

## ANNEX A Bushings Subcommittee

ST Louis, Missouri USA  
October 30, 2024, 09:30 AM

Chair:	Eric Weatherbee, PCORE Electric, Inc. / Hubbell Power Systems
Vice-Chair (presiding officer):	Scott Digby, Duke Energy
Secretary:	Fabian (Durand) Stacy, Hitachi Energy

### A.1 Opening of the Meeting

#### A.1.1 Call to Order / Chairman's Opening Remarks

The Chair thanked the SC for their outstanding support and volunteer work. They then informed the SC that this is their final meeting as Chair, as the 5-year term limit has been reached. The Chair stated that our outstanding VC, Mr. Scott Digby, will assume the role at the first of the year and that anyone interested in an officer's position should speak with Mr. Digby.

The Chair presented and reviewed the proposed agenda that was circulated to the SC members by the Chair prior to the meeting. There were no comments concerning the proposed agenda.

The Chair requested that each person use the microphone, state their name and affiliation when addressing the subcommittee.

The Chair reminded the WG chairs and secretaries that their meeting minutes need to be submitted to the Subcommittee officers no later than 15 days after their WG or TF meetings took place.

#### A.1.2 Reminders of IEEE policies

The requisite IEEE-SA information concerning the Call for Patents, the Copyright Policy, and the Individual Participation Guidelines had been transmitted to SC Members and Participants along with the meeting agenda prior to this meeting.

#### A.1.3 New Members

It was reported that 6 new members have been accepted into the Subcommittee. The new members were Gabriel Delgado, Derek Hollrah, Jose Luis Machain, Francis Mills, Richard vonGemmingen and Matthew Weisensee.

#### A.1.4 Attendance

Participant rosters were circulated during the meeting to record the meeting attendance. The Chair presented a list of the 81 current voting members to perform a quorum check. Quorum was achieved. Per subsequent review of the rosters the meeting had 129 attendees, of which 54 were members and 75 guests, with 10 guests requesting Membership. Refer to [Appendix A](#) for meeting participants, their affiliation, and voting member status.

Table 1 – Meeting Attendance

Total	129
Members – <b>Quorum Achieved</b>	54
Guests	75
Guests Requesting Membership*	10

\*Review of the historical attendance records indicates that of the 10 guests requesting Membership, 4 meet the eligibility requirements (Edwin Betancourt, Junho Lee, Markus Schiessl, and Fei Yang) and will be added to the membership roster effective at the next SC meeting.

#### A.1.5 Agenda Approval

As 54 of the 81 members were in attendance, a quorum was achieved. There were no comments on the proposed agenda. A motion was made by Sanjib Som and seconded by Peter Zhao to approve the agenda as proposed. This motion was carried by unanimous consent.

#### A.1.6 Previous Meeting's Minutes Approval

There were no comments on the minutes that had been posted. A motion was made by Kurt Kaineder and seconded by Juan Carlos Cruz Valdes to approve the minutes as posted. This motion carried by unanimous consent.

#### A.1.7 Status of Bushing Standards

The Chair presented the Standards Status Report for standards and guides under the Bushing SC, see [Appendix B](#).

### A.2 Working Group and Taskforce reports

#### A.2.1 WG C57.19.00-2023 – Peter Zhao, Chair; **VACANT, Vice-Chair**; Eric Weatherbee, Secretary

No meeting was held due to the publication of the new revision of the standard last year

#### A.2.2 WG PC57.19.01 – Dr. Shibao Zhang, Chair; **VACANT, Vice-Chair**; Dominic Pollaro, Secretary

See the complete WG minutes in [Appendix C](#) of this report

The first WG meeting was held as the PAR was approved on 05/22/24. The Chair informed the WG of their purposed timeline with the first draft balloting target of January 2028. Two key topics discussed; 1) Consolidation of test tap dimensions to determine if these dimensions should be defined in the standard similar to the voltage tap dimensions, 2) Adding Dry Switching impulse as reference for 345-765 kV bushings.

#### A.2.3 WG C57.19.02 Distribution Transformer Bushings – Steven Shull, Chair; Ed Smith, Vice-Chair, Rhett Chrysler, Secretary

No meeting due to the status of the publication.

#### A.2.4 IEC/IEEE 65700-19-03 Bushings for DC Application – Eric Weatherbee (IEEE) and Lars Jonsson (IEC), Co-Chairs; Sami Debass, Vice-Chair; J. Arturo Del Rio, Secretary

See the complete WG minutes in [Appendix C](#) of this report.

