BUREAU OF INDIAN STANDARDS

AGENDA

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Basic Electrotechnical Standards and Power Quality Sectional Committee, ETD 01	19th	Thursday	27/06/2024	11:00 hrs	Virtual mode **Joining link:** https://bismanak.webex.com/bismanak/j.php?MTID=m1255d0e45087dcdae90e6cb3feb5bdd7 **Meeting number:** 25158126212 **Password:** ETD@01

CHAIRMAN: Smt Vandana Singhal **MEMBER SECRETARY:** Shri Emanuel Abhishek Murmu

Item 0 WELCOME & OPENING REMARKS BY THE CHAIRPERSON

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the last meeting (18th meeting) of Basic Electrotechnical Standards and Power Quality Sectional Committee, ETD 01 held on 09 November 2023 through video conferencing were circulated on 23 November 2023. In view of no technical comments received, the committee may formally approve the Minutes of last meeting.

The committee may consider.

Item 2 ACTIONS ARISING OUT OF PREVIOUS MEETING

SI. No.	Item No & Subject	Subject	Decision Taken in the Committee	Action Taken
1.	***1.2 (1)*** The present position of work of the corresponding IEC/IEEE/EN in the field of Power Quality.	The document on Draft Standard (16350) 'Power Quality Measurement and Monitoring Methods' is under advance stage of **printing**.	The committee noted the information given in Agenda	Printed as IS 18475: 2023
2.	***1.2 (2)*** Composition of Basic Electrotechnical Standards and Power Quality Sectional Committee, ETD 01	Co-option request sent to all the organization.	It is decided to resend the co-option request to all the organizations.	

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a.	TATA Steel	No reply received from listed organizations	Members were requested to provide contact details of these organizations.	-
b.	Reliance Power			-
c.	GE Power India Limited, Noida			-
d.	MSEDCL (Maharashtra State Electricity Distribution Company Limited)			-
e.	CTUIL			-
f.	Kerala Electricity Board			-
g.	BSES			Co-opted
h.	CESC, Kolkata			Co-opted
i.	TANGEDCO (Tamil Nadu Generation and Distribution Corporation Limited)			-
j.	National Test House (NTH)			Co-opted
k.	NPCIL			Co-opted
l.	RDSO			Co-opted
3.	***1.2 (3)*** *<u>Revision of IS 12360</u>* The composition of the Working Group is listed below: 1. CEA 2. Secure Meters 3. YMPL 4. Utilities-DMRC/TATA Power 5. International Copper Association India, Mumbai	Draft on IS 12360 was prepared incorporating all the amendments and sent to working Group members for their review. Members from CEA are requested to kindly review and update the draft standard as per the enactment of the Electricity Act 2003 in place of IE Rules.	It was decided to organize the working group meeting to finalize the draft standard for wide circulation.	Working group may update on the finalisation of draft
4.	***1.2 (4)***			
a.	**ETD 01 (18633)** **IEC 60447: 2004** Basic and Safety Principles for Man-Machine Interface Marking and Identification -	The document is under advance stage of printing.	The committee noted the information given in Agenda.	Printed as IS 7118: 2023

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	Actuating Principles (First Revision)			
b.	**ETD 01 (20085) IEC 62262:2002+AMD1: 2021CSV** Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts IK Code			Printed as IS 17050: 2023
c.	**ETD 01 (18650) IEC 60445: 2021** Basic and Safety Principles for Man-Machine Interface Marking and Identification - Identification of Equipment Terminals Conductor Terminations and Conductors (First Revision)			Printed as IS 11353: 2023
d.	**ETD 01 (20007) IEC 60050-395: 2014** Electrotechnical Vocabulary Part 14 Nuclear Power Plants			Printed as IS 1885 (Part 14): 2023
e.	**ETD 01 (20010) IEC 60050-845: 2020** Electrotechnical Vocabulary Part 16: Lighting			Printed as IS 1885 (Part 16): 2023
f.	**ETD 01 (20095) IEC 60050-441: 1984** Electrotechnical Vocabulary Part 17 Switchgear and Control Gear Second Revision			Printed as IS 1885 (Part 17): 2023

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g.	**ETD 01 (20012) IEC 60050-601: 1985** Electrotechnical Vocabulary: Part 30 Overhead Transmission and Distribution of Electrical Energy			Printed as IS 1885 (Part 30): 2023
h.	**ETD 01 (18659) IEC 60050-614: 2016** Electrotechnical Vocabulary Part 614: Generation Transmission and Distribution of Electricity Operation (First Revision)			Printed as IS 1885 (Part 70): 2023
i.	**ETD 01 (20080) IEC 60027-1: 1992** Letter Symbols and Signs used in Electrical Technology - Part 1: General			Printed as IS 3722 (Part 1): 2023
j.	**ETD 01 (18648) IEC 81346-1: 2009** Industrial Systems Installations and Equipment and Industrial Products - Structuring Principles and Reference Designations - Part 1: Basic Rules (First Revision)			Printed as IS 8270 (Part 2): 2023
k.	**ETD 01 (20017) IEC 61082-1: 2014** Preparation of Documents used in Electrotechnology - Part 1: Rules			Printed as IS 8270 (Part 1): 2023
l.	**ETD 01 (18649) IEC 61140: 2016**			Printed as IS 9409: 2023

