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BUREAU OF INDIAN STANDARDS

MINUTES

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
HVDC Power Systems Sectional Committee, ETD 40	**17th**	**Friday**	**20 Jan 2023**	**1100 hrs.**	**Online**

CHAIRMAN: Shri B B Mukherjee **MEMBER SECRETARY: Mr. Vishnu D. Jat**

Members Present:

Sl No.	Name	Organization
1.	*Shri B B Mukherjee (Chairman)*	*Power Grid Corporation of India, Gurugram*
2.	Shri Bhanwar Singh Meena	Central Electricity Authority, New Delhi
3.	Dr J Sreedevi	Central Power Research Institute, Bengaluru
4.	Shri K. Urukundu	Central Power Research Institute, Bengaluru
5.	Dr.Rajamani P	Central Power Research Institute, Bengaluru
6.	Shri Mepal Patel	GE T&D India Ltd
7.	Er. parveen moond	Haryana Vidyut Prasaran Nigam Limited, Panchkula
8.	Shri Himanshu Bahirat	Indian Institute of Technology Bombay, Mumbai
9.	Shri Deepak M Roy	Power Grid Corporation of India, Gurugram
10.	Shri Nileshwer	Siemens Limited, Mumbai
11.	Shri karikalan M	Siemens Limited, Mumbai
12.	Shri Sandip Maity	Sterlite Power Transmission Limited, Gurgaon

Item 0 WELCOME AND OPENING REMARKS BY THE CHAIRMAN

Welcome all participant present in the committee meeting. the committee meeting started with a brief round of introduction of the members.

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The committee confirmed the minutes of the 16th meeting of HVDC Power Systems Sectional Committee, ETD 40 held on 27-8-2021 which were circulated vide ETD mail dated 10-09-2021.

Item 2 COMPOSITION OF SECTIONAL COMMITTEE, ETD 40

2.1 The present composition of HVDC Power Systems Sectional Committee ETD 40 was reviewed by the committee and based on the inputs received regarding various updations required in the

nominated members from the organizations, the composition enclosed at **Annex 1** was approved for the committee.

2.2 Mr. Nileshwer informed that Shri Bharat Kumar N Soni is no more associated with M/s. Adani Transmission Limited, Ahmedabad. Fresh nomination mail to be sent by BIS and Mr. Nileshwer will be contact to Mr. AK Arora in the M/s. Adani Transmission Limited, Ahmedabad.

Item 3 ACTIONS ARISING OUT OF PREVIOUS MEETING

Sl. No.	**Item no of last Agenda**	***Item***	***Action Taken***	***Decision Taken in the meeting***
1.	**3 (Sl No. 3.1)**	**COMPOSITION OF SECTIONAL COMMITTEE, ETD 40**	i) Request to update nominations sent to: a) CPRI, Bengaluru b) Haryana Vidyut Prasaran Nigam Limited *Nominations received.* ii) Request to update nominations sent to: a) Andhra Pradesh Transmission Corporation b) Tamil Nadu Electricity Board c) Kerala State Electricity Board d) UPPCL e) Maharashtra State Electricity Transmission Company. *Reply is awaited.* iii) Co-option mail sent to POSOCO and SECI *Reply is awaited.*	Committee decided to co-opt Central Transmission Utility of India Limited (CTUIL) Mr. Nileshwer will be providing contact details in CTUIL. Again, fresh mail to be sent to POSOCO and SECI for Co-option request. Mr. Nileshwer will be providing the contact details in SECI
2.	2 and Annex 2	**PROGRAM OF WORK**	See **Annex 2**	The committee discussed the program of is given at **Annex 2.**
3.	Annex 3	**New Subjects for Standards Formulation**	See **Annex 3**	Committee discussed new subject for standards formulation See **Annex 3.**

Item 4 PROGRAM OF WORK

The committee discussed the program of is given at **Annex 2.**

Item 5 INTERNATIONAL ACTIVITIES

5.1 The present position of work of IEC TC 115 and IEC SC 22 F and corresponding Indian Standards in which India is Participating member are given in **Annex 3.**

5.2 Shri B B Mukherjee, India is the convener of working group - ***WG 12 on Life extension of HVDC converter stations*** at IEC.