The WG Chair reported that WG did not meet but the IEEE side will soon have a recirculation ballot to confirm the IEC comment resolutions were acceptable. The topic was further discussed in regard to the IEC side during the IEC Liaison report, see A.3.1.

**A.2.5 WG C57.19.04-2018 – Scott Digby, Chair; Rich vonGemmingen, Vice-Chair; Anthony Natale , Secretary**

See the complete WG minutes in Appendix C of this report.

The WG held its first meeting as the PAR was approved 09/25/24. Some key discussions were 1) Question if it's proper that Dry Switching is currently included, 2) The Chair sought a new liaison to C37.23, IEEE Standard for Metal-Enclosed Bus, Jeff Door volunteered to fill this role, 3) The WG was informed that there is work being done on how to make the test tap connection accessible outside of the bus for testing of the bushings inside without opening the bus, this will be discussed in future meetings with examples or presentations.

**A.2.6 WG PC57.19.100-2012 – Tommy Spitzer, Chair; **VACANT**, Vice-Chair; Fabian (Durand) Stacy, Secretary**

See complete WG minutes in Appendix D of this report.

The WG held a meeting but was unable to obtain a quorum. The WG Chair stated that the WG had previously approved proceeding to the ballot with the current draft and that they will seek SC approval in the upcoming meeting.

The WG Chair made a motion during SC meeting requesting approval to proceed to ballot, Sanjib Som seconded, and the motion was approved by unanimous consent.

### **A.3 External Liaison Reports**

**A.3.1 IEC Bushing Standards Activity – Kurt Kaineder, IEEE/IEC Liaison**

See the complete report in Appendix D of this report.

Some of the key information included the following: 1) DC bushing standard is on track to be published early 2025, 2) Tap adapter standardization for 550kV and above, IEEE will review their results as similar subject is being addressed in 19.01. 2) Dimensional Standardization Part 1 will involve MV bushings only and is currently being considered as a non-mandatory specification but may become a standard/mandatory in the future. Mr. Zhao again requested that IEC review the IEEE dimensional requirements for consideration.

**A.3.2 Amendment to IEEE 693, Recommended Practice for the Seismic Design of Substations - Durand Stacy**

The Chair reported that the appeal to improper procedure prior to WG voting on proceeding to ballot and the CRG resolutions was denied and informed the SC that the first TF meeting for the full document revision will be a hybrid meeting on 01/16/2025 and provided website link and email contact for the 693 Chair.

### **A.4 Unfinished Business**

### **A.5 New Business**

Egon Kirchenmayer stated that their company will be providing updated testing methods with results for determining if its possiblea and or practical to determine if a bushing may be prone to PD during FAT.

### **A.6 Adjournment**

### **A.7 Next Meeting: Spring 2025, Denver Colorado – March 23-27**

Last Name	First Name	Role	Company
Abbas	Mubarak	M	Siemens Energy
Adams	Kayland	M	Prolec-GE Waukesha
Beaster	Barry	M	H-J Family of Companies
Boettger	William	M	Boettger Transformer Consulting LLC
Calitz	David	M	Siemens Energy
Castellanos	Juan	M	Prolec GE
Cruz Valdes	Juan Carlos	M	Prolec GE
Debass	Samson (Sami)	M	EPRI
Del Rio	J. Arturo	M	HSP-US LLC
Delgado	Gabriel	M	Invenergy
Digby	Scott	M	Duke Energy
Dinh	Huan	M	Hitachi Energy
Door	Jeffrey	M	H-J Family of Companies
Ermakov	Evgenii	M	Hitachi Energy
Frazier	Raymond	M	Ameren
Gamboa	Jose	M	H-J Family of Companies
Garcia Wild	Eduardo	M	Siemens Energy
Guner	Ismail	M	Hydro-Quebec
Gustavsson	Niklas	M	Hitachi Energy
Hayes	Roger	M	GE Verona
Hernandez	Ronald	M	Doble Engineering Co.
Hollrah	Derek	M	Burns & McDonnell
Kaineder	Kurt	M	Trench Austria
Kazmierczak	Jerzy	M	Hitachi Energy
Kirchenmayer	Egon	M	Siemens Energy
Kornowski	Marek	M	Polycast International
Machain	Jose Luis	M	Prolec-GE
Mills	Francis	M	POWER Engineers Inc.
Patel	Poorvi	M	Electric Power Research Institute (EPRI)
Plante	Sylvain	M	Hydro-Quebec
Radbrandt	Ulf	M	Hitachi Energy
Raymond	Timothy	M	Inductive Reasoning
Reed	Scott	M	MVA
Riopel	Sebastien	M	Electro Composites ULC
Sarkar	Amitabh	M	Virginia Transformer Corp.
Schleismann	Eric	M	Southern Company Services
Schweiger	Ewald	M	Siemens Energy
Sen	Cihangir	M	Duke Energy
Solano	William	M	Voltex
Som	Sanjib	M	Pennsylvania Transformer
Spitzer	Thomas	M	City Transformer Service Co.
Staley	Brad	M	Leeward Renewable Energy