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	Protection Against Electric Shock - Common Aspects for Installation and Equipment (First Revision)			
m.	**ETD 01 (18651) IEC 60152: 2021** Designation of phase differences by hour numbers in three-phase AC systems (First Revision)			Printed as IS 11354: 2023
5.	ETD 01 (18646) IEC 60196: 2009 IEC standard frequencies (First Revision)	IEC 60196 *"IEC standard frequencies''* is the standard for frequencies for all kind of applications but IS 7691' Frequencies for special power applications' is for special applications only. Committee members are requested to once again review the decision of Identical adoption of IEC 60196.	It was decided to assign the revision of IS 7691 to Yadav Measurements Private Limited, Udaipur. Yadav Measurements Private Limited to submit the draft within 2 months.	Committee may discuss
6.	**Revision of IS 2032: Part 25: 1980** Graphical Symbols used in Electrotechnology Part 25 Electrical Installations in Ships	Graphical symbols covered in IS 2032 Part 25 are not part of the IEC 60417 database. Mail sent to all the members to kindly suggest relevant IEC standard or technical Suggestions to revise the IS 2032 (Part 25): 1980. Committee members suggested to refer IEC 60417 series to revise IS 2032 (Part 25): 1980. IEC document will be sent to	It was decided to assign the revision of IS 2032: Part 25 to PGCIL in consultation with chairperson. PGCIL to submit the draft standard within 2 months.	PGCIL may update on the draft standard

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		members to examine and share their views to revise the Indian Standard		
7.	Revision of IS **11954: 1987** '*Guide for colour coding of electrical mimic diagrams'*	WC draft document completed; no comment received. Draft documents are under **finalization** stage.	It was decided to send the finalized drafts for printing.	Printed as IS 11954: 2023
8.	Revision of IS **1885: Part 34:** 1972 '*Indian standard electrotechnical vocabulary: Part 34 cinematography'*			Printed as IS 1885 (Part 34): 2023
9.	IS/IEC 60529: 2001 'Degrees of protection provided by enclosures (IP Code)'	No comments received on WC draft of Amendment to IS/IEC 60529: 2001. The committee may discuss to finalize the amendment.	It was decided to send the finalized Amendment for printing.	Amendment No. 01 issued in January 2024
10.	Revision of IS **12032** Series '*Graphical symbols for diagrams in the field of electrotechnology'*	IS 12032 Series is the identical adoption of the IEC 60617 series. The IEC 60617 series has been replaced by IEC 60617: 2012 DB which contains graphical symbols for use in electrotechnical diagrams. The possibility of creating or adopting the online database is in progress but for the time being, all the parts of IS 12032 series can be merged and the IEC 60617: 2012 DB can be adopted as Indian Standard.	It was decided to circulate a copy of the snapshot of IEC 60617: 2012 DB to all the committee members for their review and comment regarding adopting the IEC 60617: 2012 DB as an Indian Standard.	Committee may discuss

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Item 3 COMMENTS ON PUBLISHED STANDARDS

Sr. No.	Organisation and comments received	Action
1	Comments received from Satec Ltd on current edition IS 17036: 2018. As per NOTE b) 3) to clause 3.19 '*For polyphaser systems, an interruption occurs when the voltage falls below 5 percent of the reference voltage on all phases (otherwise, it is considered to be a dip)'*. Which infers that if voltage falls below 5 percent only on one or two phases, it should be classified as voltage dip and not as interruption. However, Table 13 for Supply Voltage Dip Limits does not specify **5>u** condition. (see **Annex 1**)	**Committee may discuss**

Item 4 COMPOSITION OF SECTIONAL COMMITTEE, ETD 01

4.1 The present composition and the status of participation of committee members in the previous three meetings of Basic Electrotechnical Standards and Power Quality Sectional Committee, ETD 01, is given at **Annex 2**.

The committee may review.

Item 5 INTERNATIONAL ACTIVITIES

5.1 India is a Participating member ('P' member) in IEC/TC 08 and IEC/TC70.
It may be noted that P-Members (Participating members) have the obligation to vote at all stages and to participate and contribute in the TC meetings (see **Annex 3**).

The committee may note.

Item 6 REVIEW OF INDIAN STANDARDS

6.1 As per the guidelines, published Indian Standards should be reviewed after every five years. If no revision is called for, the standard(s) may be re-affirmed. Reaffirmation of the standard(s), however, does not prevent from these standard(s) being taken up for revision. The Standards due for review are given in **Annex 4**.

The committee may note.

Item 7 NEW WORK ITEM PROPOSAL

The following NWIP may be taken up for formulation of Indian Standards in 2024-2025

Sl. No.	Subject
1	Guidelines for the design of interconnected power systems
2	Assessment of power quality – Characteristics of electricity supplied by public networks
3	Power quality management - General guidelines

The committee may discuss

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Item 9 ANNUAL CALENDAR OF TECHNICAL COMMITTEE MEETINGS

Sectional Committee	Q1	Q2	Q3	Q4
ETD 01	**27/06/2024**	26/09/2024	10/12/2024	07/03/2025

Item 10 ANY OTHER BUSINESS

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ANNEX 1

Email **ETD DEPARTMENT**

RE: Request for clarification on IS17036

From : Vitalys@satec-global.com Wed, Apr 03, 2024 05:06 PM
Subject : RE: Request for clarification on IS17036 JT
To : ETD DEPARTMENT <eetd@bis.gov.in> 11 attachments
Cc : markz@satec-global.com, akorolev@satec-global.com, vk@mbcontrol.com, Technical Information Services <info@bis.gov.in>, BIS DG Secretariat <dg@bis.gov.in>

Dear Shri Asit Kumar Maharana,

Nice to emeet you, my name is Vitaly Shestakov , I am APAC Manager in SATEC Ltd.
We are manufacturers of power quality analyzers, and represented in India for 30 years by our partners M.B.Control Systems.

