INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE NO. 29
ELECTROACOUSTICS

Unconfirmed minutes of the meeting
held in Paris, France on
2015-11-16 and 2015-11-20

PRESENT:

Chair: Ms Susan Dowson, United Kingdom

Secretariat: Mr Leif Nielsen, Denmark
Ms Liselotte Sørensen, Denmark (assistant secretary)

IEC Central Office: Mr Laurent Mailly (second session only)

Delegates

P-members:

BRAZIL Mr Zemar M.D. Soares

CANADA Mr Peter Hanes

DENMARK Mr Gert Ravn
Mr Salvador Barrea-Figueroa
Mr Hans-Otto Bindeballe
Mr Johan Gramtorp
Mr Søren Jønsson
Mr Preben Kvist
Mr Ulrik Mehr
Mr Erik Nielsen
Mr Erling Sandermann Olsen
Mr Morten Wille

FRANCE Mr Jean Nöel Durocher
Mr Erik Aflalo
Mr Patrick Cellard
Mr Alioune Cissé
Mr Dominique Rodrigues
Mr Vouty Toch

GERMANY Mr Thomas Fedtke
Mr Ingoif Bork
Mr Anton Gebert
Mr Hendrik Husstedt
Mr Thomas Groß
Mr Reimar Rohweder
INDIA  Mr Alok Narang
ITALY  Mr Claudio Guglielmone
JAPAN  Mr Masaharu Ohya
       Mr You-ichi Fujisaka
       Mr Makoto Tateno
NORWAY Mr Jon Oygarden
SOUTH AFRICA Mr Riaan Nel
SOUTH KOREA Mr Junghak Lee
       Ms Jinsook Kim
SPAIN  Mr Joan Casamajó
UNITED KINGDOM Mr Graham Frost
        Mr Richard Barham
        Mr John Woodgate
USA    Mr Chad M. Walber
        Mr David Preves
        Mr Kenneth Cox
        Mr Rufus Leroy Grason

P-members not present:
Australia
Austria
China
Czech Republic (apologies)
Finland
Netherlands
Poland (apologies)
Russian Federation (apologies)
Sweden
Switzerland

Liaison committees:
OIML/TC 13 Mr Thomas Fedtke
ISO/TC 43 & SC 1 Mr Leif Nielsen
ISO/TC 108/SC 3 Mr Leif Nielsen
CONTENTS

SCHEDULE OF MEETINGS .............................................................................................................................. 6

1 OPENING OF THE MEETING AND ROLL CALL OF DELEGATES ................................................................. 6

2 APPROVAL OF THE DRAFT AGENDA .............................................................................................................. 7

3 NOTE OF THE MINUTES FROM THE IEC/TC 29 MEETING, 2014-02-17/21 IN PRETORIA, SOUTH AFRICA ............................................................................................................. 7

4 REPORT OF THE SECRETARIAT ..................................................................................................................... 7

4.1 Review of the secretariat report and programme of work ............................................................................. 7

4.2 Information from the IEC Central Office ........................................................................................................ 8

5 REPORTS FROM WORKING GROUPS/MAINTENANCE TEAMS ........................................................................ 8

5.1 MT 4 – Sound level meters ............................................................................................................................ 8

IEC 61252 revision ....................................................................................................................................... 8

DECISION: To appoint Peter Hanes, Canada, as project leader.

5.2 WG 5 – Measurement microphones ............................................................................................................. 9

CDV 61094-3 .................................................................................................................................................. 9

DECISION: To be proceeded with for direct publication.

CDV 61094-5 .................................................................................................................................................. 9

DECISION: To be proceeded with for direct publication.

IEC 61094-4 revision ....................................................................................................................................... 9

DECISION: To confirm the PWI with Erling Sandermann Olsen, Denmark, as project leader.
and to circulate a Review Report when the CD has been prepared.

PWI Ultra-low-frequency calibration methods .............................................................................................. 9

DECISION: To confirm the PWI with a new title.

5.3 WG 10 – Audiometric equipment ............................................................................................................... 10

CDV 60645-1 .................................................................................................................................................. 10

DECISION: To be proceeded with for FDIS voting.

IEC 60645-6 and IEC 60645-7 revision ......................................................................................................... 10

DECISION: To delete the PWIs.

PWI IEC 60645-3 revision .............................................................................................................................. 10

DECISION: To confirm the PWI.

5.4 WG 13 – Hearing aids ............................................................................................................................... 11

2CD/TS 62886 ........................................................................................................................................ 11

DECISION: To be proceeded with as a DTS.

Revision of IEC 60118-2 Amendment 2 .................................................................................................. 11

DECISION: To delete the PWI.
Revision of IEC 60601-2-66 ................................................................. 11
DECISION: To be registered as a PWI with Joe Itin, Switzerland, as project leader and to circulate a Review Report when the CD has been prepared.

Revision of 60118-13 ........................................................................ 11
DECISION: To be registered as a PWI with Gert Ravn, Denmark, as project leader and to circulate a Review Report when the CD has been prepared.

IEC 60118-9 revision ........................................................................ 12
DECISION: To be registered as a PWI with Marcel Vlaming, Netherlands, as project leader and to circulate a Review Report when the CD has been prepared.

5.5 MT 17 – Sound calibrators ........................................................................ 12
CD 60942 .................................................................................. 12
DECISION: To be proceeded with as a second CD.

5.6 MT 18 – Amendments for relevant IEC/TC 29 standards with respect to developments on IEC ........ 12
Amendments to IEC 61252, IEC 61260-2, IEC 61672-2, IEC 62370 .................................................. 12
DECISION: To prepare amendments to be circulated as CDVs together with Review Reports.

5.7 MT 19 – Revision of IEC 61260, Filters .................................................. 13

5.8 MT 20 – Revision of IEC 60118-4 .......................................................... 13

5.9 WG 21 – Head and ear simulators .......................................................... 13
Convenorship .................................................................................. 13
DECISION: To appoint Thomas Fedtke, Germany, as convenor.

CD/TS 60318-7 .............................................................................. 14
DECISION: To be proceeded with as a DTS.

Occluded ear simulators for neonates .................................................. 14
DECISION: To be registered as a PWI with Dominique Rodriques, France, as project leader.

Amendment to 60318-7 ....................................................................... 14
DECISION: To be registered as a PWI with Thomas Fedtke, Germany, as project leader.

5.10 WG 22 – Audio-frequency induction-loop systems and equipment for assisted hearing .............. 14

5.11 MT 23 – Revision of IEC 61265:1995 .................................................. 14
DECISION: To register the revision as a PWI with David Josephson, USA, as project leader and to circulate a Review Report when the CD has been prepared. .............................. 15
DECISION: To change to the title of MT 23 ............................................. 15
DECISION: To request liaison with IEC/TC 88 .......................................... 15

6 PRESENTATION OF PROPOSALS FOR NEW WORK ITEMS ...................................................... 15

6.1 Proposal from ISO/TC 43/SC 1 "Noise" on multi-channel instrumentation ........................................ 15

6.2 Other proposals .............................................................................. 16
7 DISBANDING OF WORKING GROUPS ............................................................................................... 16

DECISION: To disband MT 19 when IEC 61260-2/3 have been published. ......................... 16

DECISION: To confirm all convenors for a period of three years. ........................................... 16

8 STRATEGIC BUSINESS PLAN ............................................................................................................ 16

DECISION: approve the SBP with amendments. ................................................................. 17

9 STABILITY DATES ................................................................................................................................ 17

DECISION: To approve the updated Stability Dates.

10 EDITING COMMITTEE .............................................................................................................................. 17

11 ANY OTHER BUSINESS ............................................................................................................................ 18

12 NEXT MEETING ........................................................................................................................................... 18

13 CLOSING OF THE MEETING ..................................................................................................................... 18

ANNEX A – Secretariat’s report .................................................................................................................. 19

ANNEX B – Liaison report from IEC/TC 87 ....................................................................................... 29

ANNEX C – Information from the IEC Central Office ......................................................................... 30

ANNEX D – Day Report of MT 4 .................................................................................................................. 34

ANNEX E – Day Report of WG 5 ................................................................................................................. 36

ANNEX F – Day Report of WG 10 ............................................................................................................... 40

ANNEX G – Day Report of WG 13 ............................................................................................................... 42

ANNEX H – Day Report of MT 17 ............................................................................................................... 46

ANNEX I – Day Report of MT 18 ............................................................................................................... 48

ANNEX J – Day Report of MT 20 ............................................................................................................... 51

ANNEX K – Day Report of WG 21 ............................................................................................................... 53

ANNEX L – Day Report of WG 22 ............................................................................................................... 56

ANNEX M – Day Report of MT 23 ............................................................................................................... 58

ANNEX N – References to the work of TC 29 ....................................................................................... 60

ANNEX O – Amendments to the Strategic Business Plan ..................................................................... 62

ANNEX P – Approved Strategic Business Plan ...................................................................................... 63

ANNEX Q – Approved Stability Dates .................................................................................................. 69

ANNEX R – English editing committee ................................................................................................. 70
SCHEDULE OF MEETINGS

The following groups met in the period 2015-11-16/20 in Paris, France

MT 4  Sound level meters
WG 5  Measurement microphones
WG 10 Audiometric equipment
WG 13 Hearing aids
MT 17 Sound calibrators
MT 18 EMC requirements and updates of relevant IEC/TC 29 standards
MT 20 Revision of IEC 60118-4, Induction loop systems
WG 21 Head and ear simulators
WG 22 Audio-frequency induction-loop systems and equipment for assisted hearing
MT 23 Revision of IEC 61265, Instruments for aircraft noise certification (by web conference)

1 OPENING OF THE MEETING AND ROLL CALL OF DELEGATES

Opening
The meeting was opened by the chair, Sue Dowson, UK. She first thanked all delegates for attending and acknowledged that the decision whether or not to travel had been a difficult one due to the events in Paris on the evening of Friday 13 November 2015. She was pleased to see so many delegates in Paris, in particular the new experts who were attending for the first time.

She explained that she and the secretariat had done their best over the week-end to keep delegates up-to-date on the situation. One of the main concerns was ensuring that sufficient delegates would attend for meaningful discussions to take place and decisions to be made. Advice on whether to hold the meetings was sought from IEC Central Office, from AFNOR and from members of the French delegation. It was also important that AFNOR would be open, so it had been a pleasure to receive the confirmation that they could still host TC 29, and to note that only very few delegates had cancelled their participation.

On behalf of all delegates, she expressed to our French colleagues, and indeed to all Parisians, the shock and horror at the dreadful atrocities which took place in Paris and which, as the secretary said in his email, were a direct attack on democracy and freedom. She extended her support and sympathies and said we have all those killed, injured or affected by these events in our thoughts.

The chair then gave the floor to the host, Alioune Cissé. In welcoming the delegates to Paris on behalf of AFNOR, he also introduced the assistant secretary for the meeting arrangement, Sylvie Minosa, and provided some practical information. He expressed his best wishes for a successful week of meetings.

The chair thanked Alioune Cissé for his good wishes, and commented that she thought the last time TC 29 met in Paris was in 1983, but she thought nobody present contributed at that time!

Finally, the chair mentioned that, sadly, as most delegates were aware, since the last meeting two former very active participants in TC 29, Bill Richings and Victor Nedzelnitsky, had passed away.

Bill Richings made valuable contributions to standardization over a long period, and recently he made exceptional contributions to the writing of the IEC 61672 series on sound level meters, and his editorial and writing skills were key in developing these standards.

Victor Nedzelnitsky was dedicated to microphones, and his main contributions were to the development of the IEC 61094 series of standards on microphones, but he also supported MT 17 on calibrators. He always aimed to ensure that the documents produced were clear and unambiguous, and his expertise and attention to detail had been notable in the production of these standards.

They had both received IEC's 1906 Award, which honours experts for their work.

A minute’s silence was observed in the memory of Bill Richings, Victor Nedzelnitsky and the victims of the terror action in Paris.
Roll call
The chair appreciated the high participation at these meetings despite the circumstances – more than 50 delegates with one contributing via an internet conference tool and a teleconference meeting of MT 23.

The preliminary list of delegates was distributed. The chair made the roll call of delegates.

Apologies from the Czech Republic, Poland and the Russian Federation were received before the meetings, and a few individual apologies due to the terror actions were noted.

The final list of delegates is given at the start of this report.

2 APPROVAL OF THE DRAFT AGENDA

The first draft agenda for the meeting, doc. 29/884/DA, had been circulated by the IEC Central Office in July 2015. Three weeks prior to the meetings the IEC Central Office had, as usual, prepared a zip file that contained a linked draft agenda with all available documents, given in doc. 29/884A/DA.

A revised draft agenda was tabled at the meeting and is included in this report with addition of decisions. In relation to the previous draft agenda, a new item 6.1 "Proposal from ISO/TC 43/SC 1 "Noise" on multi-channel instrumentation" had been added. Also the voting results on CDV 61094-3 and CDV 60645-1 as well as reports of voting on CDV 61260-2 and CDV 61260-3 had been added under items 5.2.1, 5.3.1, 5.7.1 and 5.7.2 respectively. Finally, a number of administrative ‘green’ documents prepared immediately before the meeting had been included.

The revised draft agenda was approved with no changes or additions.

