

Standards Report

To: Members of Transformers Committee October 15, 2018

From: Jim Graham, Standards Coordinator

Executive Summary

This report covers Transformers Committee Standards activity from March 10, 2018 through September 27, 2018. During this time two new standards and three revisions to standards were approved by the Standards Board. In this same period, the Standards Board approved three PARs for new standards; four PARs for Revisions; one PAR for extension, and one PAR for withdrawal. All PARs scheduled to expire in 2018 have been completed, extended, or on a NesCom / RevCom agenda for approval.

Seventeen (17) standards were scheduled to expire in 2018. Eight of these standards will move to inactive status as of 31 December, 2018. Three (3) documents are in comment resolution; two have initiated the ballot process; and two are still in draft development. One standard (C57.136) will be intentionally allowed to expire. Seven (7) standards will expire in 2019, including two standards (C57.111 and C57.121) which will be intentionally allowed to expire.

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I. Standards approved since March 10, 2018

Approved New Transformer Standards

P60076-16 IEC/IEEE International Draft Standard - Power Transformers - Part 16: Transformers for Wind Turbine Application

PC57.161 Guide for Dielectric Frequency Response Test

Approved Revisions to Transformer Standards *(All expire 31 Dec 2028)*

PC57.109 Guide for Liquid-Immersed Transformers Through-Fault-Current Duration

PC57.110 Recommended Practice for Establishing Liquid-Immersed and Dry-Type Power and Distribution Transformer Capability When Supplying Nonsinusoidal Load Currents

PC57.119 Recommended Practice for Performing Temperature Rise Tests on Liquid-Immersed Power Transformers at Loads Beyond Nameplate Ratings

Approved Standards Amendments & Corrigenda *None*

II. PARs approved since March 10, 2018

Approved PARs - Withdrawals

PC57.12.70-2011/Cor 1 Standard Terminal Markings and Connections for Distribution and Power Transformers - Corrigendum 1

Approved PARs for New Projects *(All expire December 2022)*

PC57.167 Guide for Monitoring Distribution Transformers

PC57.168 Guide for Low Frequency Dielectric Testing for Distribution, Power and Regulating Transformers

PC57.12.200 Guide for the Frequency Domain Spectroscopy Measurement of Transformer Bushings
(ENTITY PAR)

Approved PARs for Revision of Standards *(All Expire December 2022)*

PC57.12.70 Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers

PC57.149 Guide for the Application and Interpretation of Frequency Response Analysis for Oil-Immersed Transformers

PC57.154 Standard for Liquid-Immersed Transformers Designed to Operate at Temperatures Above Conventional Limits Using High-Temperature Insulation Systems

PC57.98 Guide for Transformer Impulse Tests

Approved PAR Extensions *(All expire as noted)*

PC57.93 Guide for Installation and Maintenance of Liquid-Immersed Power Transformers
(December 2020)

Approved PAR Modifications *None (PAR Modifications do not change the Expiration Date)*

Approved PARs for Amendments & Corrigenda *None*

III. 2017 IEEE Standards Board Meeting Schedule

The Standards Board has three *physical* board meetings per year and three teleconference meetings. The IEEE 2018 Standards Association meetings schedule is appended to this report.

Deadlines for 2019 Standards Board Submissions:

Standards Board Meeting	Submission Deadline
January 2019 (teleconference)	18 December, 2018
March 2018	08 February, 2019
May 2018 (teleconference)	22 March, 2019
June 2019	23 May, 2019
September 2019 (teleconference)	26 July, 2019
November 2019	17 September, 2019
December 2019	To be determined

Please Note: Anything that expires at the end of 2019 must be submitted to NesCom (PARs) or RevCom (standards) by **17 September, 2018**. An updated submission deadline for the December 2019 Standards Board meetings is not available at this time.

IV. Transformers Committee Ballot Status

(as of SEP 27, 2018)

PAR Number	Project Type	Approval Date	PAR Expiration	Invitation Close Date	Ballot Close Date	Status
Dielectric Test						
PC57.127	Revision	16-Feb-2015	12/31/2019			RevCom Agenda 12-Oct-2018
PC57.160	New	15-Jun-2017	12/31/2019	4/25/2018		Sponsor Ballot: PreBallot
Dry Type Transformers						
PC57.12.51	Revision	18-May-2017	12/31/2018	10/10/2018		Sponsor Ballot: Invitation
Insulating Fluids						
PC57.104	Revision	5-Feb-2010	12/31/2019	1/15/2018	6/26/2018	Sponsor Ballot: Comment Resolution
Instrument Transformers						
PC57.13.7	New	30-Sep-2010	12/31/2018	10/13/2016	12/13/2017	Sponsor Ballot: Comment Resolution
Performance Characteristics						
PC57.105	Revision	26-Mar-2015	12/31/2019	5/23/2018	9/24/2018	Sponsor Ballot: Comment Resolution
PC57.32a	Amendment	17-Feb-2017	12/31/2021	6/12/2018	7/13/2018	Sponsor Ballot: Comment Resolution
Power Transformers						
P60214-2	New	12-Jun-2014	12/31/2018	8/9/2017	1/31/2018	Sponsor Ballot: Comment Resolution
PC57.93	Revision	29-Mar-2012	12/31/2020	3/17/2018	9/21/2018	Sponsor Ballot: Comment Resolution
Subsurface Transformers & Network Protectors						
PC57.12.23	Revision	21-Aug-2014	12/31/2018			RevCom Agenda 04-Dec-2018

V. Transformers Committee Active PAR Status

(as of SEP 27, 2018)

PAR Number	WG Chair	Project Type	Title	Approval Date	PAR Expiration	Status
Bushings						
PC57.19.00	Peter Zhao	Revision	Standard General Requirements and Test Procedure for Power Apparatus Bushings	15-Feb-2018	12/31/2022	WG Draft Development
PC57.19.02	Stephen Shull	New	Standard for the Design and Performance Requirements of Bushings Applied to Liquid Immersed Distribution Transformers	5-Feb-2016	12/31/2020	WG Draft Development
Dielectric Test						
PC57.113	Ali Naderian	Revision	Recommended Practice for Partial Discharge Measurement in Liquid-Filled Power Transformers and Shunt Reactors	6-Dec-2017	12/31/2021	WG Draft Development
PC57.127	Detlev Gross	Revision	Guide for the Detection, Location and Interpretation of Sources of Acoustic Emissions from Electrical Discharges in Power Transformers and Power Reactors	16-Feb-2015	12/31/2019	RevCom Agenda 12-Oct-2018
PC57.160	Thang Hochanh	New	Guide for the Electrical Measurement of Partial Discharges in High Voltage Bushings and Instrument Transformers	15-Jun-2017	12/31/2019	Sponsor Ballot: PreBallot
PC57.161	Ali Naderian	New	Guide for Dielectric Frequency Response Test	23-Aug-2013	12/31/2018	Complete
PC57.168	Daniel Sauer	New	Guide for Low Frequency Dielectric Testing for Distribution, Power and Regulating Transformers	14-Jun-2018	12/31/2022	WG Draft Development
Distribution Transformers						
PC57.12.32	Dan Mulkey	Revision	Standard for Submersible Equipment - Enclosure Integrity	11-Jun-2015	12/31/2019	WG Draft Development
PC57.12.34	Ron Stahara	Revision	Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers, 10 MVA and Smaller; High-Voltage, 34.5 kV Nominal System Voltage and Below; Low-Voltage, 15 kV Nominal System Voltage and Below	22-Sep-2016	12/31/2020	WG Draft Development
PC57.12.38	Ali Ghafourian	Revision	Standard for Pad-Mounted-Type, Self-Cooled, Single-Phase Distribution Transformers 250 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 V and Below; Low Voltage, 480/240 V and Below	28-Sep-2017	12/31/2021	WG Draft Development