As part of our roadmap we are planning to implement Indian standard IS17036 for power quality on one of our devices.
We already have reports of EN50160:2010 and EN50160:2007, and want to add reports as per IS17036.

Our CTO together with PQ expert scientist found some contradictions in that standard as below :

There are hard contradiction in Indian PQ standard IS 17036 :
In par.3.19 Note b) 3) is defined that:
"For polyphaser system, an interruption occurs when the voltage falls below 5 percent of the reference voltage on all phases (otherwise, it is considered to be a dip)."
This definition is corresponded with EN50160:2010.
But in the same time in Indian PQ standard in Table 13 for voltage dips classification is not presented row for **"5 > u"** and this is not correct,
because according to definition in par.3.19 Note b) 3) if voltage falls below 5 percent only on one or two phases it should be classified as voltage dip and not as interruption.
In EN50160:2010 in voltage dips classification the row **"5 > u"** is presented (see par.4.3.2.4, 5.3.2.4, 6.3.2.4 in EN50160:2010).

So my question to you is how to resolve this contradiction in Indian PQ standard?

Copied here our CTO Mr. Aleksei Korolev, Mr. Mark Zisman - PQ scientist and M.B. Control CEO and Owner Mr.Vijay Agrawal

SATEC

Best Regards!
VITALY SHESTAKOV
APAC Sales Manager SATEC Ltd.

M: +972 -54-6885623
E: vitalys@satec-global.com
S: www.satec-global.com,
www.expertpower.com
Vitaly Shestakov

From: vk@mbcontrol.com <vk@mbcontrol.com>
Sent: Monday, January 22, 2024 8:00 AM
To: Vitaly Shestakov <Vitalys@satec-global.com>
Cc: Mark Zisman <markz@satec-global.com>; Aleksei Korolev <akorolev@satec-global.com>
Subject: RE: Request for clarification on IS17036

Hello Mr. Vitaly,

Please try following:

info@bis.gov.in
dg@bis.gov.in

Thanks

V.K. Agrawal
M.B.Control & Systems Pt. Ltd.
31/1 Ahiripukur Road
Kolkata-700019, India

Tel: +91 9831330473, 9831206454
Email: info@mbcontrol.com
www.mbcontrol.com

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inter solar connecting solar business | EUROPE
Booth Number: B4.474
14 - 16 June 2023
Messe München, Germany

Meteorological TECHNOLOGY WORLD EXPO 2023
Booth number: 7061
3 - 5 October 2023
Pal Expo, Geneva

From: Vitaly Shestakov <Vitalys@satec-global.com>
Sent: Monday, January 15, 2024 3:32 PM
To: vk@mbcontrol.com
Cc: Mark Zisman <markz@satec-global.com>; Aleksei Korolev <akorolev@satec-global.com>; eetd@bis.gov.in
Subject: RE: Request for clarification on IS17036

Dear Mr.Vijay,

I didn't received a respond from BIS engineer, can we escalate to higher manager?

Regards
Vitaly

Best Regards!
VITALY SHESTAKOV
APAC Sales Manager SATEC Ltd.

M: +972 -54-6885623
E: vitalys@satec-global.com
S: www.satec-global.com,
www.expertpower.com
Vitaly Shestakov

From: Vitaly Shestakov
Sent: Wednesday, January 3, 2024 3:48 PM
To: 'eetd@bis.gov.in' <eetd@bis.gov.in>
Cc: vk@mbcontrol.com; Mark Zisman <markz@satec-global.com>; Aleksei Korolev <akorolev@satec-global.com>
Subject: RE: Request for clarification on IS17036

Hello,

Happy new year!
Did you have time to go through my questions?

Regards

Best Regards!
VITALY SHESTAKOV
APAC Sales Manager SATEC Ltd.

M: +972 -54-6885623
E: vitalys@satec-global.com
S: www.satec-global.com,
www.expertpower.com
Vitaly Shestakov

From: Vitaly Shestakov
Sent: Wednesday, December 20, 2023 11:46 AM
To: eetd@bis.gov.in
Cc: vk@mbcontrol.com; Mark Zisman <markz@satec-global.com>; Aleksei Korolev <akorolev@satec-global.com>
Subject: Request for clarification on IS17036

Hello ,

Nice to emeet you, my name is Vitaly Shestakov , I am APAC Manager in SATEC Ltd.

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Copied here our CTO Mr. Aleksei Korolev, Mr. Mark Zisman - PQ scientist and M.B. Control CEO and Owner Mr.Vijay Agrawal

Regards,

Best Regards!
VITALY SHESTAKOV
APAC Sales Manager SATEC Ltd.