3 NOTE OF THE MINUTES FROM THE IEC/TC 29 MEETING HELD IN PRETORIA, SOUTH AFRICA, 2014-02-17/21, doc. 29/844/RM

The unconfirmed minutes from the last meeting, doc 29/844/RM, had been circulated in April 2014 and approved without corrections.

4 REPORT OF THE SECRETARIAT

4.1 Review of the secretariat report and programme of work

A condensed programme of work and status prepared by the IEC Central Office was given in doc. 29/890/PW. The chair reminded the meeting that the work programme can also be seen on the IEC home page for TC 29.

The secretary briefly presented his more detailed report given in Annex A, which showed the progress of work since the last meeting and the present status of work. Two NCs, Brazil and Korea (Republic of) had updated to P-members. Romania had changed from P-member to O-member, and Belarus had changed from non-member to O-member so that there were now still 24 P-members and 12 O-members.

Eleven WGs/MTs exist under TC 29.

Since the last meeting, eight standards had been published and 18 draft documents at various levels had been circulated. The secretariat report also contained a listing of all work items with their complete document history in order of WGs/MTs and, finally, a list of all of the standards under the responsibility of TC 29 was included.

The opportunity was taken to thank all participants, notably convenors and project leaders, for their efforts and devotion – often in their leisure time – to fulfil the ever increasing demands of the higher levels in IEC for fast progress and better quality.

The chair informed the delegates that TC 29 has been aiming to re-inforce links with other appropriate liaison committees, including IEC/TC 87 “Ultrasonics”, and the chair of TC 87 had submitted a liaison report, given in Annex B.

The chair took the opportunity to mention that Michel Lecollinet had received the IEC 1906 Award in 2014. The aim of this award is to recognize current achievements that can be considered as a major contribution to
furthering the interests of electrotechnology standardization and related activities. He had been rewarded for his long-standing contributions to WG 5, especially on the topic of reciprocity calibration. Also for many years Michel Lecollinet served as member of the editing committee, even continuing into his retirement. His broad knowledge in all fields of electroacoustics had been key to improving the quality of the final publications of many TC 29 standards, and his personal efficiency and contributions have been greatly appreciated.

Since he is no longer active in TC 29, the chair asked the French delegation to convey their congratulations to Michel Lecollinet on behalf of the committee.

4.2 Information from the IEC Central Office

In the absence of Laurent Mailly, the representative of the IEC Central Office, at the first session the secretariat gave, on his behalf, the main items of a presentation, given in Annex C, which he had prepared for the TC 29 meeting.

The following points were highlighted:

- The terms of office of IEC chairs shall be limited to an initial term of a maximum of 6 years, followed by a single extension of a maximum of 3 years;
- A justification must be provided if the nomination of a chair is from the same country as that of the secretariat;
- WG/MT convenors must be reappointed after 3 years (but there is no time limit);
- National bodies shall provide a justification statement when voting negatively on a New Work Item Proposal;
- The FDIS stage has been shortened from 8 weeks to 6 weeks, effective 2016-01-01.

Finally, the secretariat presented the web tools for the IEC experts and encouraged the members to set up their personal “MyIEC” for TC 29.

5 REPORTS FROM WORKING GROUPS/MAINTENANCE TEAMS

The secretary reminded the meeting that only the National Committees can register members of WGs/MTs via the IEC Expert Management System (EMS). Neither the IEC Central Office nor the TC secretary can make changes.

Further, members were reminded that it is their own responsibility to correct their own data, so the secretary asked all delegates to be sure to update their data in the EMS. He also reminded the convenors to use the correct and updated list of members, which can be extracted from the EMS. Convenors receive automatic notifications when changes are made to the system.

For the convenience of this meeting, the secretary had extracted a list of the registered members of WGs/MTs and their data from the EMS. All members were asked to check their registered data.

5.1 MT 4 – Sound level meters

MT 4 met in Paris. The report is given in Annex D.

- Revision of IEC 61252:2002 "Electroacoustics – Specifications for personal sound exposure meters"

  This is the only official task on the programme of work of MT 4 and was registered as a preliminary work item. The convenor, Peter Hanes, Canada, regretted that the former project leader had resigned, and due to other activities he had himself not been able to prepare a working draft in time for the meeting in Paris.

  TC 29 took the following

  DECISION: To appoint Peter Hanes, Canada, as project leader for PWI 61252. A first WD to be expected by the end of March 2016.

- NWIP from ISO/TC 43/SC 1 on multi-channel instrumentation

  MT 4 had discussed the proposal from ISO/TC 43/SC 1 "Noise" on multi-channel instrumentation, see item 6.1.
5.2 WG 5 – Measurement microphones

WG 5 met in Paris. The report is given in Annex E.

Two documents were under processing in WG 5:

- CDV 61094-3 "Electroacoustics – Measurement microphones – Part 3: Primary method for free field calibration of laboratory standard microphones by the reciprocity technique" (doc. 29/873/CDV)

  The CDV, which has Salvador Barrera-Figueroa, Denmark, as project leader, had been circulated for voting by 2015-10-16 and had received 100% approval. The convenor, Richard Barham, UK, reported that the document had been discussed at the WG 5 meeting. TC 29 took the following

  DECISION: To proceed with CDV 61094-3 for final publication. WG 5 to prepare the revised text to be submitted to the secretariat by the end of January 2016.

- CDV 61094-5 "Measurement microphones – Part 5: Methods for pressure calibration of working standard microphones by comparison" (doc. 29/870/CDV)

  The project leader for this document is Richard Barham, UK. The CDV had been circulated for voting by 2015-09-05 and had received 100% approval. The situation was therefore the same as for CDV 61094-3. The document had been discussed at the WG 5 meeting.

  TC 29 took the following

  DECISION: To proceed with CDV 61094-5 for final publication. WG 5 to prepare the revised text to be submitted to the secretariat by the end of 2015.

Two items were registered as preliminary work items:


  A decision has already been made to revise this standard with Richard Barham, UK, as project leader, but the project was placed on hold pending completion of the revision of IEC 61094-5. WG 5 had considered what new or revised content would be required to enable the preparation of a first WD.

  On this background TC 29 took the following

  DECISION: To confirm PWI 61094-4 and to appoint Erling Sanderman Olsen, Denmark, as project leader.

  DECISION: To circulate a Review Report to formally activate the work item when the text for a CD has been prepared by WG 5.

- Ultra-low-frequency calibration methods for measurement microphones

  This project is still in the pre-normative research phase. TC 29 took the following

  DECISION: To confirm the PWI with the new title "Calibration methods for measurement microphones at infrasound frequencies".

  Further, a number of potential new topics had been discussed as appears from Annex E.
5.3 **WG 10 – Audiometric equipment**

WG 10 met in Paris. The report is given in Annex F.

The chair welcomed the new convenor, Erik Nielsen, Denmark.

There was one formal document on the TC 29 agenda under the responsibility of WG 10:

- **CDV 60645-1 "Audiometric equipment – Part 1: Equipment for pure-tone and speech audiometry"**

  The CDV, doc. 29/875/CDV, which constitutes an amalgamated revision of IEC 60645-1 and IEC 60645-2, so that pure tone and speech audiometry is now contained in one document, had been circulated for voting by 2015-10-23. It had been approved, however, with a negative vote from the UK which had expressed concern that the uncertainty clauses did not follow the internal TC 29 guide on uncertainty.

  The convenor reported that the project leader, Rufus Grason, USA, had prepared a revised draft taking into consideration most of the comments which had been discussed by the WG, and the open questions had been resolved at the meeting.

  TC 29 took the following

  DECISION: To proceed with CDV 60645-1 for FDIS voting. WG 10 to prepare the revised text to be submitted to the secretariat by the end of March 2016.


  The convenor explained that the background for these items was a question of getting them notified in the EU Official Journal. However, contacts with the CEN/CENELEC consultants had showed that the purpose of the Medical Directive is different from the one of the IEC 60645-series. TC 29, therefore, took the following

  DECISION: To delete PWI 60645-6 and PWI 60645-7.

- **PWI for the revision of IEC 60645-3 "Electroacoustics – Audiometric equipment – Part 3: Test signals of short duration"**

  The convenor reported that the project leader, Thomas Fedtke, Germany, was also member of the working group on threshold of hearing under ISO/TC 43 "Acoustics" working on test signals of short duration, ISO 389-6. Development of IEC 60645-3 and ISO 389-6 should be made in parallel but was still at the research stage. On this background TC 29 therefore took the following

  DECISION: To confirm PWI 60645-3.

- **Terminology/definitions**

  The convenor took the opportunity to mention that a number of terms and definitions of the same quantities are used in different documents of TC 29, with a risk that these terms and definitions may not be consistent from document to document. He, therefore, suggested that it might be an idea to prepare some kind of documented list.

  The representative of the IEC Central Office drew the attention to the IEC vocabulary prepared by IEC/TC 1 "Terminology". The chair mentioned, however, that this was probably too broad for this list, which should be restricted to internal use in TC 29.

  The proposal to prepare such a list was supported by several delegations. It was mentioned that a relevant ANSI publication should exist, and as a first step the secretariat undertook to try to find and provide it to the convenor of WG 10 for possible use as a basis for TC 29.
5.4  WG 13 – Hearing aids

WG 13 met in Paris. The report is given in Annex G.

The convenor, Gert Ravn, Denmark, explained that WG 13 had an intermediate meeting in February 2015 in Denmark to work on the two documents, which were on the agenda:

- **FDIS 60118-13 "Electroacoustics – Hearing aids – Part 13: Electromagnetic compatibility (EMC)"**

  FDIS 60118-13, doc. 29/889/FDIS, had been circulated for the final yes/no voting just prior to the meeting, so there was nothing more to do for WG 13 on that document.

- **2CD 62886 "Hearing aids – Method for measuring the electroacoustic performance up to 16 kHz"**

  Both a first and a second CD 62886 for a Technical Specification had been circulated since the last meeting. The second CD, doc. 29/877/CD, was circulated for comments before 2015-08-07, and based on the comments the project leader, Anton Gebert, Germany, had prepared a revised draft, which was discussed at the WG 13 meeting. TC 29 took the following

  DECISION: To proceed with the 2CD 62886 as a DTS. WG 13 to prepare the revised text to be submitted to the secretariat by the end of 2015.

Further, the WG had discussed the following items:

- **PWI for the revision of Amd 2 to IEC 60118-2 concerning use of broad band signals**

  At the last meeting a preliminary work item was registered for the revision of Amd 2 to IEC 60118-2 as the remainder of IEC 60118-2 for which the main part had become part of the amalgamation of some of the parts in the IEC 60118-series into the just published IEC 60118-0. However, as result of discussion in WG 13, it was recognized that broad band signals were no longer in use, and TC 29, therefore, took the following

  DECISION: To delete the PWI for the revision of Amd 2 to IEC 60118-2.

- **Wireless devices**

  It had been recognized that the original intention of covering all EMC aspects related to hearing aids by IEC 60601-2-66 and IEC 60118-13 cannot be fulfilled. Radio parameters and generic regulations for wireless radio transmitters and receivers are not within the scope of WG 13.

  TC 29, therefore, took the following

  DECISION: To register revision of IEC 60601-2-66 to prepare an updated version with reference to IEC 60601-1-2 as a PWI with Jonathan Itin, Switzerland, as project leader.

  DECISION: To circulate a Review Report to formally activate the work item when the text for a CD 60601-2-66 has been prepared by WG 13, expected by the end of May 2016.

  DECISION: To register revision of IEC 60118-13 with criteria for IEC 60601-1-2 as a PWI with Gert Ravn, Denmark, as project leader.

  DECISION: To circulate a Review Report to formally activate the work item when the text for a CD 60118-13 has been prepared by WG 13, expected by the end of May 2016.

- **Stability dates**

  As result of review of the stability dates, it was recognized that IEC 60118-9 "Hearing aids – Part 9: Methods of measurement of characteristics of hearing with bone vibrator output" needed updating in order to follow the structure of the newly published IEC 60118-0. TC 29, therefore, took the following
DECISION: To register revision of IEC 60118-9 as a PWI with Marcel Vlaming, Netherlands, as project leader.

SECRETARIAT NOTE: Subsequently, the project leadership has been taken over by Gert Ravn.

DECISION: To circulate a Review Report to formally activate the work item when the text for a CD 60118-9 has been prepared by WG 13, expected by the end of May 2016.

5.5 MT 17 – Sound calibrators

MT 17 met in Paris. The report is given in Annex H.

- 1CD 60942 "Electroacoustics – Sound calibrators" (Revision of IEC 60942:2003)

The convenor, Sue Dowson, UK, explained that following two WDs, a first CD 60942, doc. 29/879/CD, had been circulated for comments before 2015-09-18.

MT 17 had discussed the comments at its meeting in Paris. As a result, TC 29 took the following

DECISION: To proceed with 1CD 60942 as a second CD. The revised text to be submitted to the secretariat by the end of February 2016.

The representative of OIML, Thomas Fedtke, mentioned that OIML is prepared to produce a corresponding pattern evaluation report. The convenor undertook to discuss this matter further with the OIML representative.

5.6 MT 18 – Amendments of relevant IEC/TC 29 standards with respect to developments on EMC

MT 18 met in Paris. The report is given in Annex I.

On behalf of the convenor Richard Tyler, UK, the chair informed the meeting that MT 18 had no active tasks in preparing specific standards, but the group had recently assisted MT 4 and MT 19 with regard to EMC requirements in the drafts on sound level meters and filters.