Tanaka	Troy	M	Burns & McDonnell
Van Der Walt	Alwyn	M	Electrical Consultants, Inc.
Varnell	Jason	M	Doble Engineering Co.
Vir	Dharam	M	Prolec GE Waukesha Inc
vonGemmingen	Richard	M	Dominion Energy
Wallach	David	M	Duke Energy
Weatherbee	Eric	M	PCORE Electric
Weisensee	Matthew	M	PacifiCorp
Werelius	Peter	M	Megger
Whitten	Christopher	M	Hitachi Energy
Zhang	Shibao	M	PCORE Electric
Zhao	Peter	M	Hydro One
Alexander	Anthony	G	Hitachi Energy
Ashwini	Labh	G	Hitachi Energy
Baumgartner	Christopher	G	We Energies
Bayonee	Hugo	G	H-J Family of Companies
Benitez	Orlando	G	Hyosung HICO
BETANCOURT	EDWIN	G	SIEMENS ENERGY
Bhardwaj	naveen	G	Trench Group
Bohrn	Joshua	G	PacifiCorp
Bolar	Sanket	G	Oncor Electric Delivery
Brzoznowski	Steven	G	Bonneville Power Administration
Craven	Mike	G	Qualus Power Services
Dillon	Nikolaus	G	Dominion Energy
Dolloff	Paul	G	East Kentucky Power
Dopplmair	Peter	G	Trench Group
Duffy	Jesse	G	Nashville Electric Service
Dugger	Kenneth	G	Voltix/NASS
Elson	Eric	G	SDGE
Ferreira	Marcos	G	Quanta Technology
Fong	Sanford	G	Georgia Power
Garcia Paredes	David	G	Virginia Transformer Corp.
Gorzin	Alireza	G	Black & Veatch
Grushlewize	Samuel	G	GE Vernova
Hampton	Kevin	G	Siemens Energy
Herron	Bill	G	MR
Hossain	Saif	G	Trench Limited
Jarosz	Patrycja	G	IEEE SA
Jeong	Chanh	G	ILJIN Electric Co., Ltd.
Johnson	Christopher	G	Oncor
Johnson	Reeve	G	Hitachi Energy
Kim	Younhui	G	ILJIN Electric Co., Ltd.
Kowalski	Rafal	G	Hitachi Energy

Kumar	Arvind	G	Delta Star Inc.
Kurz	Andreas	G	MR
Kwiatkowski	Mateusz	G	Hitachi Energy
Lange	Nathan	G	HSP US LLC
Lee	Jihun	G	HD Hyundai Electric
Lee	Junho	G	Hyundai Electric
Lim	DongGi	G	ILJIN Electric Co., Ltd.
Loiselle	Luc	G	Tetra Tech
Manzano	Moses	G	Hyosung HICO
Marathe	Swapnil	G	Megger
Natale	Anthony	G	HICO America
Nissle	Boris	G	MGC Moser Glaser AG
O'Malley	Anastasia	G	Consolidated Edison Co. of NY
Park	Dean	G	Hyosung HICO
Perkins	Jason	G	Modu Electric
Pollaro	Dominic	G	NASS
Prado	Gustavo	G	Siemens Energy
Rashid	Adnan	G	Measurement Canada / ISED
Reyes	David	G	Oncor
Richardson	Michael	G	Ameren
Robalino	Diego	G	Megger
Sanchez Rodriguez	Jesus	G	Voltyx/NASS
Sankarakurup	Dinesh	G	Duke Energy
Schiessl	Markus	G	SGB
Schrammel	Alfons	G	Siemens Energy
Snyder	Jason	G	FirstEnergy
Stechschulte	Kyle	G	American Electric Power
Steele	Hampton	G	Tennessee Valley Authority
Stockton	David	G	Stockton Consulting
Sweetser	Charles	G	OMICRON electronics Corp USA
Tan	Jonathan	G	Northern Transformer
Tekle	Samuel	G	WEG Transformers
Thomas	Scott	G	Hitachi Energy
Trujillo	Pedro	G	Hyundai
Vaagensmith	Bjorn	G	Idaho National Laboratory
Van Dreel	Cole	G	American Transmission Co.
Wagner	John	G	AEP
Wang	Luke	G	BC Hydro
Watson	Joshua	G	Nebraska Public Power District
Wong	Terry	G	Trench Limited
Wright	Jeffrey	G	Duquesne Light Co.
Yang	Fei	G	Hitachi Energy