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Vitaly Shestakov

ANNEX 2

ETD 01-BASIC ELECTROTECHNICAL STANDARDS SECTIONAL COMMITTEE

Chairman — Ms. Vandana Singhal, Chief Engineer (DP&R Division), Central Electricity Authority, New Delhi

Meeting	Date	Venue
16th	30 August 2022	Online
17th	01 March 2023	Online
18th	09 November 2023	Online

Sl. No	Organization	Member Name	Mail ID	Role	Attendance			Total
					16th	17th	18th	
1	ABB India Limited, Bengaluru	Shri Srikanth Mulam	srikanth.mulam@in.abb.com	**PM**	–	–	–	**0/3**
2	AYT Engineering Private Limited, Mumbai	Shri Saurabh Tripathi	saurabh.tripathi@solvina.com	**PM**	**P**	–	**P**	**2/3**
		Shri M Shahzad Alam	shahzad.alam@solvina.com	**AM**				
3	Adani Electricity Limited, Mumbai	Shri Bharatkumar N Soni	bharat.soni@adani.com	**AM**	**P**	–	–	**1/3**
		Shri Hiren Tailer	Hiren.Tailor@adani.com	**PM**				
4	BSES Yamuna Power Limited, New Delhi	Shri Gaurav Sharma	gaurav.a.sharma@relianceada.com	**PM**	**P**	–	**P**	**2/3**
		Shri Ashish Kumar Joshi	ashish.k.joshi@relianceada.com	**AM**				
5	Bharat Heavy Electrical Limited, New Delhi	Shri Amulya Deota	amulya@bhel.in	**AM**	–	–	–	**0/3**
		Shri S K R Meena	s.meena@bhel.in	**PM**				
6	Bridge to India Energy Private Limited, Gurugram	Ms. Surbhi Singhvi	surbhi.singhvi@bridgetoindia.com	**PM**	–	–	–	**0/3**
7	CSIR - National Physical Laboratory, New Delhi	Shri J.C. Biswas	jcbiswas@nplindia.org	**PM**	**P**	–	–	**1/3**
8	Calcutta Electric Supply Corporation Limited, Kolkata	Shri Nilanjan Saha	nilanjan.saha@rpsg.in	**PM**	**P**	**P**	**P**	**3/3**
		Shri Shamik Purkayastha	shamik.purkayastha@rpsg.in	**AM**				
9	Central Electricity Authority, New Delhi	Shri Shivani Sharma	shivani@gov.in	**PM**	–	**P**	–	**1/3**
10	Central Power Research Institute, Bengaluru	Shri Pradeep M Nirgude	pmnirgude.cpri@gmail.com	**PM**	**P**	–	**P**	**2/3**
11	Central Public Works Department, New Delhi	Shri M. K. Verma	mkvbss@yahoo.co.in	**PM**	–	–	–	**0/3**

12	Consumer Association, Palakkad	Shri R. C. Mathew	cqdkochi@gmail.com	**PM**	–	–	–	**0/3**
13	Defence Research and Development Organization, Research Centre Imarat, Hyderabad	Shri B. S. Bodh	dti5@rdso.railnet.gov.in	**PM**	–	–	–	**0/3**
		Shri Bhatnagar Sumit	dti3@rdso.railnet.gov.in	**AM**				
14	Dehn India Private Limited, Gurugram	Shri Samir Shankar	samir.shankar@dehn.in	**PM**	**P**	–	–	**1/3**
		Shri Navin Anand	navin.anand@dehn.in	**AM**				
		Shri Peeyush Tripathi	peeyush.tripathi@dehn.in	**AM**				
15	Delhi Metro Rail Corporation Limited, Delhi	Shri Jagdish Kumar	jagdish.2390@dmrc.org	**PM**	**P**	**P**		**2/3**
		Shri Ashish Arora	ashish.arora@dmrc.org	**AM**				
16	Directorate General Factory Advice Service and Labour Institutes, Mumbai	Shri S B Mishra	sm@dgfasli.nic.in	**PM**	**P**	–	**P**	**2/3**
		Shri Amit Gola	amit.gola@dgfasli.nic.in	**AM**				
17	EMERSON	Shri Sumit Chopada	sumit.chopada@emerson.com	**PM**	–	**P**	**P**	**2/3**
		Shri Ajay Patidar	ajay.patidar@emerson.com	**AM**				
18	Efficienerg Consulting Private Limited, Mumbai	Shri Rajen Mehta	rajen@efficienergi.com	**PM**	**P**	**P**	**P**	**3/3**
		Shri Kartik Pareh	kartik@efficienergi.com	**AM**				
19	Electrical Contractors Association of Maharashtra, Pune	Shri Sanjay Kolhatkar	sgk.planpower@gmail.com	**PM**	**P**	–	–	**1/3**
		Shri Sunil Bhure	trimurty123@gmail.com	**AM**				
20	Electrical Research and Development Association, Vadodara	Shri Anil S Khopkar	anil.khopkar@erda.org	**AM**	**P**	–	**P**	**2/3**
		Shri Y.I. Pathan	yi.pathan@erda.org	**PM**				
21	Haryana Vidyut Prasaran Nigam Limited, Panchkula	Er. Vaibhav Arora	xenmpccdkt@hvpn.org.in	**PM**	–	–	–	**0/3**
		Er. Bhupinder Walia	bhupinder_16@hvpn.org.in	**AM**				
22	Indian Electrical and Electronics Manufacturers Association, New Delhi	Shri Rishabh Joshi	rishabh.joshi@ieema.org	**AM**	**P**	**P**	**P**	**3/3**
		Shri Ashutosh Vasisht	ashutosh.vasisht@ieema.org	**PM**				