The chair reported that at the last TC 29 meeting in Pretoria, a comment was raised by the Japanese member in relation to one aspect of the EMC testing required in all documents, which MT 18 had helped to draft. Since this meeting, this had been further investigated, and a proposal from Japan had been made which, if accepted, would require an amendment to be made to several TC 29 standards.

As result of the MT 18 meeting, TC 29 took the following

DECISION: To prepare amendments to

- IEC 61252:2002 "Specifications for personal sound exposure meters"
- IEC 61260-2 "Electroacoustics – Octave-band and fractional-octave-band filters – Part 2: Pattern-evaluation tests" (awaiting publication)
- IEC 62370:2004 "Instruments for the measurement of sound intensity – Electromagnetic and electrostatic compatibility requirements and test procedures"

...to be circulated as CDVs according to the instructions given in Annex I.

DECISION: To circulate Review Reports to formally activate the work items.

The representative of the IEC Central Office confirmed that such additions could be made regardless of the stability dates.
A similar amendment should be made to the revised IEC 60942. However, since this was still in preparation, it could simply be included in the second CD to be circulated, see item 5.5 above.

5.7 MT 19 – Revision of IEC 61260, Filters

MT 19 did not meet in Paris.

The chair recalled that it was the original intention to develop all three parts of the IEC 61260 series at the same time. This had, however, failed so part 1 was progressed first and was published in February 2014.

Both Part 2 and part 3 were on the TC 29 agenda:

- CDV 61260-2 "Octave-band and fractional-octave-band filters – Part 2: Pattern evaluation tests"
- CDV 61260-3 "Octave-band and fractional-octave-band filters – Part 3: Periodic tests"

CDV 61260-2, doc. 29/845/CDV, and CDV 61260-3, doc. 29/846/CDV, had been circulated for voting before 2014-10-31. They had both been accepted with 100% approvals with almost nothing but editorial comments, so it had been decided to skip the FDIS stage and proceed directly to publication.

Reports of voting on the CDVs had just been circulated, and the final layouts had been sent to the IEC Central Office for publication. There was, therefore, no more for MT 19 to do so, in consultation with the convenor, Ole Herman Bjor, Norway, it was suggested to disband MT 19 when the standards have been published.

Formal decision was taken under item 7 "Disbanding of working groups".

5.8 MT 20 – Revision of IEC 60118-4, Induction loop systems

MT 20 met in Paris. The report is given in Annex J.

The convenor, Conny Andersson, Sweden, did not participate in the meeting in Paris. The substitute convenor, John Woodgate, UK, reported that since the last meeting, the revised IEC 60118-4 had been published and that MT 20 at its meeting in Paris had discussed two questions:

- Amplifier overload at 1.6 kHz, and
- Small volume systems

The report was noted. There were no formal decisions for TC 29 to take.

5.9 WG 21 – Head and ear simulators

WG 21 met in Paris. The report is given in Annex K.

The chair mentioned that the change of convenorship of WG 21 had not been formalized in the IEC system, so Utz Richter was still registered as convenor. TC 29, therefore, took the following

DECISION: To appoint Thomas Fedtke, Germany, as convenor of WG 21.

Since the last meeting the revised IEC 60318-3 had been published. One active item was under processing in WG 21:

- First CD for IEC/TS 60318-7 "Electroacoustics – Simulators of human head and ear – Part 7: Head and torso simulator for the measurement of hearing aids" (Revision of IEC/TS 60318-7:2011)

A first CD/TS 60318-7, doc. 29/866/CD, had been circulated for comments by 2015-05-15. The project leader, Utz Richter, Germany, was not present in Paris, but Thomas Fedtke had worked closely with him to prepare for this meeting.
Thomas Fedtke reported that a proposal for a revised draft taking into consideration most of the comments had been prepared and circulated to the WG before the meeting, and only a few outstanding technical questions were left for discussion by WG 21. These were all resolved, and TC 29, therefore, took the following

DECISION: To proceed with CD 60318-7 as a DTS. The text to be submitted to the secretariat by the end of 2015.

With regard to the 3CD CAD data of example pinna simulators the representative of the IEC Central Office undertook to investigate whether there were any facilities within IEC to provide this in an electronic form.

- **PWI Guide for the use of the standards in the IEC 60318-series**

A document was still in preparation by the project leader, Richard Barham, UK, but it was expected that the text for a CD could be submitted to the secretariat by June 2016. This would require a NWIP when circulated, and the chair reminded that at the last meeting it was agreed that the UK would act as proposer.

- **Occluded ear simulators for neonates**

WG 21 had discussed this item and expected that a first WD could be developed for discussion at the next WG 21 meeting. TC 29, therefore, took the following

DECISION: To register the preparation of a standard on occluded ear simulators for neonates as a PWI with Dominique Rodrigues, France, as project leader in cooperation with Richard Barham, UK, and Søren Jønsson, Denmark.

- **New technologies**

As a result of the discussion of new technologies and market requirements, WG 21 had agreed that a future amendment to IEC 60318-7 for the measurement of sound sources close to the ear would be required. TC 29 to the following

DECISION: To register the preparation of an amendment to IEC 60318-7 entitled "Measurement of sound sources close to the ear" as a PWI with Thomas Fedtke, Germany, as project leader.

It was noted that liaison with IEC/TC 100 "Audio, video and multimedia systems and equipment", which maintains IEC 60268-7:2010 "Sound system equipment – Part 7: Headphones and earphones" is relevant.

5.10 **WG 22 – Audio-frequency induction-loop systems and equipment for assisted hearing**

WG 22 met in Paris. The report is given in Annex L.

Both IEC 62489-1 and IEC 62489-2 had been published. The convenor, John Woodgate, UK, reported that at its meeting in Paris, WG 22 had continued discussions on the preparation of a Technical Report on Code of practice for audio-frequency induction-loop systems and equipment for assisted hearing. Depending on the progress of the WG, a draft text might be ready for circulation to TC 29 before the end of May 2016.

The chair took the opportunity to note that the membership of MT 20 and WG 22 is very similar with many common members. Further, the convenor of MT 20, Conny Andersson, Sweden, had moved to Hong Kong and was not very active. No change was, however, made at this meeting.

5.11 **MT 23 – Revision of IEC 61265:1995 "Instruments for measurement of aircraft noise – Performance requirements for systems to measure one-third-octave-band sound pressure levels in noise certification of transport-category aeroplanes"**

The chair recalled that prior to the last meeting, there had been no activity at all in this group. However, several sources had confirmed that there certainly is a need to revise IEC 61265, which technically is totally outdated. The secretariat, therefore, initiated a call for convenors to the National Committees, and in response to this, David Josephson, USA, has been appointed new convenor of MT 23.
MT 23 already had several web meetings and was scheduled to meet in Paris, but in light of the events the meeting had been transferred into a web conference, led by the convenor, which was also attended by a number of experts present in Paris. The report is given in Annex M.

MT 23 was very actively working on the revision of IEC 61265. The item had, however, never been formally registered, so TC 29 took the following

**DECISION:** To register revision of IEC 61265 as a PWI with David Josephson, USA, as project leader.

**DECISION:** To circulate a Review Report to formally activate the work item when the text for a CD 61265 has been prepared by MT 23. MT 23 to prepare the revised text to be submitted to the secretariat by the end of June 2016.

Though not mentioned in the report, after correspondence with the secretariat the convenor had proposed a shorter title of the MT, and TC 29, therefore, took the following

**DECISION:** To change the title of MT 23 to "Instruments for aircraft noise".

With regard to liaison, the chair noted that close contact with the International Civil Aviation Organization, ICAO, is essential to MT 23 and was pleased to note that one member of MT 23 also participates in ICAO. The secretariat confirmed that TC 29 has formal liaison with ICAO, but he would ask the IEC Technical Officer for assistance in enforcing this liaison.

It was further noted that the use of a form of ground plane microphone as specified for wind turbine noise by IEC/TC 88 "Wind energy generation system" is also relevant for MT 23. TC 29, therefore, took the following

**DECISION:** To request liaison with IEC/TC 88.

### 6 PRESENTATION OF PROPOSALS FOR NEW WORK ITEMS

The chair reminded the meeting that in order to be included in the programme of work as active work items, all proposals for new work have to formally be circulated for voting and approved by correspondence. There is more emphasis on this in order to ensure that all interested parties can be involved from the beginning. It is, of course, nevertheless a good opportunity at a meeting such as this to discuss possible proposals and to get a feeling of the potential support before a formal procedure is initiated.

#### 6.1 Proposal from ISO/TC 43/SC 1 "Noise" on multi-channel instrumentation

The chair explained that the proposal emanates from ISO/TC 43/SC 1, which at its recent meeting took a resolution to request TC 29 to develop a guidance or a standard on computer based multi-channel instrumentation, in cooperation with ISO/TC 43/SC 1.

The proposal had been circulated in TC 29 for information as doc. 29/891/INF. A representative from ISO/TC 43/SC 1, Patrick Cellard, France, explained that ISO/TC 43/SC 1 had prepared an instrumentation guide. However, in practice, with software based instrumentation it is often not possible to perform all the tests required by IEC 61672 on sound level meters (e.g. with regard to temperature requirements), whereas other requirements needed for verification of such equipment are not even covered by IEC 61672.

MT 4 was asked for a recommendation for a decision. MT 4 recommended two activities:

1) To prepare a new standard to be prepared by MT 4 or by a new collaborative working group as appropriate. For this, a formal NWIP to be prepared ISO/TC 43/SC 1 was required. The convenor of MT 4, Peter Hanes, undertook to communicate further with ISO/TC 43/SC 1 about that.

2) The convenor undertook also to discuss with the members of ISO/TC 43/SC 1 on their requirements for advice.

The convenor confirmed that there is certainly a problem with verification of such equipment.
6.2 Other proposals

The secretary mentioned that a proposal for new work concerning hearing aid fitting had been presented by the Korean delegation at the last meeting of ISO/TC 43 "Acoustics". It had been decided that the Korean member body should finalize a formal proposal to be circulated for the 3 month formal NWIP approval procedure in ISO/TC 43. If accepted, a new working group of ISO/TC 43 would be set up, and TC 29 would be invited to participate.

The Korean delegation to the TC 29 meeting was involved in the proposal and informed the meeting that the circulation could be expected within about a month. This subject is not directly within the work area of TC 29 but nevertheless of interest notably to WG 13, and the Korean delegate invited all interested parties to contact them.

SECRETARIAT NOTE: The proposal has subsequently been circulated as doc. 43 N 1293 for voting before 2016-04-07 and sent to IEC/TC 29 for information, doc. 29/898/INF refers.

7 Disbanding of Working Groups/Maintenance Teams

With reference to item 5.7, TC 29 took the following decision:

DECISION: To disband MT 19 when IEC 61260-2 and IEC 61260-3 have been published.

The chair drew attention to the new requirement in IEC that all convenors have to be approved for a three year period. The number of appointments is unlimited, but it has to be re-confirmed every third year. On this background TC 29 took the following decision:

DECISION: To confirm the following convenors:

- MT 4: Peter Hanes, Canada
- WG 5: Richard Barham, UK
- WG 10: Erik Nielsen, Denmark
- WG 13: Gert Ravn, Denmark
- MT 17: Susan Dowson, UK
- MT 18: Richard Tyler, UK
- MT 20: Conny Andersson, Sweden
- WG 21: Thomas Fedtke, Germany
- WG 22: John Woodgate, UK
- MT 23: David Josephson, USA

for a period of three years.

8 Strategic Business Plan (SBP)

The Strategic Business Plan (SBP) for TC 29 approved at the last meeting was made available to the meeting.

Item C - System approach aspects

The secretary noted that this title emanated from an earlier template for SBPs and suggested that it should be changed to "Liaisons". Also, the liaisons listed here are actually not the same as those listed on the IEC web site for TC 29, so this had to be updated.

Finally, the TC 29 chair had attended a meeting about the EU Radio Equipment Directive where liaison with IEC/TC 100 and ETSI had been requested. Liaison with TC 100 was already registered according to the SBP. These items were brought to the attention of the representative of the IEC Central Office.

The SBP under item E had an action plan with 4 specific topics as given in the agenda:

Item E.1 – Stability dates

See agenda item 9 below.
Item E.2 – New technologies or market requirements
Item E.2 requested WGs/MTs to include in their agendas discussion on new technologies or market requirements, which were likely to impact the work of the Committee. Such proposals had been discussed by many WGs/MTs, and appropriate actions taken as reported above.

Item E.3 – Guidance documents
Item E.3 called for the preparation of guidance documents. The chair reminded the meeting that the TC 29 policy on measurement uncertainty and conformance assessment was published in May 2013 as doc. 29/801/INF. No further guidance documents were suggested by any groups.

Item E.4 – Raise awareness of new and revised standards and the work of TC 29
Item E.4 was to raise awareness of new and revised standards and the work of TC 29 through internationally and nationally available channels such as professional bodies, conferences and journal papers.

The secretariat had, therefore, prior to the meeting invited all WG and MT members to provide such information, which as a first step was collected (and updated with a Japan NC contribution) as given in Annex N. All participants were invited to continue providing such references to the secretariat for inclusion in an ongoing updated collection.