PAR Number	WG Chair	Project Type	Title	Approval Date	PAR Expiration	Status
Distribution Transformers						
PC57.167	Gary Hoffman	New	Guide for Monitoring Distribution Transformers	14-Jun-2018	12/31/2022	WG Draft Development
Dry Type Transformers						
PC57.12.01	Casey Ballard	Revision	Standard for General Requirements for Dry-Type Distribution and Power Transformers	12-May-2016	12/31/2020	WG Draft Development
PC57.12.51	Sanjib Som	Revision	Guide for Mechanical Interchangeability of Ventilated Dry Type Transformers	18-May-2017	12/31/2018	Sponsor Ballot: Invitation
PC57.12.60	Roger Wicks	Revision	Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers	11-Jun-2015	12/31/2019	WG Draft Development
PC57.12.91	Derek Foster	Revision	Standard Test Code for Dry-Type Distribution and Power Transformers	3-Mar-2016	12/31/2020	WG Draft Development
PC57.16	Arturo Del Rio	Revision	Standard for Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors	5-Feb-2016	12/31/2020	WG Draft Development
PC57.124	Tom Prevost	Revision	Recommended Practice for the Detection of Partial Discharge and the Measurement of Apparent Charge in Dry-Type Transformers	15-Jun-2017	12/31/2021	WG Draft Development
HVDC Converter Transformers & Smoothing Reactors						
P1277	Klaus Pointer	Revision	Standard General Requirements and Test Code for Dry-Type and Oil-Immersed Smoothing Reactors and for Dry-Type Converter Reactors for DC Power Transmission	17-Feb-2017	12/31/2021	WG Draft Development
Insulating Fluids						
PC57.104	Claude Beauchemin	Revision	Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers	5-Feb-2010	12/31/2019	Sponsor Ballot: Comment Resolution
PC57.166	Tom Prevost	New	Guide for Acceptance and Maintenance of Insulating Liquids in Transformers and Related Equipment	8-Mar-2018	12/31/2022	WG Draft Development

PAR Number	WG Chair	Project Type	Title	Approval Date	PAR Expiration	Status
Insulation Life						
P1276	Roger Wicks	Revision	Guide for the Application of High-Temperature Insulation Materials in Liquid-Immersed Distribution, Power and Regulating Transformers	27-Mar-2014	12/31/2018	WG Draft Development
PC57.162	Tom Prevost	New	Guide for the Interpretation of Moisture Related Parameters in Dry, Gas Insulated and Liquid Immersed Transformers and Reactors	23-Aug-2013	12/31/2020	WG Draft Development
PC57.165	Phil McClure	New	Guide for Temperature Measurements for Liquid Immersed Transformers and Reactors	17-Feb-2017	12/31/2021	WG Draft Development
PC57.91	Dave Wallach	Revision	Guide for Loading Mineral-Oil-Immersed Transformers and Step-Voltage Regulators	28-Sep-2017	12/31/2021	WG Draft Development
Instrument Transformers						
PC57.13.2	Thomas Sizemore	Revision	Standard for Conformance Test Procedure for Instrument Transformers	6-Dec-2017	12/31/2021	WG Draft Development
PC57.13.5	Pierre Riffon	Revision	Standard of Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above	3-Mar-2016	12/31/2020	WG Draft Development
PC57.13.7	Henry Alton	New	Standard for Current Transformers with a Maximum mA Secondary Current of 250 mA	30-Sep-2010	12/31/2018	Sponsor Ballot: Comment Resolution
Instrument Transformers						
PC57.13.8	Dave Wallace	New	Standard Requirements for Station Service Voltage Transformers	11-Dec-2013	12/31/2019	WG Draft Development
PC57.13.9	Zoltan Roman	New	Standard for Power-Line Carrier Coupling Capacitors and Coupling Capacitor Voltage Transformers	23-Mar-2017	12/31/2021	WG Draft Development

PAR Number	WG Chair	Project Type	Title	Approval Date	PAR Expiration	Status
Performance Characteristics						
P60076-16	Phil Hopkinson	New	Power Transformers - Part 16: Transformers for Wind Turbine Application	10-Dec-2014	12/31/2018	Complete
PC57.105	Roger Verdolin	Revision	Guide for Application of Transformer Connections in Three-Phase Electrical Systems	26-Mar-2015	12/31/2019	Sponsor Ballot: Comment Resolution
PC57.109	Vinay Mehrotra	Revision	Guide for Liquid-Immersed Transformers Through-Fault-Current Duration	26-Mar-2015	12/31/2019	Complete
PC57.123	Ed TeNyenhuis	Revision	Guide for Transformer Loss Measurement	15-Jun-2017	12/31/2021	WG Draft Development
PC57.142	James McBride	Revision	Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformers, Switching Device, and System Interaction	23-Mar-2017	12/31/2021	WG Draft Development
PC57.149	Charles Sweetser	Revision	Guide for the Application and Interpretation of Frequency Response Analysis for Oil-Immersed Transformers	14-Jun-2018	12/31/2022	WG Draft Development
PC57.164	Sanjay Patel	New	Guide for Establishing Short Circuit Withstand Capabilities of Liquid Immersed Power Transformers, Regulators, and Reactors	30-Jun-2016	12/31/2020	WG Draft Development
PC57.18.10	Sheldon Kennedy	Revision	Standard Practices and Requirements for Semiconductor Power Rectifier Transformers	30-Jun-2016	12/31/2020	WG Draft Development
PC57.21	Sanjib Som	Revision	Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA	21-Aug-2014	12/31/2018	WG Draft Development
PC57.32a	Sergio Panetta	Amendment	Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Amendment: Neutral Grounding Resistor Section	17-Feb-2017	12/31/2021	Sponsor Ballot: Comment Resolution
Power Transformers						
P60214-1-57-131	Craig Colopy	New	Standard Requirements for Tap Changers	7-Dec-2016	12/31/2020	WG Draft Development
P60214-2	Craig Colopy	New	Tap-Changers - Part 2: Application Guide	12-Jun-2014	12/31/2018	Sponsor Ballot: Comment Resolution
PC57.143	Michael Spurlock	Revision	Guide for Application of Monitoring Equipment to Liquid-Immersed Transformers and Components	17-Feb-2017	12/31/2021	WG Draft Development
PC57.148	Joe Watson	Revision	Standard for Control Cabinets for Power Transformers	30-Jun-2016	12/31/2020	WG Draft Development
PC57.150	Greg Anderson	Revision	Guide for the Transportation of Transformers and Reactors Rated 10,000 kVA or Higher	23-Mar-2017	12/31/2021	WG Draft Development

PAR Number	WG Chair	Project Type	Title	Approval Date	PAR Expiration	Status
Power Transformers						
PC57.93	Mike Lau	Revision	Guide for Installation and Maintenance of Liquid-Immersed Power Transformers	29-Mar-2012	12/31/2020	Sponsor Ballot: Comment Resolution
Standards						
PC57.12.00	Steve Snyder	Revision	Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers	17-Feb-2017	12/31/2021	WG Draft Development
PC57.12.90	Stephen Antosz	Revision	Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers	6-Dec-2017	12/31/2021	WG Draft Development
PC57.12.70	Jason Varnell	Revision	Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers	14-Jun-2018	12/31/2022	WG Draft Development
PC57.12.80	Clair Claiborne	Revision	Standard Terminology for Power and Distribution Transformers	23-Mar-2017	12/31/2021	WG Draft Development
Subsurface Transformers & Network Protectors						
PC57.12.23	Allan Traut	Revision	Standard for Submersible Single-Phase Transformers: 250 kVA and Smaller; High Voltage 34 500GrdY/19 920V and Below; Low Voltage 600 V and Below	21-Aug-2014	12/31/2018	RevCom Agenda 04-Dec-2018
PC57.12.44	Mark Faulkner	Revision	Standard Requirements for Secondary Network Protectors	26-Mar-2015	12/31/2019	WG Draft Development