23	Indian Institute of Technology Delhi, New Delhi	Prof Anil Verma	anilverma@chemical.iitd.ac.in	**PM**	**–**	**–**	**–**	**0/3**
24	International Copper Association India, Mumbai	Shri K. N. Hemanth Kumar	hemanth.kumar@copperalliance.org	**AM**	**P**	**P**	**P**	**3/3**
		Shri Manas Kundu	manas.kundu@internationalcopper.org	**PM**				
		Shri Jyotish Pande	jyotish.pande@internationalcopper.org	**AM**				
25	Larsen and Toubro Limited, Mumbai	Shri Sharma S. P.	sharmasp@Intebg.com	**PM**	**–**	**–**	**–**	**0/3**
26	Ministry of Electronics and Information Technology, New Delhi	Smt Asha Nangia	anangia@meity.gov.in	**PM**	**–**	**–**	**–**	**0/3**
27	Ministry of New and Renewable Energy, New Delhi	Shri P.C Pant	pcpant@nic.in	**PM**	**–**	**–**	**–**	**0/3**
28	NTPC Limited, New Delhi	Shri Shiv Shankar Mishra	ssmishra_7@yahoo.com	**PM**	**–**	**–**	**P**	**1/3**
		Shri dhirendra Joshi	djoshi@ntpc.co.in	**AM**				
29	Narnix Technolabs Private Limited, New Delhi	Shri Narang N Kishore	kishor@narnix.com	**PM**	**P**	**–**	**–**	**1/3**
30	National Hydroelectric Power Corporation, Faridabad	Shri Jaya Krishnan K	jayakrishnan@nhpc.nic.in	**PM**	**–**	**P**	**P**	**2/3**
		Shri Shobha Kant	skant@nhpc.nic.in	**AM**				
31	National Institute of Solar Energy, Gurugram	Dr. Rajesh Kumar		**PM**	**–**	**–**	**–**	**0/3**
		Shri Sanjay Kumar	ddgsk.nise@gmail.com	**AM**				
32	National Test House, Kolkata	Shri S.K. Dutta	nthcal@wb.nic.in	**AM**	**–**	**–**	**–**	**0/3**
33	Nuclear Power Corporation of India Limited, Mumbai	Shri N.Sankaranarayanan	nsankaranarayanan@npcil.co.in	**PM**	**–**	**–**	**–**	**0/3**
		Shri Sriramrao	sriramrao@npcil.co.in	**AM**				
34	Power Grid Corporation of India, Gurugram	Shri Subir Sen	subir@powergrid.in	**PM**	**–**	**–**	**–**	**0/3**
		Shri Rajesh Kumar	rajeshkumar@powergrid.in	**AM**				
		Shri Hemendra Aggarwal	hem@powergridindia.com	**AM**				
35	Research Designs and Standards	Shri Bhardwaj Chaudhary (Principal Member)	edti2010@gmail.com	**PM**	**–**	**–**	**–**	**0/3**

	Organization (RDSO), Lucknow	Shri Gyan Prakash Katiyar (Alternate Member)	gyan.katiyar@gov.in	**AM**				
36	Secure Meters Limited, Gurugram	Shri Rajnish Ameta (Principal Member)	rajnish.ameta@securemeters.com	**PM**	**P**	**P**	**P**	**3/3**
37	Siemens Limited, Mumbai	Shri Amit Kr Saha (Principal Member)	amitkumar.saha@siemens.com	**PM**	**–**	**–**	**–**	**0/3**
		Shri Kaustuv Roy	kaustuv.roy@siemens.com	**PM**				
38	Steel Authority of India Limited (SAIL), New Delhi	Shri Milan Kapoor	milan.kapoor@sail.in	**PM**	**–**	**–**	**–**	**0/3**
		Shri Amitabha Gan Chaudhuri	ag.chaudhuri@sail.in	**AM**				
39	Tamil Nadu Electricity Board, Chennai	Shri C. Santhana Gopala Krishnan	cences@tnebnet.org	**PM**	**–**	**–**	**–**	**0/3**
		Shri K. Gopinathan	eerd@tnebnet.org	**AM**				
40	Tata Power Limited, Mumbai	Shri Ravindra Maruti Bhanage	ravindra.bhanage@tatapower.com	**PM**	**–**	**–**	**P**	**1/3**
41	Vellore Institute of Technology, Vellore	Shri Mahendra Venkata Chilukuri	mahendra.chilukuri@vit.ac.in	**PM**	**–**	**–**	**P**	**1/3**
42	Yadav Measurements Private Limited, Udaipur	Shri Balmukund M Vyas	Balmukund.vyas@yadavmeasurements.com	**AM**	**P**	**P**	**P**	**3/3**
		Shri Anil Jain	anil.Jain@yadavmeasurements.com	**PM**				
43	IN PERSONAL CAPACITY	Shri Rajendra Goswami	rajendraaparnathi@gmail.com	**Personal capacity**	**–**	**–**	**–**	**0/3**

ANNEX 3
Balloting Done on IEC Document Since (TC 8)