The chair recalled that the earlier project of the secretariat to establish a special website for ISO/TC 43-IEC/TC 29, which might have been an appropriate place for publication of this information, had been abandoned, so this was no longer a possibility. The representative of the IEC Central Office suggested that this list might be given as an annex to the SBP, where it could easily be continuously updated, and this will be implemented.

No comments were made during the meeting by any WGs/MTs or individual members on the SBP. The chair and secretary had, however, made a few proposals for amendments as given in Annex O.

On this background TC 29 took the following

DECISION: To approve the SBP with the inclusion of the amendments given in Annex O and with the addition of the list of references on the work of TC 29 as given in Annex N.

The updated SBP, transformed into the new format requested by the IEC Central Office, is given in Annex P and will also be made available at the IEC website for TC 29 when approved by the IEC Standardization Management Board.

9 STABILITY DATES

In accordance with item E.1 the secretariat had prepared the list of stability dates at the time of the meeting in date order as well as in WG/MT order.

The secretariat informed the meeting that the intent is that generally, before taking decisions to revise a standard, P-members can be invited to make comments on it as basis for the decision. However, if it is clear to the committee that a standard needs to be revised, the decision to revise it can be taken straight away.

The list was updated with the recommendations of the WGs and MTs and the secretariat as given in Annex Q. TC 29 took the following

DECISION: To approve the proposed stability dates as given in Annex Q.

10 EDITING COMMITTEE

The secretariat explained that IEC no longer recognizes the TC 29 internal English/French editing process, which until recently had been made before the final publication of the standards. Since IEC now sends out the English FDIS layouts to all NCs for national use during the French translation, the internal editing will have to be done on the English versions before submission of the final layouts to IEC. The editing on the French versions is the sole responsibility of the French national committee and the IEC Central Office.
The UK national committee had kindly provided a list, given in Annex R, with those experts who will perform the editing of the TC 29 documents before submission to IEC.

The secretariat expressed its appreciation to the UK national committee and the individual experts for so kindly offering their service in this respect, which is essential in maintaining the high level of editorial presentation and avoiding errors in the final standards.

11 ANY OTHER BUSINESS

None.

12 NEXT MEETING

There was no formal invitation for the next meeting, which was scheduled for the first half of 2017.

The chair said that it would be good to have a long range meeting schedule, and she invited all NCs to consider the possibility of inviting TC 29 for future meetings.

The Canadian delegation mentioned that they were starting to consider the possibility of inviting TC 29 for the second half of 2018.

13 CLOSING OF THE MEETING

The chair expressed her sincere thanks to the convenors and delegates for their efficient work and to AFNOR for providing such excellent meeting facilities.

A warm thank you was also extended to AFNOR and the sponsor of the enjoyable cocktail party.

Thanks were also extended by the chair to the TC 29 secretariat, who as usual had performed all their duties in a very efficient, helpful and effective way. In return, the secretariat thanked the chair for her capable, and always very helpful guidance and support both between and during the meetings.

Finally, the secretary asked the representative of the IEC Central Office to convey the appreciation of the secretariat to the assistant in the IEC Central Office, Nadine Andrey, who is extremely efficient and helpful and the anchor person for the secretariat in the IEC Central Office.

The meeting was closed on Friday 2015-11-20 at 11:30.
SECRETARIAT'S REPORT

with updatings after the meeting

Chair: Ms Susan Dowson, UK (present term terminating end March 2018)
Secretary: Mr Leif Nielsen, Danish Standards
Assistant secretary: Ms Lotte Sørensen, Danish Standards

Membership of IEC/TC 29

Participating members (24):
Australia, Austria, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, India, Italy, Japan, Korea Republic of, Netherlands, Norway, Poland, Russian Federation, South Africa, Spain, Sweden, Switzerland, UK, USA

Observing members (12):
Belarus, Belgium, Bulgaria, Croatia, Greece, Hungary, New Zealand, Romania, Serbia, Slovakia, Turkey, Ukraine

Working Groups and Maintenance Teams under IEC/TC 29

MT 4 Sound level meters
convenor: Mr Peter Hanes, Canada

WG 5 Measurement microphones
convenor: Mr Richard Barham, UK

WG 10 Audiometric equipment
convenor: Mr Erik Nielsen, Denmark

WG 13 Hearing aids
convenor: Mr Gert Ravn, Denmark

MT 17 Sound calibrators
convenor: Ms Susan Dowson, UK

MT 18 EMC requirements and updates of relevant IEC/TC 29 standards
convenor: Mr Richard Tyler, UK

MT 19 Revision of IEC 61260, Filters
convenor: Mr Ole-Herman Bjor, Norway
(to be disbanded when IEC 61260-2 and IEC 61260-3 are published)

MT 20 Revision of IEC 60118-4, Induction loop
convenor: Mr Conny Andersson, Sweden

WG 21 Head and ear simulators
convenor: Mr Thomas Fedtke, Germany

WG 22 Audio-frequency induction-loop systems and equipment for assisted hearing
convenor: Mr John Woodgate, UK

MT 23 Instruments for aircraft noise
convenor: Mr David Josephson, USA
**Issue of standards and drafts**

Since the last plenary meeting, 2014-02 in Pretoria, South Africa, the following have been issued:

**STANDARDS**
- IEC 60118-0
- IEC 60118-4
- IEC 60118-13
- IEC 60318-3
- IEC 60601-2-66
- IEC 61260-1
- IEC 61669
- IEC 62489-1 Amd. 1
- IEC 62489-1 (Consolidated version)
- IEC 62489-2

**FDISes**
- FDIS 60118-0
- FDIS 60118-13
- FDIS 61669
- IEC 62489-1 Amd. 1

**CDVs**
- CDV 60601-2-66
- CDV 60645-1
- CDV 61094-3
- CDV 61094-5
- CDV 61260-2
- CDV 61260-3
- CDV 61669

**DTSs**
- DTS 62886

**CDs**
- 1CD 60645-1
- 1CD/TS 60318-7
- 1CD 60942
- 1CD 61094-5
- 2CD 61094-3
- 2CD/TS 62886
- 1CD/TS 62886

**Progress of work items in the programme of work**

**IEC/TC 29/MT 4**

**PWI 29-40: Revision of IEC 61252:2002 "Electroacoustics – Specifications for personal sound exposure meters"** *(Project leader: Peter Hanes, Canada)*

- Registered as a PWI after TC 29 decision in February 2014

**IEC/TC 29/WG 5**

**WI 61094-3 Ed. 2.0: CDV 61094-3 "Electroacoustics – Measurement microphones – Part 3: Primary method for free field calibration of laboratory standard microphones by the reciprocity technique"** *(Revision of IEC 61094-3:1995)* *(Project leader: Salvador Barrera-Figueroa, Denmark)*

- Review Report for revision of IEC 61094-3 given in doc. 29/762/RR
- First CD 61094-3, doc. 29/763/CD, circulated for comments before 2012-07-27
- Compilation of comments given in doc. 29/784/CC
- Extension of target date for submission of second CD to 2014-04-31
- Second CD 61094-3, doc. 29/848/CD, circulated for comments before 2014-10-10
- Compilation of comments given in doc. 29/859/CC
- CDV 61094-3, doc. 29/873/CDV, circulated for voting before 2015-10-16
- Result of voting given in doc. 29/892/RVC, approved
WI 61094-5 Ed. 2.0: CDV 61094-5 "Electroacoustics – Measurement microphones – Part 5: Methods for pressure calibration of working standard microphones by comparison" (Revision of IEC 61094-5:2001) (Project leader: Richard Barham, UK)
- Document for Comments, doc. 29/775/DC, circulated for comments before 2012-08-17
- Review result given in doc. 29/790/INF
- First CD 61094-5, doc. 29/843/CD, circulated for comments before 2014-07-04
- Compilation of comments given in doc. 29/852/CC
- CDV 61094-5, doc. 29/870/CDV, circulated for voting before 2015-09-04
- Result of voting given in doc. 29/887/RVC, approved
- Layout for IEC 6104-5 submitted to IEC

PWI 29-38: Calibration methods for measurement microphones at infrasound frequencies (Project leader: Richard Barham, UK)
- Registered as a PWI after TC 29 decision in September 2012

- Document for Comments, doc. 29/774/DC, circulated for comments before 2012-08-17
- Review result given in doc. 29/789/INF

IEC/TC 29/WG 10

WI 60645-1 Ed. 4.0: CDV 60645-1 "Electroacoustics – Audiometric equipment – Part 1: Equipment for speech audiometry" (Amalgamated revision of IEC 60645-1:2012 and IEC 60645-2:1993) (Project leader: Rufus Grason, USA)
- Review Report for revision of IEC 60645-2 given in doc. 29/713/RR
- First CD 60645-2, doc. 29/714/CD, circulated for comments before 2010-04-16
- Compilation of comments given in doc. 29/718/CC
- Second CD 60645-2, doc. 29/773/CD, circulated for comments before 2012-08-17
- Compilation of comments given in doc. 29/787/CC
- Review Report for revision of IEC 60645-1 given in doc. 29/856/RR
- First CD 60645-1 for amalgamated revision of part 1 and part 2, doc. 29/857/CD, circulated for comments before 2015-01-19
- Compilation of comments given in doc. 29/864/CC
- CDV 60645-1, doc. 29/875/CDV, circulated for voting before 2015-10-23
- Result of voting given in doc. 29/894/RVC, approved

PWI 29-39: Revision of IEC 60645-3 "Electroacoustics – Audiometric equipment – Part 3: Test signals of short duration" (Project leader: Thomas Fedtke, Germany)
- Registered as a PWI after TC 29 decision in September 2012
IEC/TC 29/WG 13

WI 60118-0 Ed. 3.0: IEC 60118-0 "Electroacoustics – Hearing aids – Part 0: Measurement of the performance characteristics of hearing aids" (Amalgamated version of IEC 60118-0, IEC 60118-1, IEC 60118-2 and IEC 60118-8) (Project leader: Marcel Vlaming, Netherlands)

- Review Report for revision of IEC 60118-0, IEC 60118-1, IEC 60118-2 and IEC 60118-6 given in doc. 29/749/RR
- First CD 60118-0, doc. 29/750/CD, circulated for comments before 2012-01-06
- Compilation of comments given in doc. 29/756/CC
- CDV 60118-0, doc. 29/804/CDV, circulated for voting before 2013-09-06
- Result of voting given in doc. 29/826/RVC, approved
- FDIS 60118-0, doc. 29/867A/FDIS, circulated for voting before 2015-05-01
- Result of voting given in doc. 29/874/RVD, approved
- IEC 60118-0 published 2015-06

WI 60601-2-66 Ed. 2.0: IEC 60601-2-66 "Medical electrical equipment – Part 2-66: Particular requirements for the basic safety and essential performance of hearing instruments and hearing instrument systems" (Revision of IEC 60601-2-66:2012) (Project leader: Clemens Meythaler, Germany)

- Review Report for revision of IEC 60601-2-66 given in doc. 29/850/RR
- CDV 60601-2-66, doc. 29/851/CDV, circulated for voting before 2015-01-30
- Result of voting given in doc. 29/869/RVC, approved
- IEC 60601-2-66 published 2015

WI 61669 Ed. 2.0: IEC 61669 "Electroacoustics – Measurement of real-ear acoustical performance characteristics of hearing aids" (Project leader: Bill Cole, Canada)

- Review Report for revision of IEC 61669 given in doc. 29/806/RR
- First CD 61669, doc. 29/807/CD, circulated for comments before 2013-07-12
- Compilation of comments given in doc. 29/821/CC
- CDV 61669, doc. 29/849/CDV, circulated for voting before 2015-01-30
- Result of voting given in doc. 29/868/RVC, approved
- FDIS 61669, doc. 29/886/FDIS, circulated for voting before 2015-10-23
- Result of voting given in doc. 29/893/RVD, approved
- IEC 61669 published 2015-11


- Review Report for revision of IEC 60118-13 given in doc. 29/767/RR
- First CD 60118-13, doc. 29/768/CD, circulated for comments before 2012-08-10
- Compilation of comments given in doc. 29/788/CC
- CDV 60118-13, doc. 29/805/CDV, circulated for voting before 2013-09-06
- Result of voting given in doc. 29/827/RVC, approved
- FDIS 60118-13, doc. 29/889/FDIS, circulated for voting before 2015-12-04
- IEC 60118-13 published 2016-01

WI 62886 Ed. 1.0: DTS 62886 "Electroacoustics – Hearing aids – Method for measuring the electroacoustic performance up to 16 kHz" (Project leader: Anton Gebert, Germany)

- NWIP, doc. 29/808/NP, circulated for voting before 2013-07-19
- Result of voting given in doc. 29/822/RVN, approved
- First CD/TS 62886, doc. 29/858/CD, circulated for comments before 2015-01-02
- Compilation of comments given in doc. 29/862/CC
- Second CD/TS 62886, doc. 29/877/CD, circulated for comments before 2015-08-07
- Compilation of comments given in doc. 29/885/CC
- DTS, doc. 29/897/DTS, circulated for voting before 2016-04-08
- Registered as a PWI after TC 29 decision in November 2015

- Registered as a PWI after TC 29 decision in November 2015

PWI 29-49: Ed. 2.0: IEC 60118-9 "Hearing aids – Part 9: Methods of measurement of characteristics of hearing with bone vibrator input" (Revision of IEC 60118-9:1985) (Project leader after Marcel Vlaming: Gert Ravn, Denmark)
- Registered as a PWI after TC 29 decision in November 2015

