

DATE: March 10, 2006

TO: Members of IEEE Transformers Committee, March 2006 Meeting @ Costa Mesa, CA

FROM: Bill Chiu, Standards Subcommittee Chair
IEEE /PES Transformers Committee

SUBJECT: PE/TR Standards Activities since the October 2005 Meeting (Memphis, TN)

TRANSFORMERS STANDARDS STATUS

The details of the Transformers Committee sponsored standard status are shown in the attachment entitled IEEE/PES Transformers Committee Status Report of Standards, Dated 3/10/2006.

The report is a list of all the transformer related standards under the sponsorship of IEEE Power Engineering Society Transformers Committee (PE/TR). The standards are grouped by Subcommittees and sorted by document numbers. The report also contains the active PARs under the responsible Subcommittee.

STANDARDS WITHDRAWN BY IEEE-SA

C57.104-1991 IEEE Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers

This document was withdrawn by the IEEE-SA at the December 2005 SA Board meeting based on the recommendation of the Transformers Committee. A new PAR has been submitted to continue the revision effort. New PAR approval is expected by the end of March, 2006.

IEEE/IEC DUAL LOGO STANDARDS

Currently there is only one document that has obtained the IEEE/IEC dual logo status:

C57.135-2001 – IEEE Guide for the Application, Specification, and Testing of Phase-Shifting Transformers

Approved by the IEC TC 14 as of December, 2004. The corresponding IEC document number is:

IEC 62032 Ed. 1: Guide for the Application, Specification, and Testing of Phase-Shifting Transformers (IEEE Std. **C57.135-2001**)

There were no additional IEEE/IEC dual logo standards approved during this period. The next standard targeted for the IEEE/IEC dual logo approval process is:

C57.123 – IEEE Guide for Transformer Loss Measurement

DOCUMENTS PROCESSED BY THE IEEE STANDARDS BOARD

The following sections list all of the documents processed by the New Standards Committee (NesCom) and the Standards Review Committee (RevCom) of the Standards Board since the October 2005.

NEW STANDARDS COMMITTEE (NesCom)

EXISTING PARS – EXTENSION & MODIFICATION

PC57.12.00 - Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers

Recommendation: Defer target extension request until March 2006 pending the receipt of the appropriate request for an extension.

Note: PAR extension request submitted in February 2006. Anticipate approval from NesCom during SA Board meeting in March 2006.

PC57.12.37 - Standard for the Electronic Reporting of Distribution Transformer Test Data

Recommendation: Defer target extension request until March 2006 pending the receipt of the appropriate request for an extension.

Note: PAR extension request submitted in February 2006. Anticipate approval from NesCom during SA Board meeting in March 2006.

PC57.12.40 - Requirements for Secondary Network Transformers, Subway and Vault Types (Liquid-Immersed)

Recommendation: Defer target extension request until March 2006 pending the receipt of the appropriate request for an extension.

Note: PAR extension request submitted in February 2006. Anticipate approval from NesCom during SA Board meeting in March 2006.

PC57.12.90 - Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers

Recommendation: Defer target extension request until March 2006 pending the receipt of the appropriate request for an extension.

Note: PAR extension request submitted in February 2006. Anticipate approval from NesCom during SA Board meeting in March 2006.

PC57.130 - Trial-Use Guide for the Use of Dissolved Gas Analysis During Factory Temperature Rise Tests for the Evaluation of Oil-Immersed Transformers and Reactors

Recommendation: Defer target extension request until March 2006 pending the receipt of the appropriate request for an extension.

Note: PAR extension request submitted in February 2006. Anticipate approval from NesCom during SA Board meeting in March 2006.

PC57.140 - Evaluation and reconditioning of Liquid Immersed Power Transformers

Recommendation: Approve target extension request until December 2006.

NEW PARS - REVISIONS OF EXISTING STANDARDS

PC57.12.80a - Standard Terminology for Power and Distribution Transformers - Amendment 1: Definition of Thermally Upgraded Paper

Recommendation: Approve PAR for the amendment of a standard until December 2009.

PC57.13.5 - Standard of Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above

Recommendation: Approve PAR for the revision of a standard until December 2009.

P1277 - Standard General Requirements and Test Code for Dry-Type and Oil-Immersed Smoothing Reactors for DC Power Transmission

Recommendation: Approve PAR for the revision of a standard until December 2009.