Young	Tim	G	Hitachi Energy
Zambrano	Jose	G	HSP US

# F24 Unofficial Standards Status Report

Standard <a href="#">Project</a>	Title	WG Chair	Pub Year <a href="#">Rev. Due Date</a>	PAR Issue <a href="#">Par Expiration</a>	Comments
<b>C57.19.00</b>	IEEE Standard General Requirements and Test Procedure for Power Apparatus Bushings	P. Zhao	<b>2023</b> <b>2033</b>		Not Active
<a href="#">PC57.19.01</a>	IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings	S. Zhang	<b>2017</b> <b>12/2027</b>	<b>2024</b> <b>12/2028</b>	PAR has been approved, held first WG meeting
<b>C57.19.02</b>	Standard for the Design and Performance Requirements of Bushings Applied to Liquid Immersed Distribution Transformers	S. Shull	<b>2023</b> <b>2033</b>		Not Active
<a href="#">P65700-19-03</a>	IEC/IEEE International Standard -- Bushings for DC application	Eric Weatherbee	<b>2014</b> <b>12/2024</b>	<b>2021</b> <b>12/2025</b>	IEC Comments have been resolved. No IEEE comments received. Estimate recirculation Spring 2025
<a href="#">PC57.19.04</a>	Standard Performance Characteristics and Dimensions for High Current Power Transformer Bushings with Rated Continuous Current in Excess of 5000 A in Bus Enclosures	S. Digby	<b>2018</b> <b>12/2028</b>	<b>2024</b> <b>12/2028</b>	PAR has been approved, held first WG meeting
<a href="#">PC57.19.100</a>	IEEE Guide for Application of Power Apparatus Bushings	T. Spitzer	<b>2012</b> <b>12/2022</b>	<b>2019</b> <b>12/2025</b>	WG voted to move forward to ballot, needs SubCom approval



IEEE PES TRANSFORMER COMMITTEE

FALL 2024 St. Louis

F24 IEEE WG MEETING SUMMARY FOR BUSHING PC57.19.01

Chair: Shibao Zhang    Secretary: Dominic Pollaro

SEE COMPLETE MINUTES ON TRANSFORMER COMMITTEE WEBSITE, [www.transcommittee.org](http://www.transcommittee.org)

**Summary of Meeting**

The TF Std Requirements for Bushings C57.19.01 committee met @ 9:30 am on Tuesday October 29, 2024

PAR Approved 5/22/24 to finish the revision by end of 2028

59 Attended in Total,

24 out of 46 TG Members Attended, Quorum Reached

Motion to Approve Agenda = APPROVED

Motion to Approve TF Minutes = NO OBJECTION

Motion to Approve Timeline = APPROVED

We expect to get the draft ready for balloting by January 31, 2028

Key Topics Discussed

Topic 1: Bushing Test Tap Dimensions

Topic 2: Dry Switching Impulse for 345/500/765 kV bushings

**Visit [www.transcommittee.org](http://www.transcommittee.org) for finalized meeting minutes for F24**

**Working Group PC57.19.04**  
**Standard Requirements for Bushings**  
**above 5000A in Bus Enclosures**  
*October 29, 2024 1:45-3:00 PM*  
*St. Louis, Missouri*  
 UNAPPROVED MINUTES

**1. Introduction**

- Meeting was called to order at 1:47PM by Chair Scott Digby.
- Minutes recorded by Secretary Anthony Natale. Vice Chair is Rich von Gemmingen.

