

## Minutes of Meeting IEC TC14 MT60214

Date: October 27th, 2016 (10<sup>th</sup> meeting)  
 Venue: Sheraton Vancouver Wall Centre Hotel, Vancouver, BC, CA  
 Room: Port Alberni

### 1 Opening of the meeting

Thursday, October 27<sup>th</sup>, 2016, 01:00pm

### 2 General information

#### a. Membership

new members since 9<sup>th</sup> MT meeting

- none

#### b. Attendance sheet (participants)

Function	Last Name	First Name	NC	Remarks
Member	Ali	Mustafa	PK	not attending
Member	Andersson	Gunnar	SE	not attending
Member	Carollo	Carlo	IT	not attending
Member IEEE	Colopy	Craig	US	X
Member IEEE	Dix	Larry	US	X
Member	Drobishevsky	Alexander	RU	not attending
Member	Dyer	Paul	GB	not attending
Member	Eguchi	Naoki	JP	not attending
Member	Foata	Marc	CA	X
Member	Fuwa	Yasushi	JP	not attending
Member	Gyore	Attila	HU	not attending
IEEE	Geibel	Dave	US	X
Member	Jarman	Paul	GB	not attending
Convenor IEEE	Kraemer	Axel	DE	X
Member	Pegoraro	Luigi	IT	not attending
Member	Sato	Shigekatsu	JP	not attending
Member	Sridhar		IN	not attending
Member	Bengt-Olof	Stenestam	SE	not attending
Member	Washiyama	Yuki	JP	not attending
Member	Zheng	Shuyu	CN	not attending
IEEE	Weissensee	Matthew	US	X
IEEE	Tillery	Timothy	US	X
IEEE	Sewell	Jeremy	US	X
IEEE	Sewell	Adam	US	X

**Total number of members: 20**

#### c. Attendance rate

Meeting	Members present	Members absent	Attendance rate [%]	Guests
Kyoto (2014)	11	4	73,3	1
Montreal (2014)	8	8	50,0	3
Washington (2014)	11	5	68,8	6
London (2015)	10	6	62,5	1
Stockholm (2015)	9	7	56,3	4

Memphis (2015)	9(10)	9(8)	50,0	8
Venice (2016)	8	11	42,1	2
Nashville (2016)	8	11	42,1	6
Dresden (2016)	11	9	55,0	0
Vancouver (2016)	5	15	25,0	4

**d. Project timeline:**

**Committee Draft (CD):** 2017-05  
**Committee Draft for voting (CDV):** 2017-11  
**Final Draft International Standard (FDIS):** 2018-09  
**International Standard (IS):** 2019-03

**3 MoM of the 9th meeting**

Paragraph	Decision	Who	done
	<p>No comments</p> <p><b>decision:</b></p> <p>will be recalled again in the next meeting</p>		open

## 4 Unresolved tasks from previous working documents (1WD to 4WD)

### 4.1 Topics from 3WD IEC 60214-2 (Draft after London meeting), distributed in May 2015

Paragraph	Decision	Who	done
6.4.3 (6.5.3)	Text needed to explain tap changer and placement of it for step-voltage regulators. Reference 60076-21	CAC	
	depending on the decision if an step-voltage regulator annex will be created is this text to be put into Annex or in paragraph 6.5.3	CAC	
	Decision: With the decision to have no step-voltage regulator Annex with respect to the winding arrangement, a short description and/or a reference to the step-voltage regulator standard should be established	CAC	open
	decision: CAC will provide a proposal <b>CAC will provide a proposal for the Vancouver meeting</b> <b>decision:</b> <b>CAC will prepare the proposal for the next meeting</b>	CAC  CAC	  open  open

### 4.2 Topics from 4WD IEC 60214-2 (Draft after Venice meeting), distributed in March 2016

Paragraph	Decision	Who	done
	none		✓

### 4.3 Topics from 5WD IEC 60214-2 (Draft after Nashville meeting), distributed in June 2016

Paragraph	Decision	Who	done
	none		✓

### 4.4 Topics from 6WD IEC 60214-2 (Draft after Dresden meeting), distributed in September 2016

Paragraph	Decision	Who	done
	none <b>decision:</b> will be recalled again in the next meeting		open

## 5 Unresolved tasks from previous meetings

Paragraph	Decision	Who	done
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7.4.8	New text (7.4.8 Overloading) shall be studied by the group and finally discussed/agreed at the next meeting Proposal within: GA_7.4.7 new7.4.8 _ 9.4 _ 9.5 after Stockholm meeting 150609	GA	✓
	Topic (7.4.8) is postponed to the next meeting		
	Check the overload limits in IEEE Take the discussed and changed text and put into the draft	Dave Geibel AK	✓
	Decision: Consider the changed text of 7.4.8 in 5WD for the next meeting. Opinions and /or proposals shall be distributed at least three weeks before the next meeting takes place. Florin Faur volunteers to provide a paragraph on overload for discussion at the next meeting. Florin's proposal: <a href="#">FF(DG) 7_4_8 Overloading OLTC.docx</a> Combine the existing text in the draft with Florin's proposal and pages 5&6 of GA's statement <a href="#">GA Overloads for IEC 160819.docx</a> MF/AK will send their proposal to DG/GA for comments During the discussion the term consecutive operation was changed to continuous consecutive operation. A new definition was added. These changes were made directly in the 6WD <b>decision:</b> MF/AK's open task was shifted to the next meeting	ALL  Florin Faur  MF/AK  AK  AK  MF/AK	open  ✓  open  open  ✓  open