VI. Transformers Standards Status

(as of Sep 27, 2018)

Standard Number	Year	Title	SASB Expiration	Notes
Bushings		SC Chair: Peter Zhao email: peter.zhao@HydroOne.com phone: (417) 345-5926		
C57.19.00	2004	IEEE Standard General Requirements and Test Procedure for Power Apparatus Bushings	12/31/2020	WG development PAR expires 12/31/2022
C57.19.01	2017	IEEE Standard for Performance Characteristics and Dimensions for Power Transformer and Reactor Bushings	12/31/2027	No PAR
65700-19-03	2014	IEC/IEEE International Standard -- Bushings for DC application	12/31/2024	No PAR
C57.19.04	2018	IEEE Standard for Performance Characteristics and Dimensions for High Current Power Transformer Bushings with Rated Continuous Current in Excess of 5000 A in Bus Enclosures	12/31/2028	No PAR
C57.19.100	2012	IEEE Guide for Application of Power Apparatus Bushings	12/31/2022	No PAR
Dielectric Test		SC Chair: Ajith Varghese email: ajith.varghese@spx.com phone: (262) 442-7197		
C57.113	2010	IEEE Recommended Practice for Partial Discharge Measurement in Liquid-Filled Power Transformers and Shunt Reactors	12/31/2020	PAR expires 2021
C57.127	2007	IEEE Guide for the Detection and Location of Acoustic Emissions from Partial Discharges in Oil-Immersed Power Transformers and Reactors	12/31/2018	RevCom Agenda 12-Oct-2018
C57.138	2016	IEEE Recommended Practice for Routine Impulse Tests for Distribution Transformers	12/31/2026	No PAR
C57.98	2011	IEEE Guide for Transformer Impulse Tests	12/31/2021	PAR expires 2022
Standard Number	Year	Title	SASB Expiration	Notes
Distribution Transformers		SC Chair: Steve Shull email: sshull@empiredistrict.com phone: (417) 625-611		
C57.12.39	2017	IEEE Standard for Requirements for Distribution Transformer Tank Pressure Coordination	12/31/2027	No PAR
C57.12.37	2015	IEEE Standard for the Electronic Reporting of Distribution Transformer Test Data	12/31/2025	No PAR
C57.12.20	2017	IEEE Standard for Overhead-Type Distribution Transformers 500 kVA and Smaller; High Voltage, 34 500 V and Below; Low Voltage, 7970/13 800Y V and Below	12/31/2027	No PAR
C57.12.28	2014	IEEE Standard for Pad-Mounted Equipment--Enclosure Integrity	12/31/2024	No PAR

Standard Number	Year	Title	SASB Expiration	Notes
Distribution Transformers		SC Chair: Steve Shull email: sshull@empiredistrict.com phone: (417) 625-611		
C57.12.29	2014	IEEE Standard for Pad-Mounted Equipment--Enclosure Integrity for Coastal Environments	12/31/2024	No PAR
C57.12.30	2010	IEEE Standard for Pole-Mounted Equipment--Enclosure Integrity for Coastal Environments	12/31/2020	No PAR
C57.12.31	2010	IEEE Standard for Pole-Mounted Equipment--Enclosure Integrity	12/31/2020	No PAR
C57.12.31-2010/Cor 1	2014	IEEE Standard for Pole-Mounted Equipment--Enclosure Integrity - Corrigendum 1: Correction to the SCAB Corrosion Test in 4.5.6	12/31/2024	No PAR
C57.12.32	2002	IEEE Standard for Submersible Equipment - Enclosure Integrity	12/31/2018	WG Draft Development PAR expires in 2019
C57.12.34	2015	IEEE Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers, 10 MVA and Smaller; High-Voltage, 34.5 kV Nominal System Voltage and Below; Low-Voltage, 15 kV Nominal System Voltage and Below	12/31/2025	PAR expires in 2020
C57.12.35	2013	IEEE Standard Bar Coding for Distribution Transformers and Step-Voltage Regulators	12/31/2023	No PAR
C57.12.36	2017	IEEE Standard Requirements for Liquid-Immersed Distribution Substation Transformers	12/31/2027	No PAR
C57.12.38	2014	IEEE Standard for Pad-Mounted-Type, Self-Cooled, Single-Phase Distribution Transformers 250 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 V and Below; Low Voltage, 480/240 V and Below	12/31/2024	PAR expires in 2021
C57.15	2017	IEEE Approved Draft Standard Requirements, Terminology, and Test Code for Step-Voltage Regulators	12/31/2027	No PAR
Dry Type Transformers		SC Chair: C.W. Johnson email: charles.w.johnson@us.abb.com phone: (276) 688-1512		
C57.12.52	2012	IEEE Standard for Sealed Dry-Type Power Transformers, 501 kVA and Higher, Three-Phase, with High-Voltage 601 to 34500 Volts, Low-Voltage 208Y/120 to 4160 Volts--General Requirements	12/31/2022	No PAR
259	1999	IEEE Standard Test Procedure for Evaluation of Systems of Insulation for Dry-Type Specialty and General-Purpose Transformers	12/31/2020	No PAR
C57.12.01	2015	IEEE Standard for General Requirements for Dry-Type Distribution and Power Transformers	12/31/2025	PAR expires in 2020
C57.12.51	2008	IEEE Standard for Ventilated Dry- Type Power Transformers, 501 kVA and Larger, Three-Phase, with High- Voltage 601 V to 34 500 V; Low- Voltage 208Y/120 V to 4160 V- General Requirements	12/31/2018	Sponsor Ballot: Invitation PAR extension submitted
C57.12.58	2017	IEEE Guide for Conducting a Transient Voltage Analysis of a Dry-Type Transformer Coil	12/31/2027	No PAR

Standard Number	Year	Title	SASB Expiration	Notes
Dry Type Transformers		SC Chair: C.W. Johnson email: charles.w.johnson@us.abb.com phone: (276) 688-1512		
C57.12.59	2015	IEEE Guide for Dry-Type Transformer Through-Fault Current Duration	12/31/2025	No PAR
C57.12.60	2009	IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers, Including Open-Wound, Solid-Cast, and Resin-Encapsulated Transformers	12/31/2019	PAR expires in 2019
C57.12.91	2011	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers	12/31/2021	PAR expires in 2020
C57.124	1991	IEEE Recommended Practice for the Detection of Partial Discharge and the Measurement of Apparent Charge in Dry-Type Transformers	12/31/2019	PAR expires in 2021
C57.134	2013	IEEE Guide for Determination of Hottest-Spot Temperature in Dry-Type Transformers	12/31/2023	No PAR
C57.16	2011	IEEE Standard for Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors	12/31/2021	PAR expires in 2020
C57.94	2015	IEEE Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type Distribution and Power Transformers	12/31/2025	No PAR
C57.96	2013	IEEE Guide for Loading Dry-Type Distribution and Power Transformers	12/31/2023	No PAR
HVDC Converter Transformers & Smoothing Reactors		SC Chair: Mike Sharp email: mikes@ca.trenchgroup.com phone: 416-298-8108		
1277	2010	IEEE Standard General Requirements and Test Code for Dry-Type and Oil-Immersed Smoothing Reactors for DC Power Transmission	12/31/2020	PAR expires in 2021
60076-57-129	2017	IEC/IEEE International Standard - Power transformers--Part 57-129: Transformers for HVDC applications	12/31/2027	No PAR
Standard Number	Year	Title	SASB Expiration	Notes
Insulating Fluids		SC Chair: Dave Wallach email: david.wallach@duke-energy.com phone: (980) 373-4167		
C57.637	2015	IEEE Guide for the Reclamation of Mineral Insulating Oil and Criteria for Its Use	12/31/2025	No PAR
C57.104	2008	IEEE Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers	12/31/2018	Sponsor Ballot Comment resolution 409 comments to review PAR expires in 2019
C57.106	2015	IEEE Guide for Acceptance and Maintenance of Insulating Mineral Oil in Electrical Equipment	12/31/2025	No PAR