**2. Agenda Review**

- Meeting was called to order at 1:47PM by Chair Scott Digby.
- Minutes recorded by Secretary Anthony Natale. Vice Chair is Rich von Gemmingen.
- Agenda was presented
- PAR Status : PAR has been approved by NesCom Sept 25, 2024 for 4 years with an expiration date of Dec 31, 2028. This gives 9 Transformer Committee meeting. Reserving the final year for balloting means revision work should be complete and ready for sponsor ballot by the end of 2027

**3. Membership**

- As this is the first meeting of this WG, 23 members of the TF carried over. 37 people were in attendance including 15 of the 23 members. 10 guests requested membership and will be granted, giving us 33 members.

Previous Members	
Beaster	Barry
Cruz Valdes	Juan Carlos
DelRio	Arturo
Digby	Scott
Door	Jeffrey
Flores	Hugo
Gamboa	Jose
Hermann	Florian
Kaineder	Kurt
Locarno	Mario
Mani	Kumar
Mikulecky	Filip
Natale	Anthony
Pollaro	Dominic
Riopel	Sebastien
Spitzer	Tommy
Stacy	Fabian
Stockton	David
Thomas	Scott
Vermette	Yves
vonGemmingen	Richard
Webb	Matthew
Whitten	Christopher

New Members	
Abbas	Mubarak
Patel	Nirav
Young	Tim
Alexander	Anthony
Catugas	Marcelo
Giraldo	Orlando
Tyler	Lee
Speegle	Andy
Zhang	Shibao
Weatherbee	Eric

#### 4. Call for Essential Patents, IEEE Copyright Policy, Behavior Policy

- Slides were shown. No essential patents were identified.

#### 5. Approval of Minutes

- Minutes from TF were shown. Motion to approve the minutes was made by Juan Carlos Cruz Valdes and seconded by David Stockton. Minutes were approved by unanimous consent.

#### 6. Document Overview

- Call was made for open discussion
- Sebastien Riopel from Electrocomposites stated they are not seeing many references to the standard from customers yet but good to have.
- Shibao Zhang from Pcore Electric pointed out that switching impulse is included even though the transformer standard does not directly test this. Also the NOTE references the values from C57.12.00. The question then became whether it's necessary to include these. This would require further discussion or a possible survey of the group.
- A question was posed to the group for any feedback on the testing requirements. Sebastian Riopel noted he felt it was sufficient and provided proper clarification on the differences between 19.01 and 19.04
- It was stated that the document refers to C37.23, IEEE Standard for Metal-Enclosed Bus, specifically Table 5 from the 2015 version. Previously the group had a liaison to that working group in Devki Sharma, but he is no longer active. Jeff Door is a member of C37.23 working group and volunteered to be a new liaison.

#### 7. Next Steps

- Document will be circulated to the working group for comments.

#### 8. New Business

- Art Del Rio brought up that he attended a workshop recently for GSU users. At this workshop, a test method for testing GSU bushings inside bus duct was discussed. Extensions that connect to the bushing test taps to bring the connection outside the bus for testing are being used to prevent having to open the bus duct to get into tight spaces for testing GSU bushings. A question was posed about this being a topic for a future meeting along with some examples or a presentation of what's being used to determine if this information belongs in this standard or the Bushing Application Guide 19.100.

#### 9. Adjournment

- Meeting was adjourned at 2:17 pm.
- Next meeting will be at the Spring 2025 Transformers Committee meeting in Denver.