The IEC Doc 115/321/CD for the above-mentioned project under circulation (*2nd CD*). Committee members are requested to review the doc and provide the comments if any before 12 Feb 2022.

Item 6 REVIEW/REAFFIRMATION OF PUBLISHED INDIAN STANDARDS

In accordance with laid down procedures, all published Indian Standards should be reviewed by their respective Sectional Committees every five years after its publication.

Action Research Project reports have been circulated through BIS- Connect module for reviewing the following standards:

i. IS 16665: 2017/ IEC TS 61973:2012 High Voltage Direct Current (HVDC) Substation Audible Noise.

No comment has received
Observation: As IS 16665 is aligned with latest IEC, therefore may be reaffirmed.

Item 7 TRAINING PROGRAMME

National Institute of Training for Standardization (NITS) has been set up by BIS with world class facilities to impart training on various aspects leading to standardization, quality and other management systems, consumer protection, public service delivery, etc. The training calendar and other details for the current year by visiting BIS web site http://www.bis.org.in/trg/train.asp

Item 8 DATE AND PLACE FOR THE NEXT MEETING

Date and place of next meeting will decide with the discussion with chairperson.

Item 9 ANY OTHER BUSINESS

Annex -1

Full Composition of ETD 40

Chairman: Mr B B Mukherjee, Chief General Manager (Powergrid Corporation of India)

S. No.	Organization	Members
1.	ABB India Limited, Bengaluru	Shri Biplob Sardar *(Principal)*
2.	Adani Transmission Limited, Ahmedabad	Shri Bharat Kumar N Soni *(Resigned from the organization)* *Fresh nomination to be sought*
3.	GE T& D India Ltd	Shri Rakesh Singh *(Principal)* Shri Mepal Patel *(Alternate)*
4.	Bharat Heavy Electrical Limited, New Delhi	Shri R. K. Singh *(Principal)*
5.	Central Electricity Authority, New Delhi	Shri Y.K. Swarnkar *(Principal)* Shri Bhanwar Singh Meena *(Alternate)*
6.	Central Power Research Institute, Bengaluru	Dr. J. Sreedevi *(Principal)* Dr P. Rajamani *(Alternate)* Shri K. Urukundu *(Alternate)*
7.	Haryana Vidyut Prasaran Nigam Limited	Shri. Vikas Malik (*Principal*) Shri Praveen Mund (*Alternate*)
8.	Indian Institute of Technology Bombay	Shri Himanshu J. Bahirat *(Principal)*
9.	Indian Institute of Technology Delhi	Dr Sukumar Mishra (*Principal)*
10.	Indian Institute of Technology Kanpur	Dr S. N. Singh *(Principal)* Dr Abheejeet Mohapatra *(Alternate)*
11.	Indian Institute of Technology Roorkee	Dr Biswarup Das *(Principal)*
12.	KEC International Limited, Mumbai	Shri Ramnik Arora *(Principal)*
13.	Maharashtra State Electricity Transmission company Limited, Mumbai	*Fresh nominations awaited*
14.	Power Grid Corporation of India, Gurugram	Shri Deepak M Roy *(Principal)* Shri Chandra Kant *(Alternate)* Shri Swagat Barik *(Alternate)*
15.	Siemens Limited, Mumbai	Shri Nileshwer *(Principal)* Shri Niket Jain *(Alternate)* Shri M Karikalan *(Alternate)*
16.	Sterlite Power Transmission Limited, Gurgaon	Shri Rajesh Suri *(Principal)* Shri Rajesh Nayak *(Alternate)* Shri Sandip Maity *(Alternate)*
17.	AP TRANSMISSION COMPANY	*Fresh nominations to be sought*
18.	Tamil Nadu Electricity Board, Chennai	*Fresh nominations to be sought*

19.	Uttar Pradesh Power Corporation Limited, Lucknow	*Fresh nominations to be sought*
20.	Kerala State Electricity Board, Thiruvananthapuram	*Fresh nominations to be sought*
21.	POSOCO	*New nominations to be sought*
22.	SECI	*New nominations to be sought*
23.		