NEW PARS - NEW STANDARDS

PC57.151 - Sound Level Measurement Guide for Liquid Filled and Dry Type Transformers and Reactors

Recommendation: Approve new PAR until December 2009.

ADMINISTRATIVELY WITHDRAWN PARS

PC57.104 - Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers

Recommendation: Approve administrative withdrawal.

STANDARDS REVIEW COMMITTEE (RevCom)

NEW & REVISED STANDARDS

PC57.12.01/D6 (PE/TR) Standard General Requirements for Dry-Type Distribution and Power Transformers Including Those with Solid-Cast and/or Resin Encapsulated Windings

Recommendation: APPROVE

PC57.12.44/D2.1 (PE/TR) Standard Requirements for Secondary Network Protectors

Recommendation: APPROVE [Vote: Yes=12; No=0; Abstain=1 (Karady)]

REAFFIRMATION

1538-2000 (PE/TR) IEEE Guide for Determination of Maximum Winding Temperature Rise in Liquid-Filled Transformers

Recommendation: APPROVE

C57.19.01-2000 (PE/TR) IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings

Recommendation: APPROVE

C57.116-1989 (R2000) (PE/TR) IEEE Guide for Transformers Directly Connected to Generators

Recommendation: APPROVE

5-YEAR REVIEW

638-1992 (R1999) IEEE Standard for Qualification of Class 1E Transformers for Nuclear Power Generating Stations

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

1276-1997 IEEE Guide for the Application of High-Temperature Insulation Materials in Liquid-Immersed Power Transformers

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

1388-2000 IEEE Standard for the Electronic Reporting of Transformer Test Data

Sponsor requests administrative withdrawal.

Recommendation: Administrative withdrawal

C57.12.00-2000 IEEE Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers

Sponsor will submit a PAR extension request for PC57.12.00 to NesCom.

Recommendation: Extend until the expiration of the PAR for PC57.12.00.

C57.12.40-1993 Standard for Requirements for Secondary Network Transformers - Subway and Vault Types (Liquid Immersed)

Sponsor will submit a PAR extension request for PC57.12.40 to NesCom.

Recommendation: Extend until the expiration of the PAR for PC57.12.40.

C57.12.70-2000 IEEE Standard Terminal Markings and Connections for Distribution and Power Transformers

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.12.90-1999 IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers

Sponsor will submit a PAR extension request for PC57.12.90 to NesCom.

Recommendation: Extend until the expiration of the PAR for PC57.12.90.

C57.94-1982 (R2000) IEEE Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type General Purpose Distribution and Power Transformers

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.104-1991 IEEE Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers

Sponsor requests administrative withdrawal.

Recommendation: Administrative withdrawal

C57.105-1978 (R1999) IEEE Guide for Application of Transformer Connections in Three-Phase Distribution Systems

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.109-1993 (R2000) IEEE Guide for Liquid-Immersed Transformers Through-Fault-Current Duration

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.120-1991 (R2000) IEEE Loss Evaluation Guide for Power Transformers and Reactors

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.121-1998 IEEE Guide for Acceptance and Maintenance of Less-Flammable Hydrocarbon Fluid in Transformers

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

C57.134-2000 IEEE Guide for Determination of Hottest Spot Temperature in Dry Type Transformers

Sponsor states that a reaffirmation ballot is in progress.

Recommendation: Extend until December 2006.

PARS DUE TO EXPIRE AT THE END OF 2006

P32 IEEE Standard Requirements, Terminology, and Testing Procedures for Neutral Grounding Devices

PC57.12.00 IEEE Standard General Requirements For Liquid-Immersed Distribution, Power, and Regulating Transformers (Development of D3 complete. Recirculation pending WG final vote on D2 ballot resolution)

PC57.12.10 Standard Requirements for Liquid-Immersed Power Transformers

PC57.12.36 Standard Requirements for Liquid-Immersed Distribution Substation Transformers

PC57.12.37 Standard for the Electronic Reporting of Distribution Transformer Test Data (Final recirculation and RevCom submittal in progress)

PC57.12.40 Requirements for Secondary Network Transformers, Subway and Vault Types (Liquid-Immersed) (Final recirculation and RevCom submittal in progress)

PC57.12.90 IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers (Development of D3 complete. Recirculation pending WG final vote on D2 ballot resolution)

PC57.98 IEEE Guide for Transformer Impulse Tests

PC57.106 IEEE Guide for Acceptance and Maintenance of Insulating Oil in Equipment

PC57.130 IEEE Trial-Use Guide for the Use of Dissolved Gas Analysis During Factory Temperature Rise Tests for the Evaluation of Oil-Immersed Transformers and Reactors (Seeking PAR extension)

PC57.140 Evaluation and Reconditioning of Liquid Immersed Power Transformers (D14 Ballot resolution in progress)

PC57.142 A Guide To Describe The Occurrence And Mitigation Of Switching Transients Induced By Transformer-Breaker Interaction

If there is no response by **16 October 2006**, the projects will be recommended for administrative withdrawn at the December 6, 2005 IEEE-SA Standards Board meeting.