IEC/TC 29/MT 17

WI 60942 Ed. 4.0: CD 60942 "Electroacoustics – Sound calibrators (Revision of IEC 60942:2003) (Project leader: Susan Dowson, UK)
- Review Report for revision of IEC 60942 given in doc. 29/878/RR
- First CD 61669, doc. 29/879/CD, circulated for comments before 2015-09-18
- Compilation of comments given in doc. 29/888/CC

IEC/TC 29/MT 18

IEC/TC 29/MT 19

WI 61260-1 Ed. 1.0: IEC 61260-1 "Electroacoustics – Octave-band and fractional-octave-band filters – Part 1: Specifications" (Project leader: Ole-Herman Bjor, Norway)
- Announcement of setting up of MT 19 and call for experts given in Administrative Circular 29/462/AC of 2000-07
- Confirmation of MT 19 and membership of MT 19 given in doc. 29/478/WG of 2000-10-20
- Document for comments on the future revision of IEC 61260 given in doc. 29/491/DC
- Maintenance Cycle Report for revision of IEC 61260-1 given in doc. 29/646/MCR
- First CD 61260-1, doc. 29/647/CD, circulated for comments before 2008-05-02
- Compilation of comments given in doc. 29/659/CC
- Second CD 61260-1, doc. 29/720/CD, circulated for comments before 2010-09-17
- Compilation of comments given in doc. 29/727/CC
- CDV 61260-1, doc. 29/748/CDV, circulated for voting before 2012-03-02
- Result of voting given in doc. 29/758/RVC, approved
- FDIS 61260-1, doc. 29/835/FDIS, circulated for voting before 2014-01-31
- Result of voting given in doc. 29/839/RVD, approved
- IEC 61260-1 published 2014-02

WI 61260-2 Ed. 1.0: CDV 61260-2 "Electroacoustics – Octave-band and fractional-octave-band filters – Part 2: Pattern evaluation tests" (Project leader: Ole-Herman Bjor, Norway)
- Review Report for revision of IEC 61260 given in doc. 29/829/RR
- First CD 61260-2, doc. 29/830/CD, circulated for comments before 2014-01-31
- Compilation of comments given in doc. 29/840/CC
- CDV 61260-2, doc. 29/845/CDV, circulated for voting before 2014-10-31
- Result of voting given in doc. 29/881/RVC, approved
- Layout for IEC 61260-2 submitted to IEC 2015-11 for publication
WI 61260-3 Ed. 1.0: CDV 61260-3 "Electroacoustics – Octave-band and fractional-octave-band filters – Part 3: Periodic tests" (Project leader: Ole-Herman Bjør, Norway)
- Review Report for revision of IEC 61260 given in doc. 29/833/RR
- First CD 61260-3, doc. 29/834/CD, circulated for comments before 2014-01-31
- Compilation of comments given in doc. 29/841/CC
- CDV 61260-2, doc. 29/846/CDV, circulated for voting before 2014-10-31
- Result of voting given in doc. 29/882/RVC, approved
- Layout for IEC 61260-3 submitted to IEC 2015-11 for publication

IEC/TC 29/MT 20

- Review Report for revision of IEC 60118-4 given in doc. 29/765/RR
- First CD 60118-4, doc. 29/766/CD, circulated for comments before 2012-07-27
- Compilation of comments given in doc. 29/785A/CC
- CDV 60118-4, doc. 29/797/CDV, circulated for voting before 2013-07-05
- Result of voting given in doc. 29/819A/RVC, approved
- IEC 60118-4 published 2014-12

IEC/TC 29/WG 21

WI 60318-3 Ed. 2.0: IEC 60318-3 "Electroacoustics – Simulators of human head and ear – Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry" (Revision of IEC 60318-3:1998) (Project leader: Thomas Fedtke, Germany)
- Review Report for revision of IEC 60318-3 given in doc. 29/760/RR
- First CD 60318-3, doc. 29/761/CD, circulated for comments before 2012-07-27
- Compilation of comments given in doc. 29/783A/CC
- CDV 60318-3, doc. 29/796/CDV, circulated for voting before 2013-04-12
- Result of voting given in doc. 29/819A/RVC, approved
- IEC 60318-3 published 2014-12

WI 60318-7 Ed. 1.0: CD/TS 60318-7 "Electroacoustics – Simulators of human head and ear – Part 7: Head and torso simulator for the measurement of hearing aids" (Revision of IEC/TS 60318-7:2011) (Project leader: Utz Richter, Germany)
- DC for revision of TS 60318-7 circulated for comments before 2014-01-17
- Result of comments given in doc. 29/837/INF
- First CD/TS 60318-7, doc. 29/866/CD, circulated for comments before 2015-05-15
- Compilation of comments given in doc. 29/880/CC

- Registered as a PWI after TC 29 decision in February 2014

PWI 29-50: Occluded ear simulators for neonates (Project leader: Dominique Rodriques, France, in cooperation with Richard Barham, UK, and Søren Jønsson, Denmark)
- Registered as a PWI after TC 29 decision in November 2015
PWI 29-51: Amendment "Measurement of sound sources close to the ear" to TS 60318-7 "Electroacoustics – Simulators of human head and ear – Part 7: Head and torso simulator for the measurement of hearing aids" (Project leader: Thomas Fedtke, Germany)
- Registered as a PWI after TC 29 decision in November 2015

IEC/TC 29/WG 22

WI 62489-1 Ed. 1.0: IEC 62489-1:2010 "Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 1: Methods of measuring and specifying the performance of system components" – Amendment 1 (Project leader: John Woodgate, UK)

WI 62489-1 Ed. 1.1: IEC 62489-1:2014 "Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 1: Methods of measuring and specifying the performance of system components" (consolidated version) (Project leader: John Woodgate, UK)
- Review Report for an amendment to IEC 62489-1 given in doc. 29/765/RR
- IEC 62489-1:2010 CD Amendment, doc. 29/779/CD, circulated for comments before 2012-09-07
- Compilation of comments given in doc. 29/793/CC
- IEC 62489-1:2010 CDV Amendment, doc. 29/799/CDV, circulated for voting before 2013-07-12
- Result of voting given in doc. 29/818/RVC, approved
- DC for an additional amendment of IEC 62489-1, given in doc. 29/815/DC, circulated for comments before 2013-07-26
- Result of comments given in doc. 29/820/INF
- Approved to include the additional text in the DC in Amendment 1
- IEC 62489-1:2010 FDIS Amendment, doc. 29/853/FDIS, circulated for voting before 2014-11-14
- Result of voting given in doc. 29/860/RVD, approved
- IEC 62489-1:2010 Amendment 1 published 2014-12
- IEC 62489-1:2014 consolidated version published 2014-12

WI 62489-2 Ed. 2.0: IEC 62489-2 "Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 2: Methods of calculating and measuring the low-frequency magnetic field emissions from the loop for assessing conformity with guidelines on limits for human exposure" (Revision of IEC 62489-2:2011) (Project leader: John Woodgate, UK)
- Review Report for revision of IEC 62489-2 given in doc. 29/800/RR
- First CD 62489-2, doc.29/801/CD, circulated for comments before 2013-05-03
- Compilation of comments given in doc. 29/801/CC
- CDV 62489-2, doc. 29/817/CDV, circulated for voting before 2013-12-06
- Result of voting given in doc. 29/836/RVC, approved
- IEC 62489-2 published 2014-09

Code of practice for audio-frequency induction-loop systems and equipment for assisted hearing (Project leader: John Woodgate, UK)
- Document to inform of intention to prepare a TR, doc. 29/764/INF, circulated 2012-04-27

IEC/TC 29/MT 23

PWI 29-52: IEC 61265 Ed. 2.0 "Instruments for measurement of aircraft noise – Performance requirements for systems to measure one-third-octave-band sound pressure levels in noise certification of transport-category aeroplanes" (Revision of IEC 61265:1995) (Project leader: David Josephson, USA)
- Document for comments, given in doc. 29/678/DC
- Compilation of comments on DC, given in doc. 29/696A/INF
Standards prepared by IEC/TC 29 "Electroacoustics"

IEC 60118-0:2015 Electroacoustics – Hearing aids – Part 0: Measurement of the performance characteristics of hearing aids

IEC 60118-3:1983 Hearing aids – Part 3: Hearing aid equipment not entirely worn on listener


IEC 60118-5:1983 Hearing aids – Part 5: Nipples for insert earphones


IEC 60118-8:2005 Electroacoustics – Hearing aids – Part 8: Methods of measurement of performance characteristics of hearing aids under simulated in situ working conditions

IEC 60118-9:1985 Hearing aids – Part 9: Methods of measurement of characteristics of hearing with bone vibrator output

IEC 60118-12:1996 Hearing aids – Part 12: Dimensions of electrical connector systems


IEC 60118-14:1998 Hearing aids – Part 14: Digital interface


IEC 60263:1982 Scales and sizes for plotting frequency characteristics and polar diagrams

IEC 60318-1:2009 Electroacoustics – Simulators of human head and ear – Part 1: Ear simulator for the measurement of supra-aural and circumaural earphones


IEC 60318-4:2010 Electroacoustics – Simulators of human head and ear – Part 4: Occluded-ear simulator for the measurement of earphones coupled to the ear by inserts

IEC 60318-5:2006 Electroacoustics – Simulators of human head and ear – Part 5: 2 cm³ coupler for the measurement of hearing aids and earphones coupled to the ear by means of ear inserts

IEC 60318-6:2007 Electroacoustics – Simulators of human head and ear – Part 6: Mechanical coupler for the measurement of bone vibrators

TS 60318-7:2011 Electroacoustics – Simulators of human head and ear – Part 7: Head and torso simulator for the measurement of hearing aids


IEC 60645-5:2004 Audiometric equipment – Part 5: Instruments for the measurement of aural acoustic impedance/admittance

IEC 60645-6:2009 Electroacoustics – Audiometric equipment – Part 6: Instruments for the measurement of otoacoustic emissions

IEC 60645-7:2009 Electroacoustics – Audiometric equipment – Part 7: Instruments for the measurement of auditory brainstem responses

IEC 60942:2003 Sound calibrators

IEC 61012:1990 Filters for the measurement of audible sound in the presence of ultrasound

IEC 61043:1993 Instruments for the measurement of sound intensity – Measurement with pairs of pressure sensing microphones

IEC 61094-1:2000 Measurement microphones – Specifications for laboratory standard microphones

IEC 61094-2:2009 Measurement microphones – Part 2: Primary method for pressure calibration of laboratory standard microphones by the reciprocity technique

IEC 61094-3:1995 Measurement microphones – Part 3: Primary method for free-field calibration of Laboratory Standard Microphones by the reciprocity technique


IEC 61094-5:2001 Measurement microphones – Part 5: Methods for pressure calibration of working standard microphones by comparison


TS 61094-7:2006 Measurement microphones – Part 7: Values for the difference between free-field and pressure sensitivity levels of laboratory standard microphones

IEC 61094-8:2012 Measurement microphones – Part 8: Methods for determining the free-field sensitivity of working standard microphones by comparison

IEC 61183:1994 Random-incidence and diffuse-field calibration of sound level meters

IEC 61252:2002 (Consolidated version) Specifications for personal sound exposure meters

IEC 61260-1:2014 Octave-band and fractional-octave-band filters

IEC 61265:1995 Electroacoustics – Instruments for measurement of aircraft noise – Performance requirements for systems to measure one-third-octave band sound pressure levels in noise certification of transport-category aeroplanes

Corrigendum 1 published June 2005
<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS 62370:2004</td>
<td>Instruments for the measurement of sound intensity – Electromagnetic and electrostatic compatibility requirements and test procedures</td>
</tr>
<tr>
<td>IEC 62489-1:2010 Amd 1:2014</td>
<td>Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 1: Methods of measuring and specifying the performance of system components – Amendment 1</td>
</tr>
<tr>
<td>IEC 62489-1:2014 (Consolidated version)</td>
<td>Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 1: Methods of measuring and specifying the performance of system components</td>
</tr>
<tr>
<td>IEC 62489-2:2014</td>
<td>Electroacoustics – Audio-frequency induction loop systems for assisted hearing – Part 2: Methods of calculating and measuring the low-frequency magnetic field emissions from the loop for assessing conformity with guidelines on limits for human exposure</td>
</tr>
<tr>
<td>IEC 62585:2012</td>
<td>Electroacoustics – Methods to determine corrections to obtain the free-field response of a sound level meter</td>
</tr>
<tr>
<td>TR 62809:2013</td>
<td>Summary of requirements and tests to products in the scope of IEC 60601-2-66: Particular requirements for the basic safety and essential performance of hearing instruments and hearing instruments systems</td>
</tr>
</tbody>
</table>
Please accept the following summary of TC87 activities since our liaison report:

**General/Administrative**

TC87 WGs 6, 8, 9, 13 & 14 of TC87 are met in Frankfurt Germany July 7-10 2014.

IEC TC87 held meetings of its working groups and a plenary session in Teddington UK March 9-13, 2015. Details of this meeting are available upon request.

TC87 WGs 3, 6, 7, 8, 9, 14 & 15 are scheduled to meet in Arlington VA, US 7-11 July, 2014. The next full meeting of TC87, its plenary, and working groups will take place in the fall of 2016 in Tokyo Japan at a date still to be determined.