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Annex 2

Sl.	Indian Standard	Based on IEC	Title	Latest IEC	Decision Taken in Last meeting	Action Taken	Decision Taken in the Meeting
1.	IS 14801:2021	**IEC 60633(2019)**	Terminology for high voltage direct current (HVDC) transmission	**IEC 60633 : 2019**	-	-	
2.	IS 14902 (Part 1):2021	**IEC TR 60919-1 : 2020**	Performance of high-voltage direct current (HVDC) systems with line-commutated converters – Part 1: Steady-state conditions ([First Revision)	**IEC TR 60919-1 : 2020**	-	-	
3.	IS 14902 (Part 2):2013 +Amd 1 : 2020	**IEC/TR 60919-2:2008 + +AMD1: 2015**	Performance of high-voltage direct current (HVDC) systems with line-commutated converters -- Part 2: Faults and switching (First Revision)	**IEC/TR 60919-2:2008 +AMD1:2015 + AMD2: 2020**	**The committee decided to send AMD2 : 2020 to IEC TR 60919-2 : 2008 into wide circulation for 2 months for adoption as AMD2 to IS 14902 (Part 2).** *Sent in wide circulation as **Doc ETD 40 (17931)** on 19/08/2021* *Last date of comments: 18/10/2021*	*No comments were received.* **Document may be sent for printing.**	Committee Decided Doc to be sent for printing.
4.	IS 14902 (Part 3):2013 + Amd 1 : 2020	**IEC/TR 60919-3:2009 +AMD1: 2016**	Performance of high-voltage direct current (HVDC) Systems with line-commutated converters – Part 3: Dynamic conditions (First Revision)	**IEC/TR 60919-3:2009+AMD1:2016 +AMD2 :2021**		AMD 2 has been published in 2021. **The committee may consider.**	Committee decided to Wide Circulate AMD 2 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
5.	IS 14911 (Part 1) : 2020	**IEC 60700- 1 : 2015**	Thyristor valves for high-voltage direct current (HVDC) power transmission: Part 1 Electrial Testing (*first revision)*	**IEC 60700-1:2015+AMD1 :2021**		AMD 1 has been published in 2021. **The committee may consider.**	Committee decided to Wide Circulate AMD 1 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
6.	IS 15597:2005	**IEC 61803:1999**	Determination of power losses in high voltage direct current	**IEC 61803:2020**	The committee members requested for more time and it	Sent in wide circulation as **Doc ETD 40 (16861).**	Committee Decided Doc to be sent for

			(HVDC) converter stations		was, therefore decided to re-circulate the ARP report for 1 month. If no comments are received during the above mentioned 1 month period, it was decided to send IEC 61803 : 2020 into wide circulation for 2 months as recommended in the report.	Last date of comments:20/03/ 2022 *No comments were received.* **Document may be sent for printing**.	printing.
7.	IS 15617:2017	**IEC 61954:2011+Amd 1 : 2013**	Power Electronics for electrical transmission and distribution systems-Testing of thyristor valves for static var compensations (first revision)	**IEC 61954 : 2021**		3rd edition of IEC 61954 published in 2021. **The committee may consider.**	Committee decided to Wide Circulate 3rd edition of IEC 61954 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
8.	IS 16071-1 : 2021	**IEC TR 62001-1 : 2016**	High-voltage direct current (HVDC) systems - Guidance to the specification and design evaluation of AC filters - Part 1: Overview	**IEC TR 62001-1 : 2021**		2nd edition of IEC 62001-1 published in 2021. **The committee may consider.**	Committee decided to Wide Circulate 2nd edition of IEC 62001-1 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
9.	IS 16071-2 : 2021	**IEC TR 62001-2 : 2016**	High-voltage direct current (HVDC) systems - Guidance to the specification and design evaluation of AC filters - Part 2: Performance	**IEC TR 62001-2 : 2016**		2nd edition of IEC 62001-2 under publication. **The committee may consider.**	Committee decided to Wide Circulate 2nd edition of IEC 62001-2 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
10.	IS 16071-3 : 2021	**IEC TR 62001-3 : 2016**	High-voltage direct current (HVDC) systems - Guidance to the specification and design evaluation of AC filters - Part 3: Modelling	**IEC TR 62001-3 : 2016**		2nd edition of IEC 62001-3 under publication. **The committee may consider.**	Committee decided to Wide Circulate 2nd edition of IEC 62001-3 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.