## 6 Ideas for issues/paragraphs to be added

### 6.1 Presentation of tasks addressed in the meetings so far

Paragraph	Decision	Who	done
	no written proposal not discussed so far		✓

### 6.2 Open tasks

Paragraph	Decision	Who	done
12.1 (whole paragraph)	Measures during commissioning Proposal GA GA 12_1 Commissioning complete proposal.docx	GA	✓
	Decision: The NOTE of 12.1.2 is placed already at the end of 11.6 and will be deleted here as proposed by GA in his proposal. A reference sentence was added to the proposal Take the modified text and put it into 5WD	AK	✓

	Open questions: paragraph 12.1.1 has to be discussed at the next meeting with PD changes were done directly in the 6WD	ALL	✓
	<b>During the preparation of the 5WD the following situation in 12.1.3 arose:</b>  An introductory paragraph was part of an earlier proposal of GA to this topic and is not shown in GA's actual proposal. Due to the use of the wording "fritting", we have added a definition for fritting in chapter 3.  Decision has to be made if the introductory paragraph was forgotten in the last proposal of GA or if it was deleted by GA, then also the definition in chapter 3 has to be deleted.  GA will check the right version  <b>decision:</b>  GA's open task was shifted to the next meeting	GA  GA	open  open
12.4 (whole paragraph)	members shall think about possible monitoring devices to create a list, afterwards texts will be provided	All	open
	GA's list: <a href="#">GA_Monitoring systems Stina_BOS.docx</a>  AK and MF will propose a "new" structure of this clause respecting other standards and the outcome of the CIGRÉ WG 2.34, distribution per email for comments. Target: November  MF introduced his first proposal ( <a href="#">Section 12.4 Monitoring MF Vancouver proposal.docx</a> ), yellow highlighted passages are new, non-highlighted passages are taken from 6WD. Some changes were made during the discussion.	GA AK/MF	✓ open
	There was discussion on the distinction between invasive and non-invasive techniques. This distinction shall be removed.  <b>decision:</b>  - The group accepted the new structure as given in <a href="#">Section 12.4 Monitoring MF Vancouver proposal.docx</a>  - MF/AK will work further on this topic	MF MF/AK	✓ open
	Monitoring parameters  Text needs update and some paragraphs have no text (12.4.1.3, 12.4.1.4 and 12.4.1.5)		
	Postponed to the next meeting in Nashville		

12.4.1.2	Decision: check the existing paragraph on DGA (12.4.1.2)		
	GA's proposal: <a href="#">GA 12_4_1 Insulating liquid testing (Proposals for section 12).docx</a>	GA	✓
	GA will cross-check the requirements given in "Sampling, marking, and storage" with IEC 60475.	GA	open
	Add a NOTE not to take samples from energized sealed equipment without checking the pressure. Prevent the tap-changer to be operated during oil sampling, NOTE?	GA	open
	Take the changed text and put in the 6WD, GA's additional proposals will be incorporated later	AK	✓
<b>decision:</b> GA's open tasks were shifted to the next meeting	GA	open	
13.4	Operation of step voltage regulators no text so far	CAC	
	Decision: proposal will be prepared		
	CAC will provide a proposal for the Vancouver meeting	CAC	open
	<b>decision:</b> CAC will prepare the proposal for the next meeting	CAC	open

### 6.3 New tasks

Paragraph	Decision	Who	done
different	different proposals of SR, decisions are saved in the document	SR	open
	Final discussion on SR's proposals: <a href="#">SR LIST OF CONTRIBUTIONS NASHVILLE.doc</a> AK tries to solve this issue with SR per email.	AK	open