**Documents:**

The following documents have been issued for review and comment by the national committees during the past year.

a. **87/584A/CD** Amendment 2 to IEC 62127-2: Ultrasonics - Hydrophones - Part 2: Calibration for ultrasonic fields up to 40 MHz. Closing date for comments 2015-11-13

b. **87/586/NP** Measurement of ultrasound field parameters at high pressure therapeutic levels in water. Closing date for comments and vote 2015-12-18

c. **87/582/CD** IEC 61391: Ultrasonics - Pulse-echo scanners - Part 1: Techniques for calibrating spatial measurement systems and measurement of point-spread function response. Closing date for comments 2015-12-04

d. **87/574/NP** Ultrasonics - Measurements of electroacoustical parameters and output acoustic power of spherically focusing transducers using self-reciprocity method. Voting has closed.


f. **87/573/CD** IEC 61828: Ultrasonics - Focusing transducers - Definitions and measurement methods for the transmitted fields. Comment period has closed.

g. **87/566/NP** Ultrasonics - Physiotherapy systems - Field specifications and methods of measurement in the frequency range 20 kHz to 0.5 MHz. Voting has closed.

h. **87/561/NP** Measurement and evaluation of the cavitation noise. Voting has closed.

i. **87/560/CD** IEC TS 62462: Ultrasonics - Output test - Guide for the maintenance of ultrasound physiotherapy systems. Comment period has closed.

j. **87/554/DTS** IEC TS 62791: Ultrasonics - Pulse-echo scanners - Low-echo sphere phantoms and method for performance testing of gray-scale medical ultrasound scanners applicable to a broad range of transducer types. Comment period has closed.


m. **IEC TS 62791:2015** Edition 1.0 Ultrasonics - Pulse-echo scanners - Low-echo sphere phantoms and method for performance testing of gray-scale medical ultrasound scanners applicable to a broad range of transducer types. Published 2015-09-08.

Sincerely,

John Abbott, Chairman IEC TC 87
Outline

- IEC Today
- TC29 Updates
- New edition of ISO/IEC Directives
- SMB Key decisions
- Web tools & tips for experts
- Future events
- Q&A

IEC Key figures

- Number of TCs/SCs: 97 + 77 = 174
- Number of WG/PT/MT: 1 305
- Number of experts: over 14 000
- Number of pubs. in catalogue (as of 2014-12-31): 6933 (incl. 6195 IS)
- Number of pubs. issued in 2014: 487 (incl. 418 IS)
- Number of active projects (2014-12-31): 1577
- Average development time (in 2014): 32.5 months

New entities since last TC29 plenary

- **SMB Advisory Committees**
  - **ACSEC**: Advisory Committee on Security (ex ahG 52 Information Security and Data Privacy – SMB Decision 151/8)
  - **ACART**: Advisory Committee on Applications of Robotic Technology, including electrotechnology (ex Strategic Group 7 – SMB Decision 153/8)

- **SMB Strategic Groups**
  - **SG9**: Communication Technologies (ex ahG 55 Needs of the telecommunications sector – SMB Decision 153/11)
  - **SG10**: Wearable Smart Devices (ex ahG 56 Wearable Smart Devices – SMB Decision 153/12)
TC29 Community updates

- Feb’14 TC29 plenary in Pretoria, South Africa
- Apr’15 New Technical Officer (Laurent Mailly)
- Oct’15 New Editor (Naira Coacci)

Status as of Nov’15 (versus last plenary Feb’14)

- 102 Experts (+6)
- 24 P-members (+1)
- 12 O-members (+2)
- New: KR (Nov’14), BR (Dec’14)
- New: BY (Apr’14)
- Ex P-member: RO (Oct’14)
- No Affiliates (=)

TC29 publications - 2014

  Electroacoustics - Audio-frequency induction loop systems for assisted hearing - Part 2: Methods of calculating and measuring the low-frequency magnetic field emissions from the loop for assessing conformity with guidelines on limits for human exposure
  Electroacoustics - Simulators of human head and ear - Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry
  Electroacoustics - Hearing aids - Part 4: Induction-loop systems for hearing aid purposes - System performance requirements
  Amendment 1 - Electroacoustics - Audio-frequency induction loop systems for assisted hearing - Part 1: Methods of measuring and specifying the performance of system components
  Also published as IEC 62489-1:2010+AMD1:2014 CSV Edition 1.1 (2014-12-17)

TC29 publications - 2015

  Electroacoustics - Hearing aids - Part 0: Measurement of the performance characteristics of hearing aids
  Medical electrical equipment - Part 2-66: Particular requirements for the basic safety and essential performance of hearing instruments and hearing instrument systems
  Electroacoustics - Hearing aids - Part 13: Electromagnetic compatibility (EMC)
  Electroacoustics - Measurement of real-ear acoustical performance characteristics of hearing aids

TC29 - IEC CO Team

- Dedicated to TC29
- Nadine Andrey
  Admin. Assistant
  and@iec.ch
- Laurent Mailly
  Technical Officer
  lma@iec.ch
- Naira Coacci
  Editor
  nco@iec.ch
- Common to all committees
  Drafting & editing
  editing@iec.ch
  Layout & formatting
  layout@iec.ch
  Graphics & figures
  figures@iec.ch
  Terms & definitions
  terminology@iec.ch


Key updates (extract)

1.8.1 - Appointment of TC & SC Chairs
  "...max terms of office 6 + 3 years...

1.12.1 - WG convenors
  "...to be reappointed after 2 years; no limit in terms number..."

3.2 - Public Available Specifications (PAS)
  "...Competing PAS offering different technical solutions are possible provided that they do not conflict with existing International Standards..."

...as well as

1.9.2 - Secretary responsibilities
1.12.6 - Joint Working Groups
1.17.x & Annex B - Liaisons
2.1.6 - Target dates ("...no more guidance figures..."

3.1 - Technical Specifications (TS)


Key updates (extract)

Modified clauses

2.3.4 - Justification statement when voting negatively on an NP
  "...National bodies shall provide a justification statement when voting negatively on an NP. In the absence of such a statement, the negative vote of a national body will not be registered and considered..."

E.3.1 - Preparation of French versions of documents
  (Please refer to redline version for changes)

New clause

Annex SP (normative) “Systems standardization”
SMB Additional main decisions (1/2)

SMB 153/3 - Appointment of TC/SC Chairs
• If the nomination for Chair is from the same country than that of the Secretariat, this latter should provide additional justification supporting the reasons behind the decision
• When multiple candidates are nominated, a secret ballot (questionnaire) is sent to the P-Members of the TC/SC

SMB 153/4 - Non-participating TC/SC P-Members
• Before each TC/SC meeting, the IEC CO should produce a list of participation with indications of active or inactive participation; other than exceptions agreed during the meeting, cases of inactive participation would result in the NC concerned being classed as an O-member

SMB Additional main decisions (2/2)

SMB 154/12 – Use of CD
• The submission of comments on a CD shall be a requirement for P-members
  • In the case of an NP which includes a complete draft, it is expected that technical comments are made on the draft at the same time as submission of the NP vote, the whole objective of having a draft submitted with the NP being to skip the CD stage

SMB 154/13 – Voting periods (Note: effective as of 2016-01-01)
• NP stage: default 12 weeks (no change)
  • Exceptionally, when there is only an outline to review and where an existing group is effectively making the proposal, the TC/SC officers, in consultation with the proposer and the CO, may propose a 4 weeks NP vote.
• CD stage: 8, 12 and 16 weeks (no change).
• CDV stage: 12 weeks (no change), 5-month alternative dropped
• FDIS stage: shortened to 6 weeks (instead of current 8)

IEC - Code of conduct

Provides guidance on the following topics:
- Conduct in meetings
- Conduct on electronic social media
- Anti-trust, anti-competition issues
- Patent rights
- Copyright issues

http://www.iec.ch/conduct

IEC - Making the business case

• Refer to AC/28/2015 (published 2015-10-23)
  • http://www.iec.ch/businesscase

• Purpose
  • To provide experts with tools to explain the advantages of their active participation in standardization
  • To ease understanding and support of their management

Web tools for IEC experts

http://www.iec.ch/tools
• Expert Management System
• Meeting Registration System
• Collaboration Tools
• MyIEC
• MyNewDocs
• …

Collaboration Tools

SMB Decision 142/19, on the use of IEC Central Office IT Tools at the WG level:
“TC/SC secretaries and WG convenors shall ensure that as a minimum all meeting notices, agendas and reports are posted on the IEC Collaboration Tools Server”
See AC 2, 2012
myIEC – Your customized homepage

NewDocs – Customizing notifications

IEC General Meetings

- **2016-10-10/15** - IEC GM 2016
  - Frankfurt, Germany
- **2017-10-09/13** - IEC GM 2017
  - Vladivostok, Russia
- **2018-10-22/26** – IEC GM 2018
  - Busan, Korea

Thank you. Questions?

Laurent Mailly
Technical Officer
IEC Central Office
ANNEX D

DAY REPORT
from the meeting of IEC/TC 29/MT 4 "Sound level meters"
Monday 16 (p.m.) and Tuesday 17 November 2015
in Paris, France

Participation

Members:
Mr P Hanes  Convenor, Canada
Mr E Aflalo  France
Mr I Bork  Germany
Mr J Casamajo  Spain (Tuesday only)
Mr K Cox  USA
Ms S Dowson  UK
Mr J-N Durocher  France
Mr J Gramtorp  Denmark
Mr M Ohya  Japan
Mr D Rodrigues  France (Monday only)
Mr C Walber  USA

Observers:
Mr P Cellard  France (Monday only)
Mr T Groß  Germany
Mr U Mehr  Denmark

1. Opening
The meeting opened with thanks to the AFNOR and to the French National Committee for hosting and arranging the meeting.

2. Proposal from ISO/TC 43/SC 1 “Noise” on multi-channel instrumentation
The Secretariat of TC 29 had forwarded a request from ISO/TC 43/SC 1 for the development of a document on computer-based multi-channel instrumentation in co-operation with ISO/TC 43/SC 1. The various considerations raised in the request were discussed in detail on Monday afternoon. Although IEC 61672 includes provisions for multi-channel instrumentation, the main problems with the use of the standard appear to arise from the use of instruments that are based on universal computer systems or are constructed from components from different manufacturers or both.

MT 4 recommends two activities to address the proposal:

i) a new standard to address computer-based and hybrid instruments (to be prepared by MT 4 or by a new collaborative working group as appropriate), and

ii) advice from TC 29 on the content of the ISO/TC 43/SC1 guide for drafting instrumentation requirements (which the convenor volunteered to co-ordinate).

There was some related informative discussion of the provision and adoption of the WELMEC 7.2 Software Guide (which provides guidance on the application of the EU Measuring Instruments Directive), and a recommendation that IEC Central Office investigate how various TCs are dealing with the implementation of this Software Guide.
3. IEC 61672 "Sound level meters"

It was reported that IEC 61672 had been adopted with minimal changes by the USA. The convenor reported that a few questions on interpretation of the requirements of IEC 61672 had been received from IEC Central Office and responded to.

WG 5 has responded to a request from MT 4 regarding uncertainties in differences between free-field and pressure sensitivity levels of laboratory standard microphones: a review of the values requires an interlaboratory comparison and therefore will not be possible in the short term.

In common with other standards in TC 29, there remains the possibility that an amendment to EMC requirements in IEC 61672 will be recommended by MT 18.

4. IEC 61252 "Specifications for personal sound exposure meters"

Project Leader Philip Battenberg has stepped down from this role and the convenor has taken on responsibility for production of a first Working Draft. Unfortunately, a draft was not ready for discussion at this meeting, but on Tuesday morning some unresolved technical issues were discussed. It was resolved that directional response will be added to the list of specifications and will be tested as part of pattern evaluation but not during periodic verification. Some members kindly volunteered to respond to a likely request from the convenor for information about practicable acoustical tests that will be required for the revised standard.

It was agreed that the convenor will circulate a Working Draft by the end of March 2016 with a request for comments to be returned by the end of June 2016 so that a further draft can be prepared and reviewed in time for consideration at the next meeting of MT 4.

5. Support for TC 29 Strategic Business Plan

The Stability Dates of all three Parts of IEC 61672 were reviewed: it was agreed that the dates should be changed from 2016 to 2018 unless MT 18 reports that an amendment to EMC specifications is required. The Stability Date of IEC 61252 was reviewed and it was agreed that it should be changed from 2016 to 2017 unless MT 18 reports that an amendment to EMC specifications is required.

The impact of new technologies was reviewed and the trend towards computer-based instrumentation, as recognized in the discussion of the request from ISO/TC 43/SC1, was recognized. Changes in microphone technologies have been recognized and can be addressed by permitting the use of integrated microphones in our documents.

Suggestions for new guidance documents within TC 29 were requested, but none were received.

Members were reminded to contribute to the Secretariat's initiative to publish a list of documents that promote awareness of the work of MT 4 and other activities within TC 29. Potential approaches to increase participation in MT 4 and the attendance at meetings were discussed.