11.	IS 16071-4 : 2021	**IEC TR 62001-4 : 2016**	High-voltage direct current (HVDC) systems - Guidance to the specification and design evaluation of AC filters - Part 3: Equipment	**IEC TR 62001-4 : 2021**		2nd edition of IEC 62001-4 published in 2021. **The committee may consider.**	Committee decided to Wide Circulate 2nd edition of IEC 62001-4 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
12.	IS 16075:2013+AMD1: 2022	**IEC 62501:2009+AMD1:2014 +AMD2: 2017 CSV**	Voltage sourced converter (VSC) Valves for high voltage direct current (HVDC) Power transmission – electrical testing	**IEC 62501:2009+ AMD1:2014+AMD2 :2017 CSV**		Combined AMD1:2014+AMD2:2017 in IEC 62501:2009 has been published as AMD1:2022 in IS 16075:2013 **The committee may note.**	Noted
13.	IS 16076:2013	**IEC 61975:2010**	High-voltage direct current (HVDC) installations – system tests	**IEC 61975 :2010+AMD1:2016**	The committee decided to send AMD 1 : 2016 published by IEC into wide circulation for 2 months.	Sent in wide circulation as **Doc ETD 40 (18809)**. Last date of comments:20/03/ 2022 *No comments were received.* **Document may be sent for printing**.	Committee Decided Doc to be sent for printing.
14.	IS 16665: 2017+AMD1:2021	**IEC TS 61973: 2012+AMD1:2019**	High voltage direct current (HVDC) substation audible noise	**IEC TS 61973:2012+AMD1: 2019**		AMD1:2019 in IEC 61973:2012 has been published as AMD1:2021 in IS 16665:2017. **The committee may note.**	Noted
15.	IS 16666: 2017	**IEC/TR 62544: 2011**	High-voltage direct current (HVDC) systems - Application of active filters	**IEC TR 62544:2011+AMD1: 2016+AMD2:2020**	The committee members requested for more time and it was, therefore decided to re-circulate the ARP report for 1 month. If no comments are received during the above mentioned 1 month period, it	Sent in wide circulation as **Doc ETD 40 (18842)**. Last date of comments: 29/03/2022 *No comments were received.*	Committee Decided Doc to be sent for printing.

					was decided to send IEC AMD1:2016 +AMD 2 : 2020 into wide circulation for 2 months as recommended in the ARP report.	**Document may be sent for printing**.	
16.	IS 16667: 2018	**IEC TR 62543: 2011**	High-voltage direct current (HVDC) power transmission using voltage sourced converters (VSC)	**IEC TR 62543:2011+AMD1: 2013+AMD2:2017**	Sent in wide circulation as Doc ETD 40 (17933) on 19/08/2021 Last date of comments: 18/10/2021	*No comments were received.* **Document may be sent for printing**. 2nd edition of IEC 62543 published in 2022. **The committee may consider.**	Committee Decided Doc ETD 40(17933) to be sent for printing. And Wide Circulate 2nd edition of IEC 62543 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
17.	IS 17575:2021	**IEC TR 62681:2014**	Electromagnetic performance of high voltage direct current HVDC overhead transmission lines	**IEC TR 62681:2022**		2nd edition of IEC 62681 published in 2022. **The committee may consider.**	Committee Decided to Wide Circulate 2nd edition of IEC 62543 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
18.	IS 17576:2021	**IEC TR 62978:2017**	HVDC installations Guidelines on asset management	**IEC TR 62978:2017**		-	
19.	IS 17577:2021	**IEC TR 62672:2018**	Reliability and availability evaluation of HVDC systems	**IEC TR 62672:2018**		-	
20.	IS 17590-1:2021	**IEC TS 63014-1:2018**	High voltage direct current HVDC power transmission System requirements for DC-side equipment Part 1: Using line-commutated converters	**IEC TS 63014-1:2018**		-	
21.	IS 17591:2021	**IEC TR 63127:2019**	Guideline for the system design of HVDC converter stations with line-commutated converters	**IEC TR 63127:2019**			

