of 3 dB or greater are applied, the corrected levels should be indicated in	
		cmt_1716635436_6651c72c64852.pdf				brackets.	
		5.2	7	Technical	Add clause no. 5.3.3	5.3.3 When the increase in noise level due to the machine is less than 3 dB, measurements, in	
		cmt_1716635436_6651c72c64852.pdf				general cases to have any significance.	

3	Name: Shri BVVS Ganesh	1	Last	General	As per the latest Ministry of Environment&Forest guidelines and CEA guidelines, the allowable noise limits are far lesser than those in standards.	Note 3: For Thermal power plants, 85dB shall be limit for the rotating machines and maximum of 90dB for Turbo generators, crushers etc.	
	Organisation: N/A	N/A					
	Email: bvvsganesh@ntpc.co.in				For Thermal power plants, limit of 85dB was mentioned for most of the rotating machines and maximum of 90dB for Turbo generators, crushers etc.,		
	Mobile: 9650999581						
	Comment ID #: ETD_2024-05-284812				In view of above, the limits needs to be reviewed and revised and accordingly a note may be added.		

Annex 4

S No.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings

1	Name: Shri Ravi Singh	6.3	1	Technical	Most of the Motors running in India in out door condition the ambient temperature goes beyound 40 °C. also most of the manufacturers declares as 50°C on name plate.	Proposed to discuss in technical committee and the change shall be as follow
	Organisation: N/A	N/A				
	Email: ravi.singh@erda.org				We should change the ambienttemperature up to 45 °C..	The ambient air temperature shall not exceed 45 °C.
	Mobile: 9978940998					
	Comment ID #: ETD_2024-05-205224					
2	Name: Shri BVVS Ganesh	6.3	1	General	Maximum Ambient air temperature has been mentioned as 40 deg.C.	The ambient air temperature shall not exceed 50 deg.C
	Organisation: N/A	N/A				
	Email: bvvsganesh@ntpc.co.in				As per Indian conditions same may be revised to 50 deg.C	
	Mobile: 9650999581					
	Comment ID #: ETD_2024-05-288388	9.5	1	Technical	Pull up torque (minimum) mentioned as 0.3pu.	Unless otherwise specified (for example machines according to IEC 60034-12), the pull-up torque of
		N/A				

					However, as per IS 12615:2018, same is mentioned as 0.5pu.	cage induction motors under full voltage shall be not less than 0,5 times the rated torque.
					Discrepancy shall be suitably addressed.	

Annex-5

SNo.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings	Remarks
1	Name: Shri Ravi Singh	6.1.2	Table 2, Column 5	Technical	For small motors having torque below 1 Nm shall be tested as per direct torque method, as getting low value torque transduced in 0.2 class is difficult.	All single phase machines & machines below 1 Nm rated torque.	
	Organisation: N/A	N/A					
	Email: ravi.singh@erda.org				Earlier it was 1 kW , and now all motors are to be tested as per load curve method.		
	Mobile: 9978940998						
	Comment ID #: ETD_2024-05-216229						

Annex 6

S No.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings	Remarks
1	Name: Shri BVVS Ganesh	8.1	2	Technical	IP test conducted by some vendors with joints applied with silicone sealant (or any other sealant). Sealant application is over and above the general design and it is not generally mentioned in notes of the vendors documents.	No Sealants in the joint areas shall be applied before testing.	
	Organisation: N/A	N/A					
	Email: bvvsganesh@ntpc.co.in				So, testing shall be conducted without any sealants applied in the joint areas as the purpose of the test is to prove the inherent IP of that design.		
	Mobile: 9650999581						
	Comment ID #: ETD_2024-05-288218						

Annex 7

S No	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No.	Type of Comm	Comments/Suggestions along with Justification for	Proposed Change/Modified Wordings	Remarks