STANDARDS DUE TO EXPIRE AT THE END OF 2006

- IEEE 638** IEEE Standard for Qualification of Class 1E Transformers for Nuclear Power Generating Stations (Reaffirmation ballot in progress)
- IEEE 1388** IEEE Standard for the Electronic Reporting of Transformer Test Data (Replaced with PC57.12.37)
- IEEE 1538** IEEE Guide for Determination of Maximum Winding Temperature Rise in Liquid Filled Transformer (Reaffirmation in progress)
- C57.12.00** IEEE Standard General Requirements For Liquid-Immersed Distribution, Power, and Regulating Transformers. (D3 recirculation in progress)
- C57.12.59** IEEE Guide for Dry-Type Transformer Through-Fault Current Duration
- C57.12.70** IEEE Standard Terminal Markings and Connections for Distribution and Power Transformers (Reaffirmation in progress)
- C57.12.90** IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers (D3 recirculation in progress)
- C57.16** IEEE Standard Requirements, Terminology, and Test Code for Dry-Type Air- Core Series-Connected Reactors
- C57.19.01** IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings (RevCom packaged submitted)
- C57.94** IEEE Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type General Purpose Distribution and Power Transformers (Reaffirmation in progress)
- C57.105** IEEE Guide for Application of Transformer Connections in Three-Phase Distribution Systems (Reaffirmation in progress)
- C57.109** IEEE Guide for Liquid-Immersed Transformers Through-Fault-Current Duration (Reaffirmation in progress)
- C57.116** IEEE Guide for Transformers Directly Connected to Generators (Reaffirmation in progress)
- C57.117** IEEE Guide for Reporting Failure Data for Power Transformers and Shunt Reactors on Electric Utility Power Systems
- C57.120** IEEE Loss Evaluation Guide for Power Transformers and Reactors
- C57.121** IEEE Guide for Acceptance and Maintenance of Less-Flammable Hydrocarbon Fluid in Transformers
- C57.134** IEEE Guide for Determination of Hottest Spot Temperature in Dry Type Transformers (Reaffirmation in progress)

NEW myBallot INVITAION TO BALLOT STATUS – SORTED BY INVITATION NUMBER (As of 3/7/2006)

Draft # -- <Filename>	Stage	Ballot Designee	Invitation Start	Invitation Close	Response Count
638-1992	Submitted To Revcom	THOMAS G LUNDQUIST	4/25/2005	5/25/2005	49
C57.12.70-2000	Submitted To Revcom	STEPHEN D SHULL	10/6/2005	11/11/2005	150
C57.134-2000	Submitted To Revcom	PAULETTE A PAYNE	10/5/2005	11/4/2005	96
PC57.127	PreBallot	JOHN W HARLEY	2/2/2006	3/4/2006	81

EXISTING ELECTRONIC BALLOT STATUS – SORTED BY BALLOT NUMBER (As of 3/7/2006)

Ballot Number	Sponsor (Soc/Com)	Type of Ballot	Ballot Opened	Scheduled. Close Date	# Ballots	Balloting Results			Type of Ballot
						Affirm	Neg	Abstain	
PC57.12.37/D11d	PE/TR	Recirc	8-Nov-05	18-Nov-05	78	96%	4%	3%	Electronic
PC57.12.44/D2.1	PE/TR	Recirc	22-Sep-05	2-Oct-05	53	98%	2%	1%	Electronic

NEW myBallot BALLOT STATUS – 2005, SORTED BY INVITATION NUMBER (As of 3/7/2006)