22.	IS 17775-1:2021	**IEC TR 63179-1:2020**	Guideline for planning of HVDC systems: Part 1 HVDC systems with line-commutated converters	**IEC TR 63179-1:2020**	However, we are in receipt of comments from Dr Bahirat, IIT Bombay which are given below: "Can some shade some light on power loss calculations in the HVDC transmission line from planning perspective? I am aware that we consider I^2 R losses. But, are corona related losses considered? Are there any other factors to be considered? Do the harmonic current losses amount to anything?" The committee may discuss. The committee discussed the comments and based on the field experience, it was observed by the committee that corona related losses or the harmonic current losses must be in some impacting the overall loss way calculation. It was further observed that IS 15597/IEC 61803 also does not factor the line losses and only terminal end calculations are considered in that standard as well.	Mail has been written to the IEC. *Responses pending*.	The committee discussed the comments and based on the field experience, it was observed by the committee that corona related losses or the harmonic loss are less as compare to I^2R losses, therefore at planning stage and evolution stage of these losses are not being considered for HVDC terminal. In the view of above committee decided to drop the comment. *Furthermore Mr. Mepal Patel from GE T&D India Ltd and Dr. J shridevi from CPRI will be informed to BIS to nominate expert from their organisation for WG 10 in IEC TC 11.*

					It was decided to write to IEC seeking clarification and inputs if any research work or data collection has been done in this regard while formulating IEC 61803 and IEC TR 63179- 1. The committee decided to continue with the publication of the present edition of the IEC TR 63179- 1 as Indian Standard. Amd if any based on the response from IEC may be considered by the committee later.		
23.	IS 17860:2022	**IEC 62344:2013**	Design of earth electrode stations for high-voltage direct current HVDC links General guidelines	**IEC 62344:2022**		2nd edition of IEC 62344 published in 2022. **The committee may consider.**	Committee Decided to Wide Circulate 2nd edition of IEC 62344 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
24.	IS/IEC 60071-5:2014	**IEC 60071-5:2014**	Insulation co-ordination - Part 5: Procedures for high-voltage direct current (HVDC) converter stations	**Replaced by IEC 60071-11:2022 and IEC 60071-12:2022**		IEC 60071-5:2014 replaced by following standards *IEC 60071-11:2022 Insulation co-ordination - Part 11 : Definitions, principles and rules for HVDC system.* *IEC 60071-12:2022 Insulation co-ordination - Part*	Committee suggest to internal review of both standards and will discuss in next sectional meeting.

						12: Application guidelines for LCC HVDC converter stations. **The Committee may consider**	