Standard Number	Year	Title	SASB Expiration	Notes
Insulating Fluids		SC Chair: Dave Wallach email: david.wallach@duke-energy.com phone: (980) 373-4167		
C57.111	1989	IEEE Guide for Acceptance of Silicone Insulating Fluid and Its Maintenance in Transformers	12/31/2019	No PAR
C57.121	1998	IEEE Guide for Acceptance and Maintenance of Less-Flammable Hydrocarbon Fluid in Transformers	12/31/2019	No PAR
C57.130	2015	IEEE Guide for the Use of Dissolved Gas Analysis Applied to Factory Temperature Rise Tests for the Evaluation of Mineral Oil-Immersed Transformers and Reactors	12/31/2025	No PAR
C57.139	2015	IEEE Guide for Dissolved Gas Analysis in Transformer Load Tap Changers	12/31/2025	No PAR
C57.146	2005	IEEE Guide for Interpretation of Gasses Generated in Silicone-Immersed Transformers	12/31/2021	No PAR
C57.147	2018	IEEE Guide for Acceptance and Maintenance of Natural Ester Insulating Liquid in Transformers	12/31/2028	No PAR
C57.155	2014	IEEE Guide for Interpretation of Gases Generated in Natural Ester and Synthetic Ester-Immersed Transformers	12/31/2024	No PAR
Insulation Life		SC Chair: Sheldon Kennedy email: skennedy@niagaratransformer.com phone: (716) 896-6500		
1276	1997	IEEE Guide for the Application of High-Temperature Insulation Materials in Liquid-Immersed Power Transformers	12/31/2018	Sponsor Ballot: Invitation PAR extension submitted
1538	2000	IEEE Guide for Determination of Maximum Winding Temperature Rise in Liquid-Filled Transformers	12/31/2021	No PAR
1538a	2015	IEEE Guide for Determination of Maximum Winding-Temperature Rise in Liquid Immersed Transformers -- Amendment 1	12/31/2025	No PAR
C57.100	2011	IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Liquid-Immersed Distribution and Power Transformers	12/31/2021	NesCom Agenda 19-Oct-2018
C57.119	2018	IEEE Approved Draft Recommended Practice for Performing Temperature Rise Tests on Liquid-Immersed Power Transformers at Loads Beyond Nameplate Ratings	12/31/2028	No PAR
C57.154	2012	IEEE Standard for the Design, Testing, and Application of Liquid-Immersed Distribution, Power, and Regulating Transformers Using High-Temperature Insulation Systems and Operating at Elevated Temperatures	12/31/2022	PAR expires in 2022
C57.91	2011	IEEE Guide for Loading Mineral-Oil-Immersed Transformers and Step-Voltage Regulators	12/31/2021	PAR expires in 2021

Standard Number	Year	Title	SASB Expiration	Notes
Instrument Transformers		SC Chair: Ross McTaggart email: rossdm@ca.trenchgroup.com phone: (416) 751-8570		
C57.13	2016	IEEE Standard Requirements for Instrument Transformers	12/31/2026	No PAR
C57.13.2	2005	IEEE Standard for Conformance Test Procedure for Instrument Transformers	12/31/2020	PAR expires in 2021
C57.13.5	2009	IEEE Standard of Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above	12/31/2019	PAR expires in 2020
C57.13.6	2005	IEEE Standard for High Accuracy Instrument Transformers	12/31/2020	No PAR
Performance Characteristics		SC Chair: Ed TeNyenhuis email: ed.g.tenyenhuis@ca.abb.com phone: (519) 837-4691		
60076-16	2018	IEC/IEEE International Draft Standard - Power Transformers - Part 16: Transformers for Wind Turbine Application	12/31/2028	No PAR
C57.105	1978	IEEE Guide for Application of Transformer Connections in Three-Phase Distribution Systems	12/31/2018	Sponsor Ballot: Comment Resolution 5 comments to review Par expires in 2019
C57.109	1993	IEEE Guide for Liquid-Immersed Transformers Through-Fault-Current Duration	12/31/2028	No PAR
C57.110	2018	IEEE Approved Draft Recommended Practice for Establishing Liquid-Immersed and Dry-Type Power and Distribution Transformer Capability When Supplying Nonsinusoidal Load Currents	12/31/2028	No PAR
C57.120	2017	IEEE Guide for Loss Evaluation of Distribution and Power Transformers and Reactors	12/31/2027	No PAR
C57.123	2010	IEEE Guide for Transformer Loss Measurement	12/31/2020	PAR expires in 2021
C57.136	2000	IEEE Guide for Sound Level Abatement and Determination for Liquid-Immersed Power Transformers and Shunt Reactors Rated Over 500 kVA	12/31/2018	No PAR will become inactive
C57.142	2010	IEEE Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformers, Switching Device, and System Interaction	12/31/2020	PAR expires in 2021
C57.149	2012	IEEE Guide for the Application and Interpretation of Frequency Response Analysis for Oil-Immersed Transformers	12/31/2022	PAR expires in 2022
C57.158	2017	IEEE Guide for the Application of Tertiary and Stabilizing Windings in Power Transformers	12/31/2027	No PAR
C57.159	2016	IEEE Guide on Transformers for Application in Distributed Photovoltaic (DPV) Power Generation Systems	12/31/2026	No PAR

Standard Number	Year	Title	SASB Expiration	Notes
Performance Characteristics		SC Chair: Ed Tenyenhuis email: ed.g.tenyenhuis@ca.abb.com phone: (519) 837-4691		
C57.18.10	1998	IEEE Standard Practices and Requirements for Semiconductor Power Rectifier Transformers	12/31/2019	PAR expires in 2020
C57.21	2008	IEEE Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA	12/31/2018	WG Draft Development PAR extension submitted
C57.32	2015	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices	12/31/2025	Amendment in progress
Power Transformers		SC Chair: Bill Griesacker email: bgriesacker@doble.com phone: (617) 393-3074		
638	2013	IEEE Standard for Qualification of Class 1E Transformers for Nuclear Power Generating Stations	12/31/2023	No PAR
60076-57-1202	2016	IEC/IEEE International Standard Power transformers --Part 57-1202: Liquid immersed phase-shifting transformers	12/31/2026	No PAR
C57.116	2014	IEEE Guide for Transformers Directly Connected to Generators	12/31/2024	No PAR
C57.12.10	2017	IEEE Standard Requirements for Liquid-Immersed Power Transformers	12/31/2027	No PAR
C57.125	2015	IEEE Guide for Failure Investigation, Documentation, Analysis, and Reporting for Power Transformers and Shunt Reactors	12/31/2025	No PAR
C57.131	2012	IEEE Standard Requirements for Tap Changers	12/31/2022	No PAR
C57.135	2011	IEEE Guide for the Application, Specification, and Testing of Phase-Shifting Transformers	12/31/2021	No PAR
C57.140	2017	IEEE Guide for Evaluation and Reconditioning of Liquid Immersed Power Transformers	12/31/2027	No PAR
C57.143	2012	IEEE Guide for Application for Monitoring Equipment to Liquid-Immersed Transformers and Components	12/31/2022	PAR expires in 2021
C57.148	2011	IEEE Standard for Control Cabinets for Power Transformers	12/31/2021	PAR expires in 2020
C57.150	2012	IEEE Guide for the Transportation of Transformers and Reactors Rated 10 000 kVA or Higher	12/31/2022	PAR expires in 2021
C57.153	2015	IEEE Guide for Paralleling Regulating Transformers	12/31/2025	No PAR
C57.156	2016	IEEE Guide for Tank Rupture Mitigation of Liquid-Immersed Power Transformers and Reactors	12/31/2026	No PAR
C57.157	2015	IEEE Guide for Conducting Functional Life Tests on Switch Contacts Used in Insulating Liquid--Immersed Transformers	12/31/2025	No PAR
C57.17	2012	IEEE Standard Requirements for Arc Furnace Transformers	12/31/2022	No PAR