6. Next meeting

The time and place of the next meeting of MT 4 is planned to coincide with the next meeting of TC 29 in the first half of 2017.
ANNEX E

DAY REPORT

from the meeting of IEC/TC 29/WG 5 "Measurement microphones"

Thursday 19 November 2015
in Paris, France

Participation

Members:
Mr R Barham  Convenor, UK
Mr J Casamaro  Spain
Mr B. Figueroa  Denmark
Mr T Fedtke  Germany
Mr C Guglielmone  Italy
Mr P Hanes  Canada
Mr U Mehr  Denmark
Mr D Rodrigues  France
Mr E Sandermann Olsen  Denmark
Mr Z Soares  Brazil
Mr C Walber  USA

Observers:
Mr I Bork  Germany
Mr R Nel  South Africa
Mr T Groβ  Germany

Apologies were received from Mr R Horiuchi, Mr C Struck, Mr A Konkov, Mr A Vishniakov, Mr O Bjer, and Mr L Wu.

1. Opening of the meeting

The meeting was opened at 09:00 and the members and observers welcomed by the convenor.

A tribute was paid to the past contributions of Dr Victor Nedzelnitsky to the work of WG05.

Membership of WG05 was reviewed and the draft agenda was approved.

2. Review of status of 61094-5 "Electroacoustics – Measurement microphones – Part 5: Methods for pressure calibration of working standard microphones by comparison"

Project leader: Mr R Barham

A CDV was circulated in June and received a 100% positive vote with comments in September. WG05 reviewed and resolved these comments, and has begun to prepare a new layout together with responses to the comments received. This will be passed to the Secretariat in Dec-15 together with a recommendation to proceed directly to publication.


Project leader: Mr S Barrera-Figueroa

A CDV was circulated in July and received a 100% positive vote with comments in October. WG05 reviewed and resolved these comments, and has begun to prepare an updated layout together with responses to the comments received. This will be passed to the Secretariat together in Jan-16 with a recommendation to proceed directly to publication.
4. Discussion of the proposed revision of IEC 61094-4 "Electroacoustics – Measurement microphones – Part 4: Specifications for working standard microphones"
Project leader: Mr E Sandermann Olsen

The working group reviewed the list of new or revised requirements for including in a revision of this document. These include:

- Whether the document actually covers devices operating with non-electrostatic transduction mechanisms, as currently stated in the scope; and whether the scope and/or the specifications need revision.
- Specification of microphone configurations where the body and the protection grid have the same diameter.
- Specification for eighth-inch microphones and the associated ground-shield configuration.
- Further specification of the grid configuration for compatibility with sound calibrators and inclusion of the concept of insertion depth.
- Specifications covering combined microphones and preamplifiers where they cannot be separated.
- Consideration of the need to specify tolerances for the frequency response, and the consequences for P, F and D designations.

It was agreed that a first working drafts of a revised document would be prepared to see how these issues might be integrated into IEC 61094-4. It was not anticipated that a CD would be available before the next planned meeting of TC29.

Erling Sandermann Olsen kindly agreed to be the project leader.

5. NWIP on calibration methods for measurement microphones at infrasound frequencies

Ingolf Bork and Thomas Fedtke presented some research in progress at PTB, Germany to implement and develop a method of microphone calibration based on the dependence of atmospheric pressure with height. Accordingly, a sound pressure can be simulated by cyclically changing the height of the microphone under test. Some initial results were presented, and WG05 was informed that a journal paper was in preparation.

The ultimate plan for a document in the IEC 61094-series was discussed and a Technical Report (TR) was thought to be the most appropriate type of publication. This may also include other method of infrasound calibration such as calculable pistonphones (e.g. laser pistonphones) that exist at a number of institutes. However, the project is still in the pre-normative research phase and no plans were made to begin work on such a document.

6. Review of the maintenance cycle for WG 05

The following new stability dates were agreed for documents in the 61094-series.

<table>
<thead>
<tr>
<th>Publication Number</th>
<th>Publication Date</th>
<th>Present SD</th>
<th>New SD</th>
<th>MT/WG</th>
<th>Project in progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 61094-1 Ed. 2.0</td>
<td>2000-07-20</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-2 Ed. 2.0</td>
<td>2009-02-20</td>
<td>2015</td>
<td>2016</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-3 Ed. 1.0</td>
<td>1995-11-16</td>
<td>2015</td>
<td>2015</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-4 Ed. 1.0</td>
<td>1995-11-16</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-5 Ed. 1.0</td>
<td>2001-10-16</td>
<td>2015</td>
<td>2015</td>
<td>05</td>
<td>Layout for Ed. 2 in preparation with SD of 2018</td>
</tr>
<tr>
<td>IEC 61094-6 Ed. 1.0</td>
<td>2004-11-10</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-8 Ed. 1.0</td>
<td>2012-09-19</td>
<td>2016</td>
<td>2018</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC/TS 61094-7 Ed. 1.0</td>
<td>2006-05-22</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
</tbody>
</table>
7. Open discussion topics

The following topics were discussed to assist planning the next phase of new and revised documents for consideration by WG05.

(a) Heat conduction theory for plane wave couplers
Mr Sandermann Olsen presented an update on a detailed study of the heat conduction theory used in pressure reciprocity calibration. There has been a long standing debate on this, but recent progress finally appears to be heading towards a resolution. This matter is one of a number of issues that have been identified with IEC 61094-2, but is probably the most urgent. While these other matters need more time for investigation, any new heat conduction model will need to be introduced into IEC 61094-2 at the earliest opportunity, perhaps via an amendment to Ed. 2.

WG05 will therefore await publication of details of the new model and initiate such an amendment as appropriate.

(b) Diffuse-field calibration of microphones
A general discussion took place on the various experiences and capabilities that exist for diffuse-field and random incidence calibration. It was agreed that while diffuse-field reciprocity is well described in theory, and has been demonstrated in practice, an alternative approach of determining the on-axis free-field sensitivity and the directivity response generally yields a reference microphone with lower measurement uncertainty. Nevertheless, having data from both methods (and other methods) provides a means of validation, and can address the question of whether the random incidence response is equivalent to the diffuse field response of a microphone.

A more general question about the need for a standard in the IEC 61094-series was also discussed. The consensus was that there is currently little demand from users, despite the opinion that there should be. Users seem content to use data from the microphone manufacturers in combination with an electrostatic actuator response. However, this practice placed greater onus on manufacturers to provide quality assured data, which provides alternative justification for standardised measurement requirements.

It was therefore decided to prepare a document outlining the current needs and potential technical approach, noting that IEC 61183 provides a good starting point for a standard on diffuse field microphone calibration. Other needs may come from IEC 61672-series and ISO standards on sound power measurement. Salvador Barrera-Figueroa agreed to prepare this document. WG05 will then review and make a decision about a new PWI before the next meeting of TC29.

(c) Calibration of digital microphones
Microphones that produce a native digital stream as an output rather than an analogue voltage, present new challenges to calibration. Not least because such microphones may not conform to the current specifications for working standard devices. However little is currently known within WG05 about such microphones. Answers to key questions such as:

- what is available or likely to become available?
- who produces such devices?
- who uses them?
- what they are used for?
- what the calibration requirements are?

are virtually unknown within the WG.

Richard Barham will therefore undertake a scoping study and prepare a document to guide WG05 on the future direction of this topic. It was also noted that this project has strong synergy with other digital sensor technologies, including accelerometers, position transducers and actuators, temperature and pressure probes and rotational motion sensors, and that digital audio experts from IEC TC100 may be able to offer advice.

(d) Handbook of measurement microphones
Richard Barham made a proposal to revise the "AIP Handbook of condenser microphones", first published in 1997. This is not an IEC activity but the book is strongly connected to the 61094-series of standards. The
current edition is widely cited in articles concerning measurement microphones, but is now outdated and does not for example reflect current best practice as documented in IEC standards.

WG05 were of the general opinion that a new edition would be worthwhile, but had some concerns over resourcing. Nevertheless, Richard Barham undertook to prepare a chapter outline and seek potential authors to develop these. He also offered to act as the editor should the project go ahead.

8. New technologies and market requirements likely to impact the work of WG05

Many of the discussion topics above are connected with new technologies or market developments. In addition WG05 discussed:

- Optical calibration techniques
- MEMS microphones with analogue or digital output
- Calibration methods appropriate for the measurement of impulsive or high sound pressure level sources
- Traceability for infrasound measurement (e.g. wind turbine installations, blast quarrying)

9. Awareness of new and revised standards, and the work of TC 29, through internationally and nationally available channels such as professional bodies, conferences and journal papers

A number of activities have already been documented. The proposal to start work on a handbook of measurement microphones also represents a significant dissemination activity.

Chad Walber also mentioned his presentations on microphone calibration for the International Modal Analysis Conference (IMAC). Salvador Barrera-Figueroa and others also organise regular structured sessions at the International Conference on Noise Control Engineering (Internoise).

10. Other business

No other matters were raised

11. Date and place of next meeting

It was agreed that the proposed work for the immediate future could be handled by email correspondence, and that the video conferencing facility could be used if necessary.

The next meeting of WG05 will therefore be held in conjunction with the next TC29 meeting.

The meeting closed at 15:45.
DAY REPORT

from the meeting of IEC/TC 29/WG 10 "Audiometric equipment"

Wednesday 18 November 2015
in Paris, France

Participation

Members:
Mr E Nielsen  Convenor, Denmark
Mr R. Barham  UK
Mr T Fedtke  Germany
Mr G. Frost  UK
Mr R. Grason  USA
Mr H. Husstedt  Germany
Mr L.H. Jensen  Denmark
Mr A. Narang  India
Mr R. Rohweder  Germany
Mr Z.M.D. Soares  Brazil
Mr M. Tateno  Japan
Mr J. Øygarden  Norway

Observers:
Mr Y. Fujisaka  Japan

1. Opening

The meeting was opened at 9:00 by the convenor.

2. Approval of the draft agenda

A revised agenda was presented at the meeting. Two items, requested by the TC 29 Strategic Business Plan, had been added to the agenda concerning discussion of new technologies or market trends that could affect the work of the working group, and a discussion of how we can raise the awareness of new and revised standards.

The revised agenda was approved.

3. Membership of WG 10

There are at present 19 members of the working group but only very few with experience of the clinical use of the devices, and the group was, therefore, encouraged to find possible candidates with this kind of knowledge.

4. Approval of the notes from the last meeting doc. WG 10(Laukli)171

The notes from the last meeting in Pretoria were reviewed and approved.

5. Discussion on the result of voting of CDV 60645-1 "Electroacoustics – Audiometric equipment – Part 1: Equipment for pure tone and speech audiometry"

The project leader Rufus Grason had reviewed the comments received on the CDV and had suggested answers to most of them. Open comments, which needed further discussions and decisions by the group, were settled at the meeting, and a new WD will be prepared and circulated before the end of the year.

Comments to the WD will then be addressed before an FDIS is submitted in the beginning of 2016. It is the aim to have the revised standard published in 2016.
6. Discussion on the possible revision of IEC 60645-3 "Electroacoustics – Audiometric equipment –
Part 3: Test signals of short duration"

The project leader, Thomas Fedtke, reported that very little progress had been made since the last meeting.

The working group, however, still felt there is a need to revise the standard as new signal types are being used. This was confirmed by Thomas Fedtke, who presented some of these signals. In ISO/TC 43 "Acoustics", a revision of ISO 389-6 has commenced and it was decided that the development of a new IEC 60645-3 and ISO 389-6 should happen in parallel.

The scope of the revised IEC 60645-3 will then be the signals for which the ISO group will present normative data. Since Thomas Fedtke is a member of both the ISO working group and WG10, he will function as liaison between the two.

7. Discussion of possible revision of IEC 60645-6 "Electroacoustics – Audiometric equipment – Part 6: Instruments for the measurement of otoacoustic emissions" and IEC 60645-7 "Electroacoustics –
Audiometric equipment – Part 7: Instruments for the measurement of auditory brainstem responses" in order to include them in the Official Journal

The project leader Erik Nielsen reported that very little progress had been made since 2013. A presentation was made on the Official Journal (OJ) and its relation to the European medical device directive (MDD). The presentation showed that the focus of the MDD, which is to ensure the safety of medical devices during design and manufacturing, does not align with the focus of the IEC 60645 series, which is to ensure a minimum set of features and appropriate accuracy of the devices.

It was, therefore, decided to terminate the work on the two PWI's.

8. Review of the stability dates for the standards under the responsibility of WG 10

The following stability dates were set:

IEC 60645-1:2015
IEC 60645-2:2015
IEC 60645-3:2017
IEC 60645-5:2017
IEC 60645-6:2017
IEC 60645-7:2017

9. Discussion of new technologies or market trends that could affect the work of WG 10

A number of items were identified:
- New ABR stimuli are being used that could affect IEC 60645-7.
- Wide Band Tympanometry is being used that could affect IEC 60645-5.
- The growing number of combination instruments could challenge the current standards.
- Remote audiometry may also affect the current standards.

No new PWIs were suggested.

10. Awareness of new and revised standards

It was discussed if and how standards were promoted and some of the delegates were actually using them or referring to them in training sessions. They are also frequently used in guidance documents such as British Society of Audiology’s series of best practice documents.

11. Date and place of next meeting

WG10 will meet again at the next TC 29 meeting.