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Annex 3

TC 115 Publications

Sl no.	Reference	Title	*Decision Taken in the last meeting*	Action Taken	
1.	IEC TR 63065:2017	Guidelines for operation and maintenance of line commutated converter (LCC) HVDC converter station	***Mr Rajashekar Patlola, M/s ABB submitted that he has some comments on this standard which he will share after the meeting.*** The comments received were discussed at length. See Annex 4 of these Minutes for the decision of the committee. Given that various comments were agreed to as listed in Annex 4, it was decided to drop doc ETD 40 (14530) and draft a National Annex as per decisions listed at Annex 8. IEC TR 63065 shall therefore, be adapted as a modified Indian Standard.	Mail has been sent to Powergrid for terminology for National Annex for Sub clause 4.3.4.4 *Reply awaited* *The committee may discuss.*	Committee discussed and finalized and enclosed annex 4.
2.	IEC TR 63363-1:2022	Performance of voltage sourced converter (VSC) based high-voltage direct current (HVDC) transmission - Part 1: Steady-state conditions		IEC TC 115 has been published IEC TR 63363-1 in 2022. *The committee may discuss*	Committee decided to Wide Circulate IEC 63363-1 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.

SC 22F Publications

Sl no.	Reference	Title	Decision Taken in the last meeting	Action Taken	Decision taken by the committee
i)	IEC 60700-2:2016+AMD1:2021 (CSV)	Thyristor valves for high voltage direct current (HVDC) power transmission - Part 2: Terminology	*The committee discussed the standards listed in the agenda and the decided to recirculate widely for 1 month.*	Sent in re-circulation as **Doc ETD 40 (18885)** . Last date of comments: 02/04/2022 *No comment received* **Doc may be finalized and sent for printing.**	Committee finalized the document and sent for printing.
ii)	IEC 62747:2014+AMD1:2019 CSV	Terminology for voltage-sourced converters (VSC) for high-voltage direct current (HVDC) systems		Sent in re-circulation as **Doc ETD 40 (17464)** Last date of comments: 06/02/2022 Comment received from Shri nileshwer M/s Siemens Limited **Reference to Figure 4 and Figure 5 seems to have been interchanged. Figure 4 shows the arrangement with submodules not figure 5.** ***See*** **Annex 5** **The Committee may discuss**	Committee discussed the comment and decided following paragraph may be added in the National Foreword. Read (see Figure 4) as (see Figure 5) and Read (see Figure 5) as (see Figure 4) in Note 1 of Clause 7.10
iii)	IEC 62751-1:2014+AMD1:2018 CSV	Power losses in voltage sourced converter (VSC) valves for high-voltage direct		Sent in re-circulation as **Doc ETD 40 (17465)** Last date of comments: 06/02/2022 *No comment received*	Committee finalized the document and sent for printing.

		current (HVDC) systems - Part 1: General requirements		**Doc may be finalized and sent for printing.**	
iv)	IEC 62751-2:2014+AMD1:2019 CSV	Power losses in voltage sourced converter (VSC) valves for high-voltage direct current (HVDC) systems - Part 2: Modular multilevel converters		Sent in re-circulation as **Doc ETD 40 (17466)** Last date of comments: 06/02/2022 *No comment received* **Doc may be finalized and sent for printing.**	Committee finalized the document and sent for printing.
v)	IEC TR 62757:2015+AMD1:2019 CSV	Fire prevention measures on converters for high-voltage direct current (HVDC) systems, static var compensators (SVC) and flexible AC transmission systems (FACTS) and their valve halls		Sent in re-circulation as **Doc ETD 40 (17467)**. Last date of comments: 06/02/2022 *No comment received* **Doc may be finalized and sent for printing.**	Committee finalized the document and sent for printing.
vi)	IEC 62823:2015+AMD1:2019 CSV	Thyristor valves for thyristor controlled series capacitors (TCSC) - Electrical testing		Sent in re-circulation as **Doc ETD 40 (17470)**. Last date of comments: 06/02/2022 *No comment received* **Doc may be finalized and sent for printing.**	Committee finalized the document and sent for printing.
vii)	IEC 62927:2017	Voltage sourced converter (VSC) valves for static		Sent in re-circulation as **Doc ETD 40 (17471).** Last date of comments: 06/02/2022	Committee finalized the document and sent for printing.