	<p>New working docs sent by SR:</p> <p><a href="#">SR COVERING FOR SR VANCOUVER CONTRIBUTIONS</a></p> <p><a href="#">SR CONTRIBUTIONS FOR VANCOUVER</a></p> <p><a href="#">SR COPY OF 6 WD AFTER DRESDEN FOR MARKUP FOR VANCOUVER MEETING</a></p> <p><a href="#">SR APPENDIX 1 NEW SECT 13 MAINTENANCE</a></p> <p><a href="#">SR LIST OF CONTRIBUTIONS NASHVILLE</a></p> <p><a href="#">SR LIST SR CONTRIBUTIONS NASHVILLE V1</a></p> <p><a href="#">SR MARC FOATA SECT 6 ETC</a></p> <p><a href="#">SR POINT 3 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 4 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 5 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 6 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 7 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 8 SR CONTRIBUTION</a></p> <p><a href="#">SR POINT 9 SR CONTRIBUTION</a></p> <p><b>decision:</b></p> <p>SR's open issues were shifted to the next meeting</p>	SR SR SR SR SR SR SR SR SR SR SR SR SR SR SR	open
13.2	<p>Rewording of Operation of on-load tap-changers, especially with regard to the use of a manual drive when the transformer is in service.</p> <p>AK's proposal: <a href="#">AK 13_2 Operation of an on-load tap-changers.docx</a></p> <p>Put the changed text into the 6WD</p> <p>This text shall be checked by PD</p> <p><b>decision:</b></p> <p>PD's open task was shifted to the next meeting</p>	AK  AK PD  PD	✓  ✓ open  open
6.3.2	<p>Is there a revision of this sub-clause needed (dry-type tap-changers)?</p> <p><b>decision:</b></p> <p>- check the actuality of IEC 60076-11</p> <p>- several changes were made in 7WD</p>	AK  AK	open  ✓

11.5	<p>Not discussed so far, but worth to be included due to some issues of this kind in the past</p> <p>Proposal AK</p> <p>Add the following NOTE behind the first paragraph:</p> <p>NOTE The operation of an OLTC other than by using its motor-drive might cause severe damage to the tap-changer. Follow the tap-changer manufacturer's handbook.</p> <p><b>decision:</b></p> <ul style="list-style-type: none"> <li>- add the proposed NOTE in 7WD</li> <li>- check handcrank operation with respect to damage (change of direction of operation, too fast operation, too slow operation)</li> </ul>	AK  AK AK	   ✓  open
	<p>Matz Ohlen (Megger) gave comments to paragraph 2:</p> <p>"For continuity check, I would say that the most common standard method is to do winding resistance/tap. Most test sets have this functionality to verify continuity/detect"</p> <p>and paragraph 3:</p> <p>"The purpose of this test (if applicable) is not described but I cannot see the connection to ratio measurements"</p> <p><b>decision:</b></p> <p>These issues were shifted to the next meeting</p>	ALL	open
9.8	<p><b>decision:</b></p> <p>some words were changed in 7WD to make the text more clear</p>	AK	✓
Introduction	<p>Which manufacturer is meant at the end of the first paragraph?</p> <p><b>decision:</b></p> <p>Change manufacturer to tap-changer manufacturer in 7WD</p>	AK	✓
11.	<p>Change the headline from to "Mounting and testing on the transformer" to "Storage and installation of the transformer"</p> <p><b>decision:</b></p> <p>make the proposed change in 7WD</p>	AK	✓
12.1.4	<p>Input from Raka Levi</p> <p><a href="#">FW_IEC_IEEE 60214-2 Tap-Changer Application Guide.pdf</a></p> <p><b>decision:</b></p> <p>A standard cannot recommend a special device from a special manufacturer to make a certain measurement. Following the tap-changer manufacturer's instruction is always sufficient.</p>		no further action
12.3.5.1	<p>no text so far</p> <p><b>decision:</b></p> <p>Text will be prepared by DG</p>	DG	open



12.3.5.2	<p>no text so far</p> <p><b>decision:</b></p> <p>Text will be prepared by DG</p>	DG	open
13.1	<p><b>decision:</b></p> <ul style="list-style-type: none"> <li>- Additional text on unidirectional breathers will be prepared by DG</li> <li>- Gas-accumulation within the tap-changer compartment is a safety issue.</li> </ul> <p>Is there a need for explanations regarding pressure issues?</p>	DG ALL	open open

## 7 Draft 7WD

All members are invited to look through the complete Draft 7WD and to identify necessary changes or additions up to the meeting following Vancouver.

## 8 Future meetings

Decision	Who
Proposal: London in beginning 2017 (January, February, March), has to be checked with PD Survey will sent out after the meeting	AK

## 9 Any other business

All text- or discussion-proposals, which shall be discussed in the upcoming meeting, shall be distributed at least **three weeks** before the meeting to the members. With this measure everybody has the chance to prepare himself and have a look to the proposal.

## 10 Closing of the meeting

Thursday, October 27<sup>th</sup>, 2016, 04:30pm

## 11 Abbreviations

Member	Abbreviation
Mustafa Ali	MA
Gunnar Andersson	GA
Carlo Carollo	CC
Craig Colopy	CAC
Larry Dix	LD
Alexander Drobishevsky	AD
Paul Dyer	PD
Naoki Eguchi	NE
Marc Foata	MF
Yasushi Fuwa	YF
Dave Geibel	DG
Attila Gyore	AG
Paul Jarmann	PJ
Axel Kraemer	AK
Luigi Pegoraro	LP
Shigekatsu Sato	SS
Sridhar	SR
Bengt-Olof Stenestam	BOS
Yuki Washiyama	YW
Shuyu Zheng	SZ