Sl. No	Document Number	Title	Closing Date	Voting
1	8/1682/AC	Call for Convenor of TC 8/MT 1: Maintenance of IEC 60038, IEC 60059 and IEC 60196	15/12/2023	No Comment
2	8/1688/Q	Questionnaire: Evolution of the IEC 63282 series	26/01/2024	No Comment
3	8/1683/NP	PNW TS 8-1683 ED1: Distributed energy resources connection with the grid - Part 2 Additional requirements for PV generation	16/02/2024	No Comment
4	8/1689/Q	Nomination of a Co-convenors for TC 8/MT 1: Maintenance of IEC 60038, IEC 60059 and IEC 60196	23/02/2024	In favour
5	8/1690/DTS	IEC TS 63222-3 ED1: Power quality management – Part 3: User characteristics modelling	08/03/2024	In favour
6	8/1693/DC	Contributions to the "Generating unit grid connection standard mapping"	15/03/2024	No Comment
7	8/1691/CD	IEC TR 63282-102 LVDC systems: Technical report for low-voltage DC electric island power supply systems	12/04/2024	No Comment
8	8/1695/DTS	IEC TR 63282 ED2: LVDC systems - Assessment of standard voltages and power quality requirements	12/04/2024	In Favour
9	8/1696/Q	Appointment of the TC8 representative in ACEC for a 3rd term	12/04/2024	Yes
10	8/1700/DC	TC 8 Good Working Practice (GWP) document for comment	24/05/2024	In Favour

ANNEX 4

ETD 01-LIST OF INDIAN STANDARDS DUE FOR REVIEW

Sl. No	IS	Title	Equivalence
1.	IS 10381 : 1982	Terms (and their hindi equivalents) commonly used for name - nd similar data of electrical power equipment	Indigenous
2.	IS 10580 : 1983	Service conditions for electrical equipment	Indigenous
3.	IS 11955 : 1987	Preferred current ratings	Modified/Technically Equivalent
4.	IS 12032 (Part 1) : 1987 IEC 60617-1 : 1985	Graphical symbols for diagrams in the field of electrotechnology: Part 1 general information	Identical under dual numbering
5.	IS 12032 (Part 2) : 1987 IEC Pub 617-2 (1983)	Graphical symbols for diagrams in the field of electrotechnology: Part 2 symbol elements, qualifying symbols and other symbols having general application	Identical under dual numbering
6.	IS 12032 (Part 3) : 1987 IEC 60617-3 : 1983	Graphical symbols for diagrams in the field of electrotechnology: Part 3 conductors and connecting devices	Identical under dual numbering
7.	IS 12032 (Part 4) : 1987 IEC 60617-4 : 1983	Graphical symbols for diagrams in the field of electrotechnology: Part 4 passive components	Identical under dual numbering
8.	IS 12032 (Part 6) : 1987 IEC 60617-6 : 1983	Graphical symbols for diagrams in the field of electrotechnology: Part 6 production and conversion of electrical energy	Identical under dual numbering
9.	IS 12032 (Part 7) : 1987 IEC Pub 617 - 7 (1983)	Graphical symbols for diagrams in the field of electrotechnology: Part 7 switchgear, controlgear and protective devices	Identical under dual numbering
10.	IS 12032 (Part 8) : 1987 IEC 60617-8 : 1983	Graphical symbols for diagrams in the field of electrotechnology: Part 8 measuring instruments, lamps and signalling devices	Identical under dual numbering
11.	IS 12032 (Part 10) : 1991	Graphical Symbols for Diagrams in the Field of Electrotechnology: Part 10 Telecommunications: Transmission (under Print)	Identical under dual numbering
12.	IS 12032 (Part 11) : 1987 IEC 60617-11 : 1987	Graphical symbols for diagrams in the field of electrotechnology: Part 11 architectural and topographical installation plan and diagrams	Identical under dual numbering
13.	IS 12360 : 1988 IEC 60038	Voltage bands for electrical installations including preferred voltages and frequency	Identical under dual numbering
14.	IS 17036 : 2018	Distribution System Supply Voltage Quality	Indigenous
15.	IS 1885 (Part 1) : 1961	Electrotechnical vocabulary: Part 1 fundamental definitions	Modified/Technically Equivalent
16.	IS 1885 (Part 9/Sec 1) : 2019 IEC 60050-444 : 2002	Electrotechnical Vocabulary Part 9 Relays Section 1 Elementary relays (Third Revision)	Identical under single numbering
17.	IS 1885 (Part 9/Sec 2) : 2019 IEC 60050-445 : 2010	Electrotechnical Vocabulary Part 9 Relays Section 2 Time relays (Third Revision)	Identical under dual numbering
18.	IS 1885 (Part 9/Sec 3) : 2019 IEC 60050-447 : 2010	Electrotechnical Vocabulary Part 9 Relays Section 3 Measuring relays (Third Revision)	Identical under dual numbering
19.	IS 1885 (Part 10) : 2008	Electrotechnical vocabulary: Part 10 power system protection (Second Revision)	Identical under dual numbering