Standard Number	Year	Title	SASB Expiration	Notes
Power Transformers		SC Chair: Bill Griesacker email: bgriesacker@doble.com phone: (617) 393-3074		
C57.93	2007	IEEE Guide for Installation and Maintenance of Liquid-Immersed Power Transformers	12/31/2018	Sponsor Ballot: Comment Resolution 84 comments to review PAR expires in 2020
Standards		SC Chair: Jerry Murphy email: jerry.murphy@ieee.org phone: (407) 824-4194		
C57.12.00	2015	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers	12/31/2025	PAR expires in 2021
C57.12.70	2011	IEEE Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers	12/31/2021	PAR expires in 2022
C57.12.80	2010	IEEE Standard Terminology for Power and Distribution Transformers	12/31/2020	PAR expires in 2021
C57.12.90	2015	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers	12/31/2025	PAR expires in 2021
C57.144	2004	IEEE Guide for Metric Conversion of Transformer Standards	12/31/2020	No PAR
C57.152	2013	IEEE Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators, and Reactors	12/31/2023	No PAR
Standards		SC Chair: Jerry Murphy email: jerry.murphy@ieee.org phone: (407) 824-4194		
C57.163	2015	IEEE Guide for Establishing Power Transformer Capability while under Geomagnetic Disturbances	12/31/2025	No PAR
Subsurface Transformers & Network Protectors		SC Chair: Dan Mulkey email: dhmulkey@ieee.org phone: (707) 776-7346		
C57.12.23	2009	IEEE Standard for Submersible Single-Phase Transformers: 167 kVA and Smaller; High Voltage 25 000 V and Below; Low Voltage 600 V and Below	12/31/2019	RevCom Agenda 04-Dec-2018 PAR expires in 2018
C57.12.24	2016	IEEE Standard for Submersible, Three-Phase Transformers, 3750 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 Volts and Below; Low Voltage, 600 Volts and Below	12/31/2026	No PAR
C57.12.40	2017	IEEE Standard for Network, Three-Phase Transformers, 2500 kVA and Smaller; High Voltage, 34 500 V and Below; Low Voltage, 600 V and Below; Subway and Vault Types (Liquid Immersed)	12/31/2027	No PAR
C57.12.44	2014	IEEE Standard Requirements for Secondary Network Protectors	12/31/2024	PAR expires in 2019

Transformers Committee Organization Chart

IEEE PES Transformers Committee
Chair: Susan McNelly
Vice-Chair: Bruce Forsyth **Secretary:** Ed teNyenhuis **Treasurer:** Paul Boman
Past Chair: Stephen Antosz **Standards Coordinator:** James Graham

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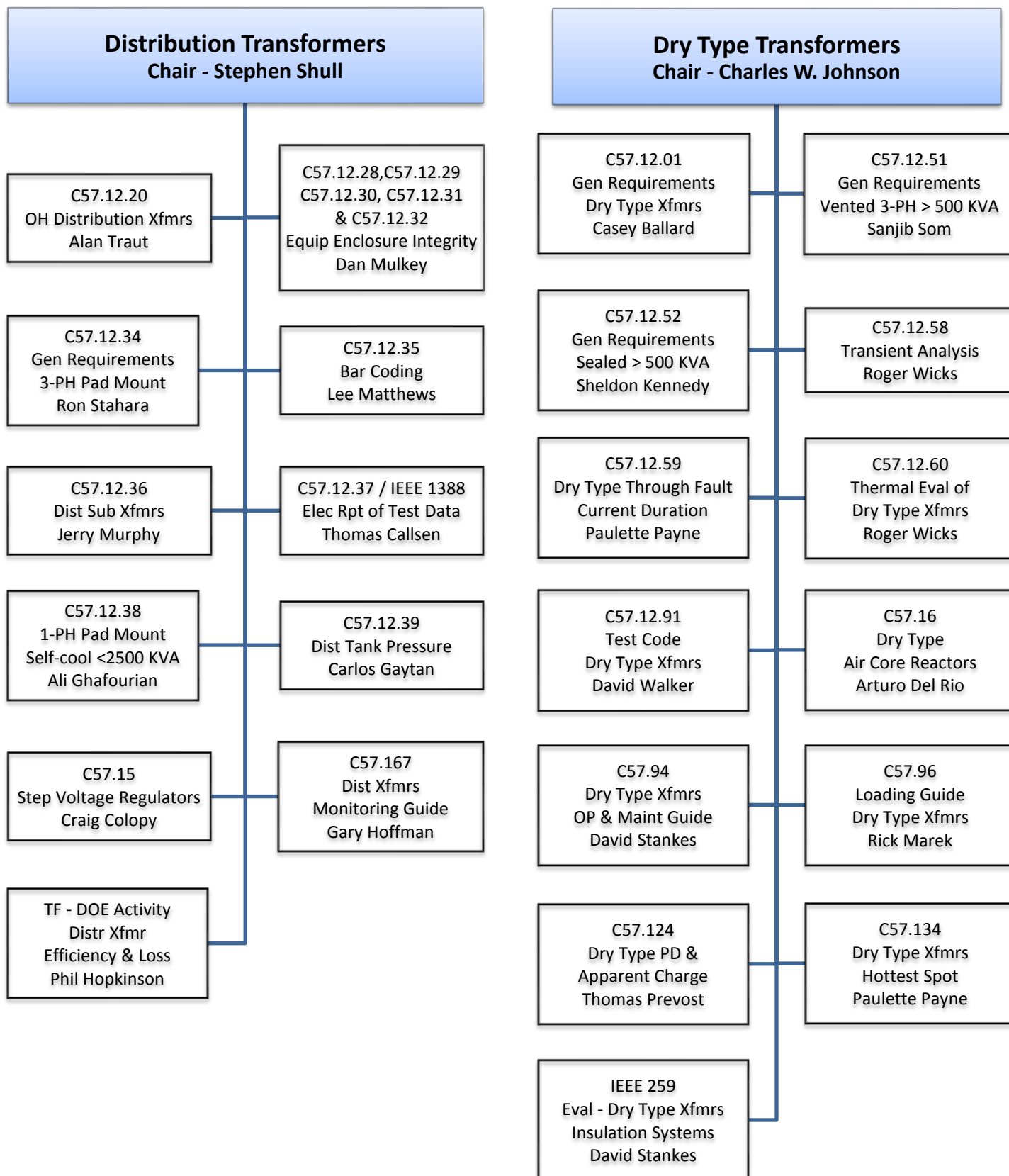
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HVDC Converter Transformers & Smoothing Reactors