		synchronous compensator (STATCOM) - Electrical testing		*No comment received* **Doc may be finalized and sent for printing.**	
viii)	IEC TR 63262:2019	Performance of unified power flow controller (UPFC) in electric power systems		Sent in re-circulation as **Doc ETD 40 (17594)**. Last date of comments: 16/02/2022 *No comment received* **Doc may be finalized and sent for printing.**	Committee finalized the document and sent for printing.
ix)	IEC 60700-3:2022	Thyristor valves for high voltage direct current (HVDC) power transmission - Part 3: Essential ratings (limiting values) and characteristics		IEC SC 22F has been published IEC TR 60700-3 in 2022. **The committee may discuss.**	Committee Decided to Wide Circulate IEC 60700-3:2022 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.
x)	IEC TR 62001-5:2021	High-voltage direct current (HVDC) systems - Guidance to the specification and design evaluation of AC filters - Part 5: AC side harmonics and appropriate harmonic limits for HVDC systems with voltage sourced converters		IEC SC 22F has been published IEC TR 62001-5 in 2021. **The committee may discuss.**	Committee Decided to Wide Circulate IEC 62001-5:2021 for 2 months and if No comments received than doc may be sent for printing with approval of Chairman.

		(VSC)			
xi)	IEC TR 63259:2022	Water cooling systems for power electronics used in electrical transmission and distribution systems		IEC SC 22F has been published IEC TR 63259 in 2022. **The committee may discuss.**	Mr. Mepal Patel from GE T&D India Ltd highlighted the applicability of technology that describe in clause 5.3.3 Evaporative cooling tower. Committee decided to wide circulated the document and will discussed on basis of comment received on the document.

The committee may decide.

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Annex 4

Document: **IEC 63065**	

MB/ NC[1]	**Line number** (e.g., 17)	**Clause/ Subclause** (e.g. 3.1)	**Paragraph/ Figure/ Table/** (e.g., Table 1)	**Type of comment[2]**	**Comments**	**Proposed change**	**Decision of the committee**
IN	3	4.3.2.4	-	Ge	Is the statement mentioning, having two twelve pulse converters per pole for UHVDC in India, true? Check this, and if there is no UHVDC with two twelve pulse converters in series or parallel,remove it.	Remove the word India	No change required.
IN		4.3.3.3	Point C	Te	Oscillating damping should be always enabled. So, remove the point No c. And there should not be any option of setting up parameters.	Remove point no c	Committee agreed with Dr Biswarup's comments; No change required.
IN	4	4.3.4.5		Ed	Double pull stop, at the end of the paragraph	Remove one pull stop	Remove the extra full stop
IN	4	4.3.4.5	Point c	Te	The pole, which is in bipole control mode will change its own current but not the other pole, which is in pole current/power mode	Replace the word "each "with "its own"	Shri Deepak M Roy, from PowerGrid provide the input that terminology used by IEC is Okay No need to change it.
IN	4	4.4.3.2	Point a	Ed	Spelling mistake of Switches	Replace the word "switchers" with "Switches"	Accepted
IN	1	4.4.3.2	Point b	Ed	Spelling mistake of Switches	Replace the word "switchers" with "Switches"	Accepted

IN	7	4.4.4.4	Point d	Te	When RPC is not meeting Abs min for Bipolar system, it should check abs min of Mono polar, and if it meets monopolar abs min, it should trip only one pole, instead of both poles	Replace the word "both "with "one or both poles, based on Abs Min requirement"	Accepted
IN	2	4.4.6.2	Point c	Ed	Spelling mistake of pressure	Replace the word "presser" with "pressure"	Accepted
IN	2	5.1.5		Ed	Sentence correction	…. introduced to some of the HVDC converter ….	Accepted
IN	1	5.3.7.3		Te	Mention the no of years	Mention the interval for preventive maintenance.	Once in 12 months may be added
IN		8		Te	There is no mention of spares for AC/DC Filterequipment	One of each type of AC/DC Filter reactor/resistor.	Accepted
IN		8		Te	One converter valve module per station, looks very less. Instead, we should have some % of total No of thyristors installed in that station.		Committee discussed and depending on the failure rate of thyristor level the owner may select the procurement of thyristor module along with thyristor level components 2 % of the population

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