20.	IS 1885 (Part 15) : 2008 IEC 60050-482 : 2004	Electrotechnical Vocabulary: Part 15 Primary And Secondary Cells And Batteries (Second Revision)	Identical under dual numbering
21.	IS 1885 (Part 27) : 2008 IEC 60050-551:1998	Electrotechnical vocabulary: Part 27 power electronics (Third Revision)	Identical under dual numbering
22.	IS 1885 (Part 29) : 1971	Electrotechnical vocabulary: Part 29 mining terms	Modified/Technically Equivalent
23.	IS 1885 (Part 37) : 1993 IEC Pub 50 (691) : 1973	Electrotechnical vocabulary: Part 37 tariffs for electricity (First Revision)	Identical under dual numbering
24.	IS 1885 (Part 51) : 2012 IEC 60050-841 : 2004	Electrotechnical vocabulary: Part 51 industrial electroheat (Second Revision)	Identical under dual numbering
25.	IS 1885 (Part 53) : 1980	Electrotechnical vocabulary: Part 53 mica	Modified/Technically Equivalent
26.	IS 1885 (Part 55) : 1981	Electrotechnical vocabulary: Part 55 electric fans	Indigenous
27.	IS 1885 (Part 57) : 2008 IEC 60050-131 :2002	Electrotechnical vocabulary: Part 57 circuit theory (Second Revision)	Identical under dual numbering
28.	IS 1885 (Part 61) : 1985	Electrotechnical vocabulary: Part 61 nuclear medical instruments	Modified/Technically Equivalent
29.	IS 1885 (Part 74) : 2012 IEC 60050-151 : 2001	Electrotechnical vocabulary: Part 74 electrical and magnetic devices (First Revision)	Identical under dual numbering
30.	IS 1885 (Part 300) : 2017 IEC 60050-300 : 2001 (Including Parts 311 to 314)	Electrotechnical vocabulary: Part 300 electrical and electronic measurements and measuring instruments: Part 311 general terms relating to measurements: Part 312 general terms relating to electrical measurements: Part 313 types of electrical measuring instruments: Part 314 specific terms according to the type of instrument	Identical under dual numbering
31.	IS 2032 (Part 15) : 1976	Graphical symbols used in electrotechnology: Part 15 aircraft electrical symbols	Modified/Technically Equivalent
32.	IS 2032 (Part 25) : 1980	Graphical symbols used in electrotechnology: Part 25 electrical installations in ships	Modified/Technically Equivalent
33.	IS 3599 : 1966	Method of measurement of cooling medium temperature for electrical apparatus	Modified/Technically Equivalent
34.	IS/IEC 60073 : 2002 60073: 2002	Basic and safety principles for man-machine interface marking and identification - Coding principles for indicators and actuators	Identical under single numbering
35.	IS/IEC 60529 : 2001	Degrees of protection provided by enclosures (IP Code)	Identical under single numbering
36.	IS 7691 : 1975	Frequencies for special power applications	Modified/Technically Equivalent
37.	IS 9499 : 1980	Conventions concerning electric and magnetic circuits	Indigenous
38.	IS 9676 : 1980	Reference ambient temperature for electrical equipment	Indigenous
39.	IS 9677 : 1980	Guide for limits of temperature - Rise of the windings of electrical equipment when tested by different methods	Indigenous
40.	IS 9678 : 1980	Methods of measuring temperature-rise of electrical equipment	Indigenous

ANNEX 5
IEC TC 8 Work Programme

Sl. No	Project Reference	Title	Current Stage Date	Current Stage	Next Stage	Working Group
1	PWI TR 8-10	IEC TR 63282-101 LVDC systems: DC power distribution system for typical scenarios	2022-08	PWI		JWG 9
2	PWI TR 8-12	IEC TR 62786-100 Distributed energy resources connection with the grid - Part 100 Generating units grid connection standard mapping	2023-10	PWI		JWG 10
3	PWI TR 8-13	IEC TR 62786-101 Distributed energy resources connection with the grid – Part 101 Gravity storage connection to the grid	2023-10	PWI		JWG 10
4	PWI TR 8-14	IEC TR 62786-102 Distributed energy resources connection with the grid – Part 102 CAES connection to the grid	2023-10	PWI		JWG 10
5	PWI TR 8-15	IEC TR 62786-103 Distributed energy resources connection with the grid – Part 103 V2G application scenarios for the grid	2023-10	PWI		JWG 10
6	PWI TR 8-16	IEC TR 63282-103: LVDC systems – Part 103: Flexible interconnection systems with LVDC	2024-02	PWI		
7	IEC 60038/AMD2/FRAG1 ED7	Amendment 2 (Fragment 1) - Standard voltages for LVDC supply and LVDC equipment (Proposed horizontal standard)	2022-07	ACD	CD	MT 1
8	IEC 60038/AMD2/FRAG2 ED7	Amendment 2 (Fragment 2) - Standard voltages for HVDC supply and HVDC equipment (Proposed horizontal standard)	2022-07	ACD	CD	MT 1
9	IEC 60050-602/AMD1 ED1	Amendment 1 - International Electrotechnical Vocabulary (IEV) - Part 602: Generation, transmission and distribution of electricity - Generation	2020-11	ACD	CD	JWG 1
10	IEC 60050-603/AMD2 ED1	Amendment 2 - International Electrotechnical Vocabulary (IEV) - Part 603: Generation, transmission and distribution of electricity - Power systems planning and management	2020-11	ACD	CD	JWG 1
11	IEC 60050-605/AMD1 ED1	Amendment 1 - International Electrotechnical Vocabulary (IEV) - Part 605: Generation, transmission and distribution of electricity - Substations	2020-11	ACD	CD	JWG 1