Chair - Michael Sharp

IEEE 1277
Requirements & Test
Code for Smoothing
Reactors
Klaus Pointner

C57.129
Requirements
& Test Code for HVDC
Converter Xfmrs
Ulf Radbrandt

Subsurface Transformers & Network Protectors

Chair - Dan Mulkey

C57.12.23
Cont. Revision
Submersible 1Ø Xfmrs
Allan Traut

C57.12.24
Cont Revision
Submersible 3Ø Xfmrs
>2500 KVA
Giuseppi Termini

C57.12.40
Sec Network Xfmrs
Cont Revision
Brian Klaponski

C57.12.44
Sec Network Protectors
Cont Revision
Mark Faulkner

Power Transformers

Chair - Bill Griesacker

C57.12.10
Req -Power Xfmrs
Gary Hoffman

C57.17
Arc Furnace Xfmrs
Robert Ganser

C57.93
Installation Guide
Mike Lau

C57.116
Direct Connect GSU
Gary Hoffman

C57.125
Failure Investigations
Wally Binder

C57.135
Phase-Shift Xfmrs
Raj Ahuja

C57.140
Reconditioning
Power Xfmrs
Paul Boman

C57.143
Monitoring Guide
Michael Spurlock

C57.148
Cont Cabinet Guide
Joe Watson

C57.150
Transportation Guide
Greg Anderson

C57.153
Paralleling Guide
Tom Jauch

C57.156
Tank Rupture Guide
Peter Zhao

C57.157
Functional Life Tests
- Switch Contacts
Phil Hopkinson

IEEE 638
1E Xfmrs at
Nuclear Stations
Craig Swinderman

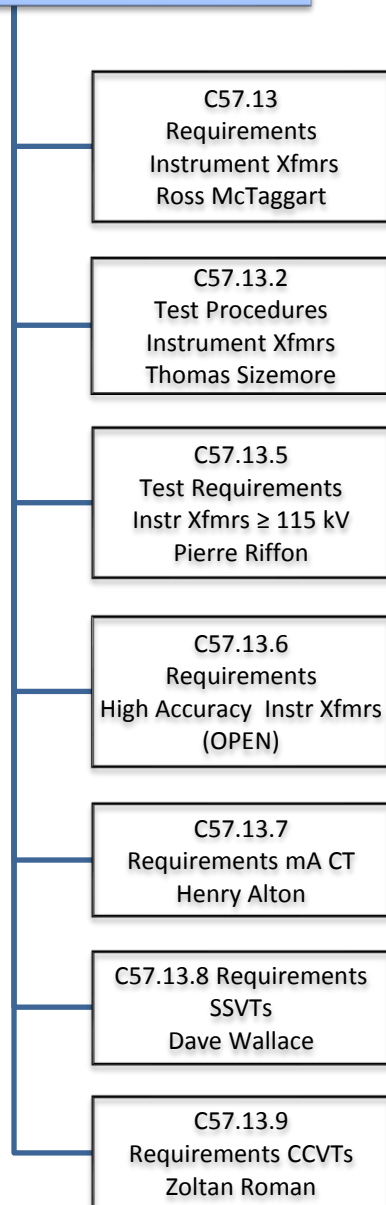
60214-1-57-131
Gen Requirements
Tap Changers
Craig Colopy

60214-2
Application Guide
Tap Changers
Craig Colopy

60076-57-1202
Requirements -
Phase Shifters
Raj Ahuja

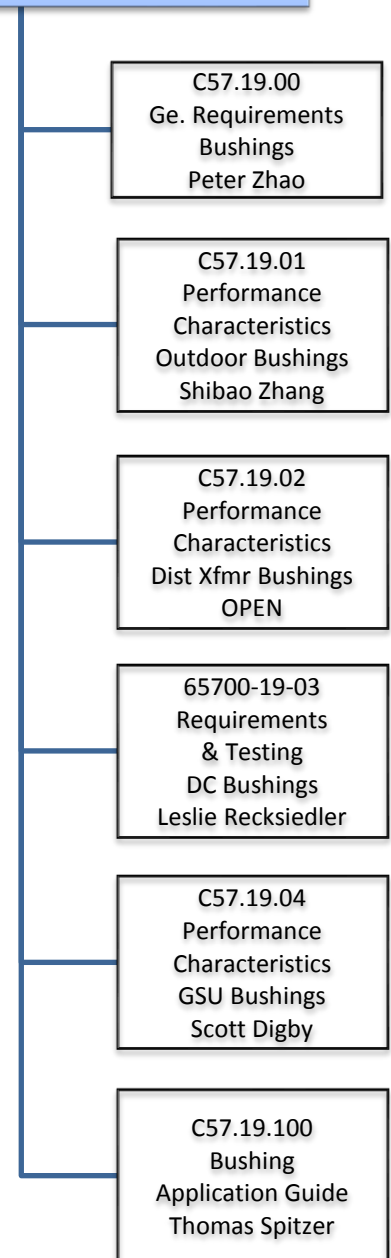
Instrument Transformers

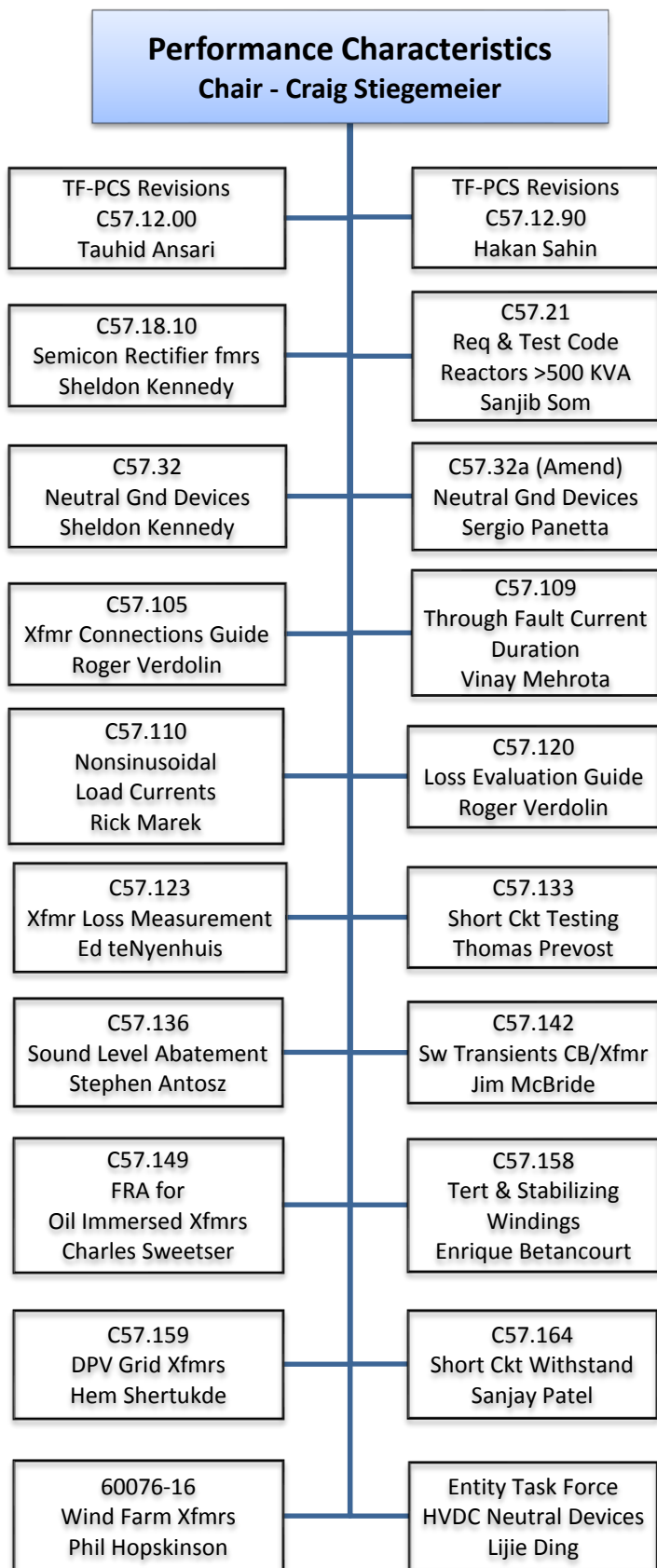
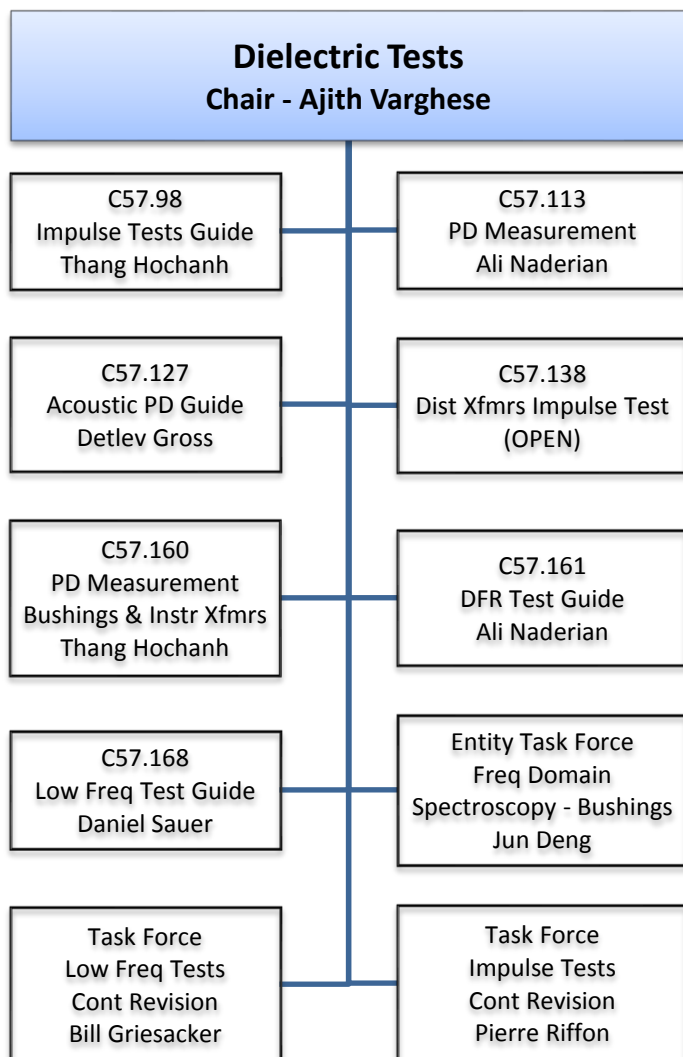
Chair - Ross McTaggart