## 10. Attendance List

Last Name	First Name	Company Name
Abbas	Mubarak	HSP-US
Alexander	Anthony	Hitachi Energy
Avelino	Paulo	Hitachi Energy
Bayona	Hugo	H-J Family of Companies
Beaster	Barry	H-J Family of Companies
Catugas	Marcelo	Neil Services
Cruz Valdes	Juan Carlos	Prolec GE Internacional
DelRio	Arturo	HSP-US
Digby	Scott	Duke Energy
Door	Jeffrey	H-J Family of Companies
Dopplmair	Peter	Trench Group
Fu	Peng	Chint Electric
Gamboa	Jose	H-J Family of Companies
Giraldo	Orlando	The HJ Family of Companies
Johnson	Reeve	Hitachi Energy
Lange	Nathan	HSP-US LLC
Locarno	Mario	Doble Engineering Co
Natale	Anthony	HICO America
Nissle	Boris	MGC Moser-Glaser
Pandza	Tihomir	Siemens Energy KPT
Patel	Nirav	Yash Highvoltage Ltd
Plisic	Goran	Siemens Energy KPT
Riopel	Sebastien	Electro Composites Inc.
Schindler	Stefan	Machinenfabrik Reinhausen
Speegle	Andy	Entergy
Spitzer	Tommy	City Transformer Service Co
Stockton	David	Stockton Business Consulting
Takan	Can	MGC Moser-Glaser
Thomas	Scott	Hitachi Energy
Tyler	Lee	Warco Inc
vonGemmingen	Richard	Dominion Energy
Weatherbee	Eric	Pcore Electric
Webb	Matthew	GE Vernova
Whitten	Christopher	Hitachi Energy
Young	Tim	Hitachi Energy
Zambrano	Jose	HSP-US LLC
Zhang	Shibao	Pcore Electric

**IEEE PC57.19.100****Guide for Application of Power Apparatus Bushing WG**

Minutes of 2024 Fall Meeting  
Monday, October 28, 2024- 3:15-4:30 PM  
HYATT Regency – St. Louis, Mo

**Tommy Spitzer– Chair****Durand Stacy – Secretary**

The WG met on Monday, Oct. 28, 2024, at 3:15 PM in the Grand Ballroom F.

**1. Welcoming and Call for Patents, Copyrights**

- The meeting was called to order at 3:15 PM by the WG Chair.

**2. Quorum**

- Total of 49 participants: 9 members and 40 guests.
- A quorum was not met so no official business was conducted

**3. Status of document**

Draft 9 was approved to go to ballot by email voting. We had 11 of 19 members respond with 10 of the 11 voting to approve. I asked the bushing subcommittee for approval to go to ballot and it was granted.

Respectfully submitted,

Chair: Tommy Spitzer (t.spitzer@sbcglobal.net)

Secretary: Durand Stacy (durand.stacy@hitachienergy.com)

Attendance and status:

First Name	Last Name	Company	Status
Anthony	Alexander	Dominion Energy	Guest
Robert	Allison	Dominion	Guest
Barry	Beaster	H-J Family of Companies	Guest
Eun	Cho	Hico	Guest
Juan Carlos	Cruz Valdes	Prolec GE	Guest
Sami	Dubass	EPRI	Member
J. Arturo	Del Rio	HSP-US	Member
Paul	Dollof	East Kentucky Power	Guest
Jeffrey	Door	H-J Family of Companies	Guest
Peter	Doppchair	Trench	Guest
Jesse	Duffy	Nashville Electric	Guest

Sanford	Fong	Georgia Power	Guest
James	Gardner	Prolec GE	Guest
Orlando	Giraldo	H-J Family of Companies	Guest
Saif	Hossain	Trench	Guest
Patrycja	Jarosz	IEEE	Guest
Reeve	Johnson	Hitachi Energy	Guest
Kurt	Kaineder	Trench	Guest
Egon	Kirchenmayer	Siemens Energy	Member
Seungmo	Kim	Hico	Guest
Ashwini	Labh	Hitachi Energy	Guest
Mario	Locarno	Doble Engineering Co.	Member
Boris	Nissle	MGC Moser-Glaser	Guest
Goran	Plisic	Siemens Energy	Guest
Giraldo	Orlando	H-J Family of Companies	Guest
Nirav	Patel	Yash Highvoltage	Guest
Poorvi	Patel	EPRI	Guest
Dominic	Pollaro	NASS	Guest
David	Reyes	Oncor	Guest
Sebastien	Riopel	Electro Composites ULC	Member
Eric	Schleismann	Southern Company Services	Guest
Cody	Schott	H-J Family of Companies	Guest
Thomas	Spitzer	City Transformer Service Co.	Chair
David	Stockton	Yash Highvoltage	Guest
Can	Takan	MGC Moser-Glaser	Guest
Troy	Tanaka	Burns & McDonnell	Guest
Eduardo	Tolcachiz	TTE Transformers	Guest
Lee	Tyler	Warco	Guest
John	Wagner	AEP	Guest
Joshua	Watson	NPPD	Guest
Eric	Weatherbee	PCORE Electric	Member
Mathew	Weisensee	PacifiCorp	Guest
Peter	Werelius	Megger	Guest
Christopher	Whitton	Hitachi Energy	Member
Terry	Wong	Trench	Guest
Tim	Young	Hitachi Energy	Guest
Jose	Zambrano	Siemens	Guest
Shibao	Zhang	PCORE Electric	Member
Richard	vonGemmingen	Dominion Energy	Guest