12	IEC 60050-614/AMD1 ED1	Amendment 1 - International Electrotechnical Vocabulary (IEV) - Part 614: Generation, transmission and distribution of electricity - Operation	2020-11	ACD	CD	JWG 1
13	IEC 60050-617 ED2	International Electrotechnical Vocabulary (IEV) - Part 617: Organization/Market of electricity	2024-04	CD	PCC	JWG 1
14	IEC 60050-691/AMD2 ED1	Amendment 2 - International Electrotechnical Vocabulary (IEV) - Part 691: Tariffs for electricity	2020-03	ACD	CD	JWG 1
15	IEC TS 62749 ED3	Assessment of power quality - Characteristics of electricity supplied by public networks	2023-08	ACD	CD	WG 11
16	IEC TS 62786-2 ED1	Distributed energy resources connection with the grid - Part 2 Additional requirements for PV generation	2024-03	ACD	CD	JWG 10
17	IEC TS 62786-42 ED1	Distributed energy resources connection with the grid – Part 42 Requirements for voltage measurement used to control DER and loads	2021-03	ACD	CD	JWG 12
18	IEC TS 63222-1 ED2	Power quality management - Part 1: General guidelines	2023-08	ACD	CD	WG 11
19	IEC TS 63222-4 ED1	Power quality management - Part 4: Harmonic analysis over public supply network	2023-12	ACD	2CD	WG 11
20	IEC TR 63222-101 ED1	IEC TR 63222-101 Power quality management - Part 101: Power quality data application	2023-12	ACD	2CD	WG 11
21	IEC TR 63282 ED2	LVDC systems - Assessment of standard voltages and power quality requirements	2024-04	BPUB	PPUB	JWG 9
22	IEC TR 63282-102 ED1	IEC TR 63282-102 LVDC systems: Technical report for low-voltage DC electric island power supply systems	2024-04	PCC		JWG 9

ANNEX 6
IEC TC Publication (TC 8)

Sl. No.	Reference	Title
1	IEC 60038:2009+AMD1:2021 CSV	IEC standard voltages
2	IEC 60038:2009	IEC standard voltages
3	IEC 60038:2009/AMD1:2021	Amendment 1 - IEC standard voltages
4	IEC 60059:1999+AMD1:2009 CSV	IEC standard current ratings
5	IEC 60059:1999	IEC standard current ratings
6	IEC 60059:1999/AMD1:2009	Amendment 1 - IEC standard current ratings
7	IEC 60196:2009	IEC standard frequencies
8	IEC TR 62511:2014	Guidelines for the design of interconnected power systems
9	IEC 62559-2:2015	Use case methodology - Part 2: Definition of the templates for use cases, actor list and requirements list
10	IEC TS 62749:2020 RLV	Assessment of power quality - Characteristics of electricity supplied by public networks
11	IEC TS 62749:2020	Assessment of power quality - Characteristics of electricity supplied by public networks
12	IEC TS 62786:2017	Distributed energy resources connection with the grid
13	IEC TS 62786-1:2023	Distributed energy resources connection with the grid - Part 1: General requirements
14	IEC TS 62786-3:2023	Distributed energy resources connection with the grid - Part 3: Additional requirements for stationary battery energy storage system
15	IEC TS 62786-41:2023	Distributed energy resources connection with the grid - Part 41: Requirements for frequency measurement used to control distributed energy resources (DER) and loads
16	IEC TS 63060:2019	Electric energy supply networks - General aspects and methods for the maintenance of installations and equipment
17	IEC TS 63222-1:2021	Power quality management - Part 1: General guidelines
18	IEC TS 63222-2:2023	Power quality management - Part 2: Power quality monitoring system
19	IEC TS 63222-3:2024	Power quality management - Part 3: User characteristics modelling
20	IEC TR 63222-100:2023	Power quality management - Part 100: Impact of power quality issues on electrical equipment and power system
21	IEC TR 63282:2020	LVDC systems - Assessment of standard voltages and power quality requirements

IEC TC Publication (TC 70)

Sl. No.	Reference	Title
1	IEC 60529:1989+AMD1:1999+AMD2:2013 CSV	Degrees of protection provided by enclosures (IP Code)
2	IEC 60529:1989+AMD1:1999+AMD2:2013 CSV/COR1:2013	Corrigendum 1 - Degrees of protection provided by enclosures (IP Code)
3	IEC 60529:1989+AMD1:1999+AMD2:2013 CSV/COR2:2015	Corrigendum 2 - Degrees of protection provided by enclosures (IP Code)
4	IEC 60529:1989+AMD1:1999 CSV	Degrees of protection provided by enclosures (IP Code)
5	IEC 60529:1989+AMD1:1999 CSV/COR1:2003	Corrigendum 1 - Degrees of protection provided by enclosures (IP Code)
6	IEC 60529:1989+AMD1:1999 CSV/COR2:2007	Corrigendum 2 - Degrees of protection provided by enclosures (IP Code)
7	IEC 60529:1989+AMD1:1999 CSV/COR3:2009	Corrigendum 3 - Degrees of protection provided by enclosures (IP Code)
8	IEC 60529:1989	Degrees of protection provided by enclosures (IP Code)
9	IEC 60529:1989/AMD1:1999	Amendment 1 - Degrees of protection provided by enclosures (IP Code)
10	IEC 60529:1989/AMD2:2013	Amendment 2 - Degrees of protection provided by enclosures (IP Code)
11	IEC 60529:1989/AMD2:2013/COR1:2019	Corrigendum 1 - Amendment 2 - Degrees of protection provided by enclosures (IP Code)
12	IEC 61032:1997	Protection of persons and equipment by enclosures - Probes for verification
13	IEC 61032:1997/COR1:2003	Corrigendum 1 - Protection of persons and equipment by enclosures - Probes for verification
14	IEC 62262:2002+AMD1:2021 CSV	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
15	IEC 62262:2002	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
16	IEC 62262:2002/AMD1:2021	Amendment 1 - Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)