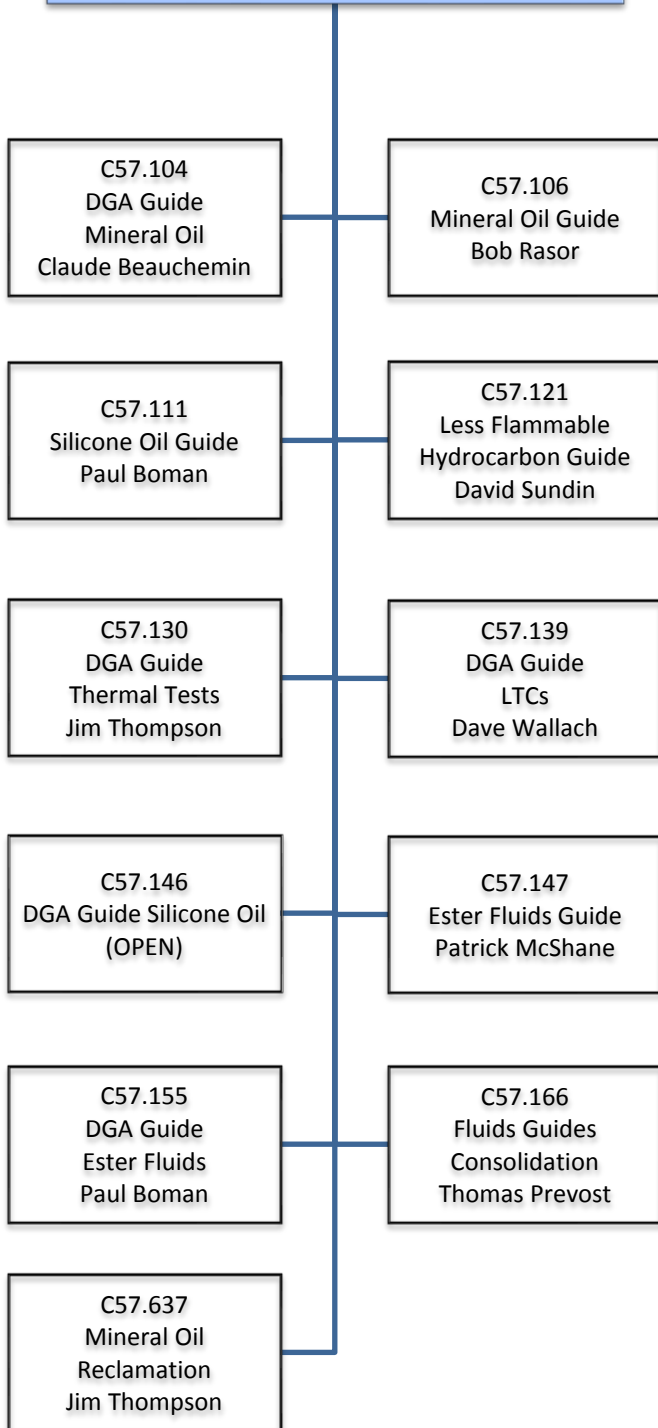
Bushings

Chair - Peter Zhao

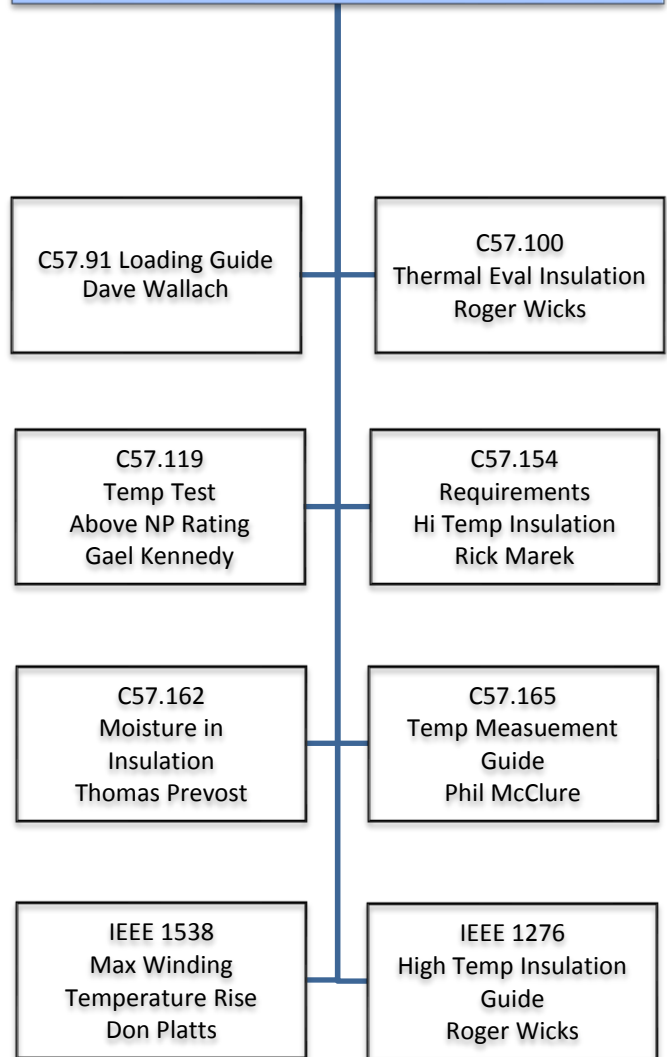


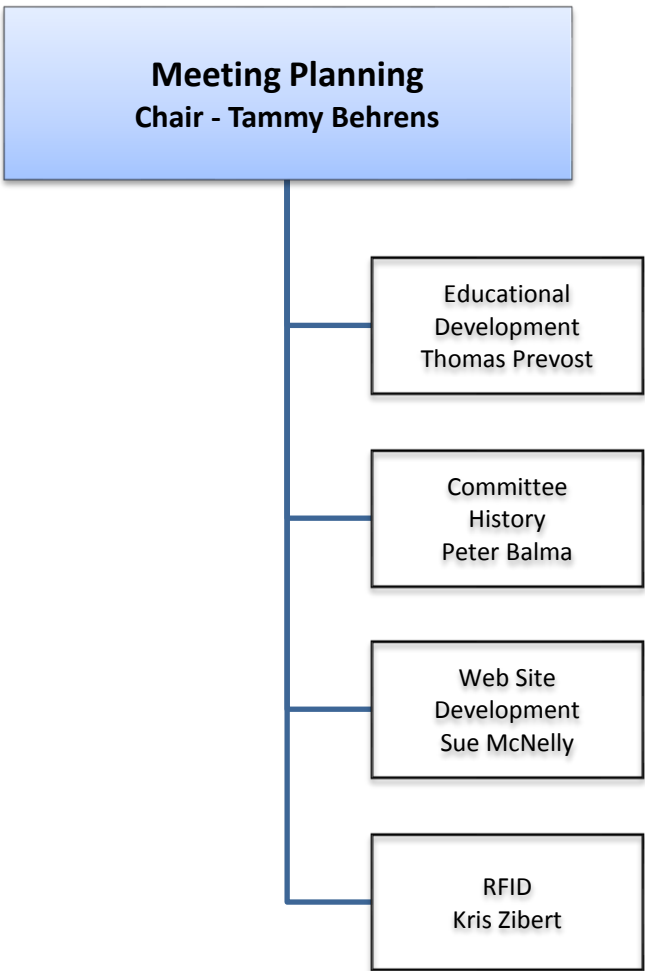
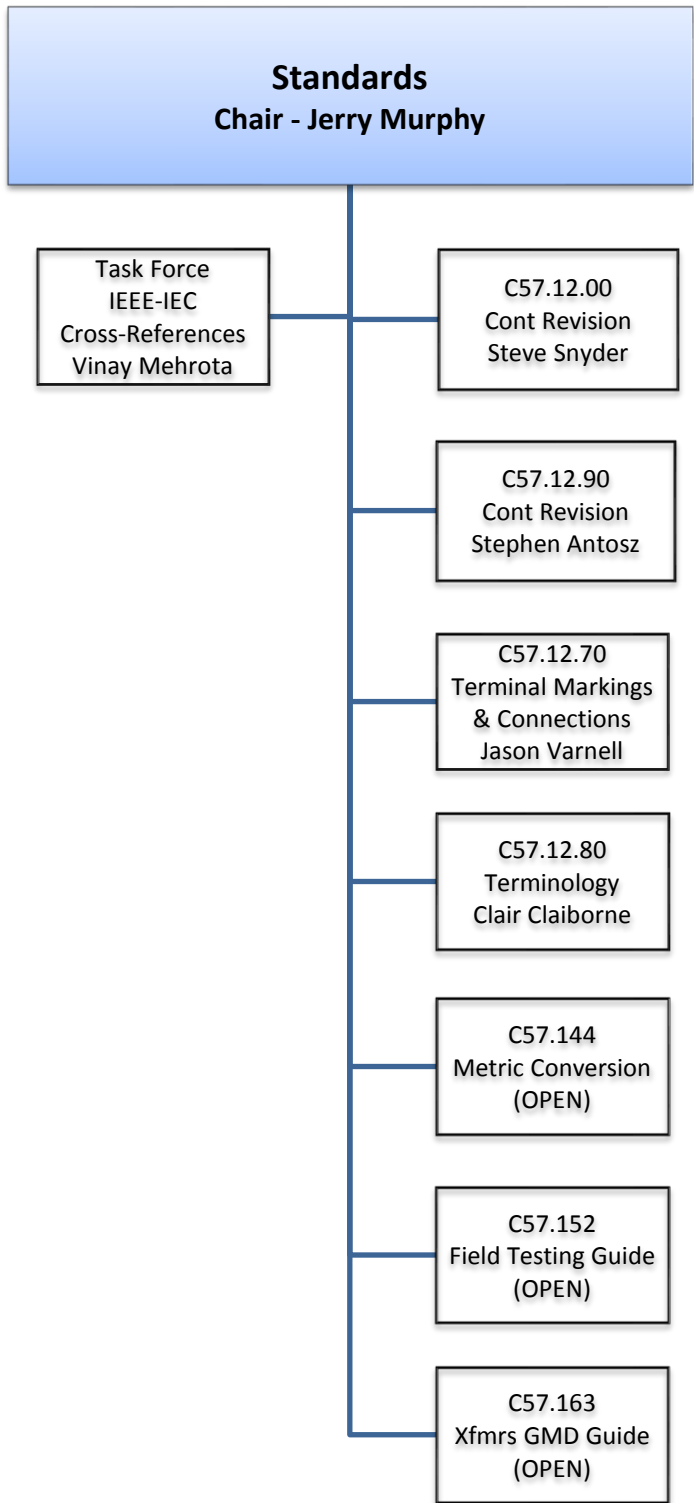


Insulating Fluids Chair - Dave Wallach



Insulation Life Chair - Sheldon Kennedy





IEEE Standards Association Meeting Schedule

IEEE Standards Association Governance Meetings Schedule

2019

JANUARY	JULY
28: NesCom/RevCom teleconferences	
FEBRUARY	AUGUST
13-18: IEEE BOD series, Tampa, Florida, USA	
26-28: BOG outreach, Melbourne, Australia	SEPTEMBER
MARCH	04: NesCom/RevCom teleconferences
01-02: BOG meeting, Melbourne, Australia	05: SASB teleconference
19-21: SASB series, Shanghai, PRC (outreach events on 18th and 22nd)	09-12: CAG meeting/outreach, Austin, Texas, USA
APRIL	OCTOBER
01-04: CAG meeting/outreach, Bengaluru, India	
MAY	NOVEMBER
02: NesCom/RevCom teleconferences	05-07: SASB series, Piscataway, New Jersey, USA
17-18: BOG meeting, Tallinn, Estonia (outreach events on 14th-16th)	08: Awards Ceremony, Somerset, New Jersey, USA
JUNE	09-10: BOG, Piscataway, New Jersey, USA
11-13: SASB series, London, UK (outreach events on 10th and 14th)	11-12: CAG meeting, Piscataway, New Jersey, USA
19-24: IEEE BOD series, Atlanta, Georgia, USA	20-25: IEEE BOD series, Boston, Massachusetts, USA
	DECEMBER

NesCom/RevCom Submittal

Deadlines:

18 December 2018
 08 February 2019
 22 March 2019
 03 May 2019
 26 July 2019
 17 September 2019

January S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	February S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	March S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
April S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	May S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	June S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
July S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	August S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	September S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
October S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	November S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	December S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31