PAR or Standard #	Stage	Ballot Close Date	# of	Response	Approval	Abstain	# Comments
			Balloters	Rate %	Rate %	Rate %	
1538-2000	Comment Resolution	12/9/2005	100	76.0%	98.7%	1.3%	14
638-1992	Submitted To Revcom	2/23/2006	49	81.6%	94.7%	5.0%	1
C57.105-1978	Comment Resolution	2/28/2006	139	77.0%	95.2%	2.8%	102
C57.109-1993	Comment Resolution	10/4/2005	122	76.2%	98.9%	3.2%	5
C57.116-1989	Comment Resolution	2/24/2006	124	75.8%	98.9%	3.2%	33
C57.12.70-2000	Submitted To Revcom	7/27/2005	150	84.7%	99.2%	0.8%	3
C57.120-1991	Comment Resolution	3/2/2006	131	75.6%	100.0%	6.1%	5
C57.121-1998	Failed	12/15/2005	105	67.6% / 8	100.0%	2.8%	8
C57.134-2000	Submitted To Revcom	7/21/2005	96	75.0%	98.6%	4.2%	26
C57.136-2000	Comment Resolution	10/23/2005	78	75.6%	100.0%	3.4%	5
C57.19.01-2000	Comment Resolution 1	2/26/2006	79	81.0%	93.7%	1.6%	1
C57.94-1982	Comment Resolution	1/4/2006	117	75.2%	90.7%	1.1%	71
PC57.106	Comment Resolution	10/6/2005	139	84.2%	93.0%	0.9%	91
PC57.12.01	Comment Resolution 2		129	84.5%	93.1%	5.5%	14

PC57.127	PreBallot		81				
PC57.140	Comment Resolution	10/26/2005	157	86.0%	96.0%	6.7%	226
PC57.142	Comment Resolution	9/8/2005	145	79.3%	79.4%	5.2%	439
PC57.19.03- 1996_Cor_1-20xx	Comment Resolution 1	10/14/2005	59	86.4%	100.0%	7.8%	1
PC57.12.36	Ballot	3/17/2006	106	49.1% / 28	94.0%	1.9%	22

2006

IEEE Standards Association Meeting Schedule

Jan 2006							Jul 2006						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7							1
8	9	10	11	12	13	14							2
15	16	17	18	19	20	21							9
22	23	24	25	26	27	28							16
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NesCom and RevCom meet on the second day of the Standards Board meetings.

As of 26 January 2006

2006 STANDARDS BOARD MEETINGS SCHEDULE AND SUBMITTAL DEADLINES

Meeting Dates

March 29, 2006
June 7, 2006
September 15, 2006
December 5, 2006

Deadline for Submittal of PAR ⁽¹⁾ or Draft Standard ⁽²⁾

February 17, 2006
April 28, 2006
August 4, 2006
October 16, 2006

- 1) A PAR must be sent to the Standards Subcommittee Chair before the stated deadline.
- 2) Standards must be submitted to the IEEE Standards Department by the Working Group Chair before the stated deadline to be considered at the next Standards board Meeting.

For current PAR form: <http://standards.ieee.org/guides/par/index.html>.

Target Extension Request form: <http://standards.ieee.org/guides/par/extension.html>.

CURRENT LIST OF ALL OPEN STANDARDS PROJECT (FROM IEEE Website 03/07/2006)

<http://standards.ieee.org/board/nes/C2-C136.html>

Only PARs submitted electronically and approved since the December 1998 Standards Board meeting are listed

[PC57.12.00](#) (PE/TR) Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers

[PC57.12.10](#) (PE/TR) Standard Requirements for Liquid-Immersed Power Transformers

[PC57.12.23](#) (PE/TR) Standard for Submersible Single-Phase Transformers; 167kVA and Smaller; High-Voltage 25 000 Volts and Below; Low Voltage 600 Volts and Below

[PC57.12.28](#) (PE/TR) Standard for Pad Mounted Equipment - Enclosure Integrity

[PC57.12.29](#) (PE/TR) Standard for Pad Mounted Equipment - Enclosure Integrity for Coastal Environments

[PC57.12.34](#) (PE/TR) Requirements for Pad-Mounted, Compartmental Type, Self Cooled; Three Phase Distribution Transformers, 5 MVA and Smaller; High Voltage, 34.5kV Nominal System Voltage and Below; Low Voltage, 15kv Nominal System Voltage and Below

[PC57.12.35](#) (PE/TR) Standard for Bar Coding for Distribution Transformers and Step-Voltage Regulators

[PC57.12.36](#) (PE/TR) Standard Requirements for Liquid-Immersed Distribution Substation Transformers

[PC57.12.37](#) (PE/TR) Standard for the Electronic Reporting of Distribution Transformer Test Data