# BUSHING SC MEETING

## IEC Liaison Report - Fall 2024

IEEE PES TRANSFORMERS COMMITTEE  
Location: ST. LOUIS  
Kurt Kaineder






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## TC 36A Team, Structure and Meetings

Role	Name	Term Of Office	NC
Chair	Mr Lars Jonsson	2026-12-31	SE
Secretary	Mrs Laura De Fina		IT

- Last General Meeting was held in Milan, Italy, on 15 June 2023
- Next General Meeting will hold jointly with TC 36. Probably in China in spring 2025

Membership:



- 15 Participating Countries
- 24 Observer Countries
- 205 experts recorded in the Expert System

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## Working Groups and related activities

- **JWG 10** Bushing application guide (J-C Riboud - FR)  
WG is working on the document (IEC 63548)
- **MT 5** Maintenance Team for the revision of IEC 60137: (Lars – SE)  
Insulated bushings for alternating voltages above 1kV.  
Start the revision work of IEC 60137 with Call of experts  
Sep. 29<sup>th</sup>. Nominations by the national committees still open!  
The work will start from Jan 2025.
- **MT 6** Bushings seismic qualification (P. Cardano - IT) - IEC TS 61463  
No activity in progress now. By the end of this year the process  
of review of IEC TS 61463 ed.2 will start.
- **JMT 9** DLMT: HVDC Bushings (L. Jonsson - SE), IEC/IEEE 65700-19-0  
“Bushings for DC application” CDV was circulated IEC and IEEE  
in May and voted positively. All comments (IEC, IEEE) reviewed  
and new version for re-balloting and FDIS submission in  
preparation Q1/2025. Publication 2025

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## IEC/IEEE 65700-19-03 ED2 Bushings for DC application

- Last Meeting October 9<sup>th</sup> and 10<sup>th</sup>, for closing the last comments on CVD
- 22 comments reviewed and resolved
- RESULT OF VOTING ON CDV (RVC) - 36A/252/RVC published

Next steps:

- Updated CDV document for re-balloting in IEEE – expected by November 18<sup>th</sup>.
- Assuming the vote is positive and no technical comments, it will go to the IEC Editing team for a 12-week review
- Assuming there are no technical changes after this process, it is my understanding that IEEE will not require another balloting
- The document will then go for final voting in IEC – FDIS
- Standard to be published in 2025



Appreciation from Lars Johnson



## Working Groups and related activities

- JWG 7      Dimensional bushing standardization linked to TC 14  
(F. Mauri – IT and P. Cardano IT) (IEC TS 63493-1 & 2)  
Transformer bushings dimensional standardization:
  - Part 1: Medium voltage and low voltage bushings
  - Part 2: High voltage bushings
- For part 1, the document IEC/36A/248/Q with the proposal for changing title and scope of document IEC TS 63493 part 1, was circulated in June and then approved in August.
- Basically, due to difficulties to standardize the several typologies of MV LV bushings, the scope of the document has been limited to the "Medium Voltage bushings with Um from 12 kV up to and including 52 kV and Ir from 630 A up to and including 3150 A". The SC 36 A will agree how to proceed regarding the interchangeability criteria for the bushings removed from Part 1 during the next plenary meeting.  
36A/253/CD circulated and open for comments till January 31<sup>st</sup>.

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## Working Groups and related activities

- 36A/251/NP    PNW TS 36A-251 ED1: General requirements for tap adapter of capacitance graded bushing  
Circulation Oct. 18<sup>th</sup>, Closing Jan. 10<sup>th</sup>, 2025
- Proposed Scope:  
This document gives the general requirements on composition, technical requirements, test items and requirements, inspection rules, marking, packaging, transportation, storage, on-site installation, acceptance criteria, and maintenance of the capacitance graded bushing tap adapter.  
This document is applicable to the selection, testing, and application of the tap adapter of capacitance graded bushing for 550kV and below
- Topic was raised during last General Meeting in Rome. Chinese Committee representatives presented the proposal.  
Proposal is now for vote by the national committees!