.				ent	the Proposed Change		
1	Name: Mallika Gope	5.1	1	Technical	Earthing should be made mandatory.	In case GI pipes are used for the purpose of earthing the motor, earthing connection shall be made to the discharge pipe clamps.	
	Organisation: N/A	N/A					
	Email: mallika@nabl.qcin.org	16.1	Note	Editorial	Editorial correction	This test may be conducted at a reduced voltage, when a current at least equivalent to full load current is being taken by the motor.	
	Mobile:	N/A					
	Comment ID #: ETD_2023-07-081109	16.2	Note	Editorial	Editorial correction	This test may be conducted at reduced voltage, when a current at least equivalent to full load current is being taken by the motor.	
		N/A					
		18.1	1	General	Punctuation added	The motor shall, whatever their type of construction, be capable of with standing for 10 s without stalling or abrupt change in speed (under gradual increase of torque) an excess torque of 60 percent of the rated torque, the voltage and frequency being	
		N/A					

						maintained at their rated value.	
		19.1	1	Editorial	typographical correction	The temperature rise test of the motor at rated voltage and supply frequency shall be carried out with the motor coupled to a suitable pump for the full load current and the set run continuously for 1 h till steady state temperature is achieved.	
		N/A					
		20.3	1	General	Text rearranged for clarity	Since the test is already conducted on the windings for acceptance, it shall, as far as possible, not be repeated. If however it is tested a second time at the laboratory or at the special request of the purchaser, the test voltage shall be 80 percent of the voltage (1200 V) given in 20.2.	
		N/A					
		21.1	1	Technical	Mega Ohm to be mentioned	The insulation resistance, when the high voltage test is applied, shall be not less than 5 MΩ.	
		N/A					

2	Name: Shri P. K. Dalwadi	5.2.3	1	Editorial	Clause 5.2.3 is not mentioned in Draft, which is required for Table 1	Proper Clause Number needs to Provide in all parameters	
	Organisation: N/A	N/A					
	Email: system@dukeplasto.com						
	Mobile: 9408701741						
	Comment ID #: ETD_2023-08-051216						
3	Name: Shri P. K. Dalwadi	7.1	1	Editorial	19.4mm & 19.6mm need to change	194mm & 196mm need to write there	
	Organisation: N/A	N/A					
	Email: system@dukeplasto.com						
	Mobile: 9408701741						
	Comment ID #: ETD_2023-08-051121						
4	Name: Shri P. K. Dalwadi	12	1	Editorial	Clause No. 12 needs a separate line, then all Clause numbers after that need to change.	Clause No. 12 needs a separate line, then all Clause numbers after that need to change.	
	Organisation: N/A	N/A					
	Email: system@dukeplasto.com						
	Mobile: 9408701741						
	Comment ID #: ETD_2023-08-052775						

5	Name: Shri P. K. Dalwadi	11.2	2	Editorial	"9" need remove from the sentence	The tolerance on the declared values	
	Organisation: N/A	N/A					
	Email: system@dukeplasto.com						
	Mobile: 9408701741						
	Comment ID #: ETD_2023-08-052327						
6	Name: Shri P. K. Dalwadi	0	0	Technical	Fig 11, 12 & 13 are provided but there are not any details provided in any clause number	Fig 11, 12 & 13 are provided but there are not any details provided in any clause number	
	Organisation: N/A	N/A					
	Email: system@dukeplasto.com						
	Mobile: 9408701741						
	Comment ID #: ETD_2023-08-057797						
7	Name: Shri Ravi Singh	5.1 & 5.4	full	Editorial	Earthing is mentined on 5.1 clause and also on 5.4 clause. duplicate entry	5.4 should be deleted	
	Organisation: N/A	N/A					
	Email: ravi.singh@erda.org	7.1 & 17.2	1	Technical	7.1 Tables Numbering is not proper (tabe 3 mentioned twice)	7.1 Numbering shall be corrected,	
	Mobile: 9978940998	N/A					
	Comment ID #: ETD_2024-05-037762				17.2 Table 6 is mentioned for tolerance		

					however tolerance is not given in table 6		
						17.2 table for tolerance shall be corrected.	
					also in 17.1 at some places table reference is given only up to table 5 insted of upto table 10..		
		16.3	full	Technical	this clause ask for testing premises, which is not a teschnical requirement.	16.3 Shall be deleted	
		N/A					
					In note IS 7572 is mentioned and that also need to be updated.	IS 7572 also need to be updated in line with lates standards.	
		16.4	full	General	16.4 TEST CERTIFICATES - this clause describe about certification and is not a technical requirements, and contains only generic information.	This clause shall be deleted.	
		N/A					