[PC57.12.38](#) (PE/TR) Standard for Padmounted Type, Self-Cooled, Single Phase Distribution Transformers; High Voltage, 34500 GrdY/19920 Volts and below, Low voltage, 480 Volts and below; 167 KVA and smaller

[PC57.12.40](#) (PE/TR) Requirements for Secondary Network Transformers, Subway and Vault Types (Liquid-Immersed)

[PC57.12.60](#) (PE/TR) Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry Type Power and Distribution Transformers, Including Ventilated, Solid-Cast and Resin Encapsulated Transformers

[PC57.12.80](#) (PE/TR) Standard Terminology for Power and Distribution Transformers

[PC57.12.80a](#) (PE/TR) Standard Terminology for Power and Distribution Transformers - Amendment 1: Definition of Thermally Upgraded Paper

[PC57.12.90](#) (PE/TR) Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers

[PC57.12.91a](#) (PE/TR) IEEE Standard Test Code for Dry-Type Distribution and Power Transformers – Amendment 1

[PC57.13](#) (PE/TR) Standard Requirements for Instrument Transformers

[PC57.13.1](#) (PE/PSR) Guide for Field Testing of Relaying Current Transformers

[PC57.13.5](#) (PE/TR) Standard of Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above

[PC57.15](#) (PE/TR) Standard Requirements, Terminology, and Test Code for Step-Voltage Regulators

[PC57.18.10a](#) (PE/TR) Standard Practices and Requirements for Semiconductor Power Rectifier Transformers - Amendment 1: Technical and Editorial Corrections

[PC57.21](#) (PE/TR) Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA

[PC57.32](#) (PE/TR) Standard Requirements, Terminology and Test Procedures for Neutral Grounding Devices

[PC57.91](#) (PE/TR) Guide for Loading Liquid Immersed Transformers and Voltage Regulators

[PC57.93](#) (PE/TR) Guide for Installation of Liquid-Immersed Power Transformers

[PC57.98](#) (PE/TR) Guide for Transformer Impulse Tests

[PC57.100](#) (PE/TR) Standard Test Procedure for Thermal Evaluation of Insulation Systems for Liquid-Immersed Distribution and Power Transformers

[PC57.106](#) (PE/TR) Guide for Acceptance and Maintenance of Insulating Oil in Equipment

[PC57.110](#) (PE/TR) Recommended Practice for Establishing Liquid-Filled and Dry-Type Power and Distribution Transformer Capability When Supplying Nonsinusoidal Load Currents

[PC57.119](#) (PE/TR) Recommended Practice for Performing Temperature Rise Tests on Oil Immersed Power Transformers at Loads Beyond Nameplate Rating

[PC57.127](#) (PE/TR) Guide for the Detection and Location of Acoustic Emissions from Partial Discharges in Oil-Immersed Power Transformers and Reactors

[PC57.129](#) (PE/TR) Standard for General Requirements and Test Code for Oil-Immersed HVDC Converter Transformers

[PC57.130](#) (PE/TR) IEEE Trial-Use Guide for the Use of Dissolved Gas Analysis During Factory Temperature Rise Tests for the Evaluation of Oil-Immersed Transformers and Reactors

[PC57.131](#) (PE/TR) Standard Requirements for Tap Changers

[PC57.133](#) (PE/TR) Guide for Short-Circuit Testing of Distribution and Power Transformers

[PC57.139](#) (PE/TR) Guide for Dissolved Gas Analysis in Transformer Load Tap Changers

[PC57.140](#) (PE/TR) Evaluation and Reconditioning of Liquid Immersed Power Transformers

[PC57.142](#) (PE/TR) A Guide To Describe The Occurrence And Mitigation Of Switching Transients Induced By Transformer-Breaker Interaction

[PC57.143](#) (PE/TR) Guide for Application of Monitoring to Liquid-Immersed Transformers and Components

[PC57.147](#) (PE/TR) Guide for Acceptance and Maintenance of Natural Ester Fluids in Transformers

[PC57.148](#) (PE/TR) Standard for Control Cabinets for Power Transformers

[PC57.149](#) (PE/TR) Guide for the Application and Interpretation of Frequency Response Analysis for Oil Immersed Transformers

[PC57.150](#) (PE/TR) Guide for the Transportation of Transformers and Reactors Rated 10,000 kVA or larger

[PC57.151](#) (PE/TR) PC57.151 - Sound Level Measurement Guide for Liquid Filled and Dry Type Transformers and Reactors