12. Closing of the meeting

The meeting was closed at 14:30.
DAY REPORT

from the meeting of IEC/TC 29/WG 13 "Hearing aids"

Monday 16 (p.m.) and Tuesday 17 (a.m.) November 2015
in Paris, France

Participation

Members:
Mr G. Ravn   Convenor, Denmark
Mr G. Frost   UK
Mr Y. Fujisaka   Japan
Mr A. Gebert   Germany
Mr J. Itin   Switzerland
Mr V. Toch   France
Mr H. Hunsstedt   Germany
Mr P. Kvist   Denmark
Mr H.O. Bindeballe   Denmark
Mr M. Tateno   Japan   (Tuesday)
Mr M. Vlaming   Netherlands
Mr D. Preves   USA
Mr R. Rohweder   Germany
Mr Z. M. D. Soares   Brazil
Mr A. Narang   India
Mr M. Wille   Denmark   (Monday)
Mr J. Øygarden   Norway

Observers:
Mr T. Fedtke   Germany   (Monday)
Mr L. Junghak   S Korea   (Monday)
Mrs K. Jinsook   S Korea   (Monday)
Mr S. Jønsson   Denmark   (Monday)
Mr B. Pilloni   Denmark

Apologies:
Mr D. Lommel   Germany
Mr B. Cole   Canada
Mr O. Dyrlund   Denmark
Mr C. Struck   USA

1. Opening of the meeting

The convenor opened the meeting and welcomed the participants.

2. Approval of the revised draft agenda, doc. WG 13(Secretariat)293

The agenda was approved.
3. Membership of WG 13

Since the last meeting there has been the following change of membership of WG 13:

Alok Narang, India – new member
Hendrik Hussledt, Germany – new member

In total WG 13 now counts 35 experts.

4. Note of the minutes from the last meeting, doc. WG 13(Ravn)283

No comments had been received on the report from the last meeting, 2 February 2015 in Denmark, which had, therefore, been approved.

5. Status of documents

The convenor gave the following status of documents not on the agenda for this meeting:


6. Discussion of DTS 62886 "Hearing aids – Method for measuring electroacoustic performance up to 16 kHz"

The project leader, Anton Gebert, had prepared proposal for an updated document, given in doc. WG 13(Gebert)290.

The project leader reviewed the background for the proposal and presented the updated document. It was recognized that the present document is mainly an instrumentation specification, although some measurements part on hearing aids are described.

A detailed discussion took place, and a number of decisions were taken, based upon which the project leader would prepare a revised text for a final layout.

It was agreed that the description and further development of a possible standard for the 0,4 ccm coupler should be handed over to WG 21.

DECISION: The project leader to prepare a final layout for a DTS before 31 December 2015.

ACTION: Anton Gebert.

7. Discussion of requirements related to wireless devices

Jonathan Itin presented an overview of requirements related to wireless devices, and the WG discussed the implications of the adoption of IEC 60601-1-2 requirements into IEC 60118-13.

The updated IEC 60118-13 is now in FDIS circulation and reflects the decision originally taken during the development of IEC 60601-2-66 to cover all EMC aspects relevant for hearing aids by reference to IEC 60118-13.
There was consensus in the WG that only standardization regarding electroacoustic aspects and EMC can be handled within TC 29, and radio parameters and generic regulations for wireless radio transmitters and receivers are not within the scope of WG 13.

Therefore, it was agreed that the original intentions of covering all aspects of wireless hearing aids by IEC 60601-2-66 and IEC 60118-13 cannot be fulfilled. As a consequence, it was decided that new updated versions of IEC 60601-2-66 with reference to IEC 60601-1-2 and revised text regarding hearing aid essential performance and IEC 60118-13 with criteria for IEC 60601-1-2 should be prepared.

It is the intention that updated version of IEC 60601-2-66 and IEC 60118-13 can be released in 2017 when current versions reach stability date.

DECISION: Jonathan Itin will prepare a working draft for updated version of IEC 60601-2-66 for circulation in WG 13 for comments before 31 May 2016.

ACTION: Jonathan Itin.

DECISION: Gert Ravn will prepare a working draft for updated version of IEC 60118-13 for circulation in WG 13 for comments before 31 May 2016.

ACTION: Gert Ravn.

8. Various requirements with regard to signal processing in hearing aids

A short presentation prepared by Dietmar Lommel was presented by Anton Gebert, Hendrik Husstedt and Reimar Rohweder. A brief discussion took place on the possibilities to standardize documentation measurement on hearing aid features like feedback and noise suppression.

It was decided that for the time being no initiatives will be taken in the WG but the on-going work in Germany and USA will be followed.


Due to the release of new IEC 60118-0 which includes parts 1, 2 and 6 the amendment to previous part 2 has no reference any more. The WG discussed the contents and use of IEC 60118-2 Amd 2 and agreed that it was not in use. A possible solution of integrating the contents into IEC 60118-15 was disregarded due to the fact that the test signal in IEC 60118-2 Amd 2 is not speech-like with respect to modulation but only with respect to spectral contents.

DECISION: PWI 29-43, Revision of IEC 60118-2 "Hearing aids – Part 2: Hearing aids with automatic gain control circuits" – Amendment 2 should be withdrawn.
10. Review of the Stability Dates for standards under the responsibility of WG 13

Gert Ravn presented a table showing the standards with responsibility of WG 13. The WG discussed the contents and agreed to the following.

<table>
<thead>
<tr>
<th>Publication</th>
<th>Present SD</th>
<th>New SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 60118-0 Ed. 3.0</td>
<td>2015-06-09</td>
<td>2018</td>
</tr>
<tr>
<td>IEC 60118-05 Ed. 1.0</td>
<td>1983-01-01</td>
<td>2015</td>
</tr>
<tr>
<td>IEC 60118-07 Ed. 2.0</td>
<td>2005-10-21</td>
<td>2015</td>
</tr>
<tr>
<td>IEC 60118-08 Ed. 2.0</td>
<td>2005-10-19</td>
<td>2015</td>
</tr>
<tr>
<td>IEC 60118-09 Ed. 1.0</td>
<td>1985-01-01</td>
<td>2015 Update version based on IEC 60118-0.</td>
</tr>
<tr>
<td>IEC 60118-12 Ed. 1.0</td>
<td>1996-10-09</td>
<td>2015 Ed. 4.0 in preparation. SD: 2017. New ed. 5 to be prepared for 2017.</td>
</tr>
<tr>
<td>IEC 60118-13 Ed. 3.0</td>
<td>2011-04-11</td>
<td>2015 Note: references version 1 – will be updated for version 3.</td>
</tr>
<tr>
<td>IEC 61669 Ed. 2.0</td>
<td>2015-11-14</td>
<td>2020 New ed. 3 to be prepared for 2017</td>
</tr>
<tr>
<td>IEC 60601-2-66 Ed. 2.0</td>
<td>2015-06-26</td>
<td>2017</td>
</tr>
<tr>
<td>IEC/TR 62809 Ed. 1.0</td>
<td>2013-01-29</td>
<td>2015 Note: references version 1 – will be updated for version 3.</td>
</tr>
</tbody>
</table>

It was agreed to update the IEC 60118-9 standard for hearing aids with bone conductor output based on the structure of the newly released IEC 60118-0. Marcel Vlaming accepted to take the role of project leader for the update.

DECISION: Marcel Vlaming to prepare a working draft for updated version of IEC 60118-9 for circulation in WG 13 for comments before 31 May 2016.

ACTION: Marcel Vlaming.

11. Any other business

Attention was drawn to the fact that the reference in IEC 60601-2-66 regarding powerful hearing aids having output larger than 132 dB SPL in version 1 was IEC 60118-7 but in version 2 it is IEC 60118-0.

The change in reference is due to the fact that the updated version of IEC 60118-0 uses the 2cc coupler for output measurements and therefore the change is OK.

12. Date and place of next meeting

It was decided that the next meeting of WG 13 would take place in Copenhagen on 22 September 2016 with the purpose of preparing CD versions of IEC 60118-9, IEC 60118-13 and IEC 60601-2-66.

The CD versions can then be ready for circulation in due time before the next meeting of TC 29 which will take place in the first half of 2017.

13. Closing of the meeting

The meeting on Monday was closed at 17 h 00, and the meeting on Tuesday was closed at 12 h 00.
DAY REPORT
from the meeting of IEC/TC 29/MT 17 "Sound calibrators"
Wednesday 18 November 2015
in Paris, France

Participation

Members
Ms S Dowson  Convenor, UK
Mr S Barrera-Figueroa  Denmark
Mr I Bork  Germany
Mr J Casamajo  Spain
Mr K Cox  US
Mr C Guglielmine  Italy
Mr J Gramtorp  Denmark
Mr P Hanes  Canada
Mr U Mehr  Denmark
Mr R Nel  South Africa
Mr M Ohya  Japan
Mr D Rodrigues  France
Mr E Sandermann Olsen  Denmark
Mr R Tyler  UK (part meeting)
Mr C Walber  US

Observers
Mr T Groß  Germany (part meeting)

1. Opening of the meeting and roll call of members

The Members were welcomed by the Convenor, and introductions performed. Apologies were received from Mr O-H Bjor, Mr F Chinchurreta, Ms D Dobrowolska, Mr C Hof, Mr A Konkov, Mr Y Kurilenko, Mr A Vishnyakov and Mr D Wallis.

2. Agenda

The proposed Agenda was accepted by the MT, with no changes/additions.


The comments submitted on the circulated CD, as well as a few others raised at the meeting, were all fully discussed by the MT and Observations agreed. This CD had been produced to include Observations agreed previously by correspondence on a circulated 2WD document within the MT.

The key points following discussion were to remove class LS/C as it was felt that the only class LS devices requiring corrections for ambient pressure should be pistonphones which are designated as class LS/M. This will be clarified by addition of a definition of pistonphone in the document. It was also decided to retain the ambient pressure range for periodic testing from Edition 3 and to require the use of a pressure chamber if necessary to meet these limits, to ensure meaningful tests to the standard are made. However the upper relative humidity limit will be raised for periodic testing.
Detailed specifications on physical dimensions and sealing has been removed and replaced with a more general statement, although it is expected this will be re-introduced in a future Edition in a few years’ time, following the conclusion of work within WG5 on updating their document on working standard microphones.

The MT confirmed its previous decision not to produce an OIML Pattern Evaluation Report template. The main reasons were the lack of take-up of the Report contained in Edition 3, and members could not see the value of adding pages to the text (also increasing the cost of the standard) for a report that will most likely be generated in Word or Excel.

4. **Next stage for the document**

The Convenor will update the text and provide a 2CD to IEC Central Office by the end of February 2016 at the latest. It is hoped, depending on successfully addressing by correspondence any comments received, it will be possible to produce a CDV in time for the comments to be received prior to the next MT meeting.

5. **Review of stability dates for documents under MT 17**

The current stability date for IEC 60942:2003 ‘Sound calibrators’ is 2016. It was decided to leave this unchanged.

The current stability date for IEC 62585 “Methods to determine corrections to obtain the free-field response of a sound level meter” is 2015. It was decided to change this to 2017.

6. **Strategic Business Plan requirements**

   a) **Discussion of any new technologies or market requirements**

      It was noted that sometime in the future it is likely a product will be required to allow more acoustical testing of sound level meters and personal dosemeters, including those with integral microphones.

   b) **Need for any additional TC 29 guidance documents**

      No further Guidance Notes were requested at this time.

   c) **Raising awareness of the work of TC 29**

      It was recognised that work does go on to raise awareness of the standards produced by IEC/TC 29. This is mostly via individuals through papers and presentations, and in some countries through collaboration between National Committees working closely with National Metrology Institutes to promote the standardisation process, standards and metrology.

      However the MT would like to ask the IEC Technical Officer whether IEC has funds for raising awareness of standards, and if so whether some of this can be accessed by TC 29.

7. **Any other business**

None.

8. **Date and place of the next meeting**

It was agreed that the next meeting of MT17 will be held in conjunction with the next Plenary meeting of TC 29, currently expected in the early part of 2017.
ANNEX I

DAY REPORT

from the meeting of IEC/TC29/MT 18 "EMC requirements and updates of relevant IEC/TC 29 standards"

Thursday 19 November 2015 (a.m.)
in Paris, France

Participation

Members:
Mr R. Tyler, Convenor, UK
Mr J. Casamajo, Spain
Mr M. Ohya, Japan

Observers:
Mr Y. Fujisaka, Japan
Mr T. Groß, Germany
Mr A. Narang, India
Mr E. Nielsen, Denmark

1. Opening of the meeting and roll call of members

The Members were welcomed by the Convenor, and introductions performed. Apologies were received from Mr O-H Bjor.

2. Agenda

The proposed Agenda was accepted by the MT, with no changes/additions.

3. Discussion of Japanese proposal for inclusion of alternative test method for EM susceptibility

Following a request at the last IEC/TC29 meeting in Pretoria, the Japanese committee had proposed a change in the method of testing for Electromagnetic Susceptibility in the range 26 – 80 MHz. This was formalised in a document “Proposal of alternative method of radio frequency field test” sent to MT 18 on 26 July 2015, and which was discussed in some detail at the meeting.

The proposal that the use of Transverse Electromagnetic (TEM) waveguides, as defined in IEC 61000-4-20:2010 contained in the Japanese proposal as an alternative to the methods currently specified in a number of IEC/TC29 standards was accepted unanimously. This will require an Amendment to the following TC29 documents:

- IEC 61252
- IEC 61260-2
- IEC 61672-2
- IEC 62370

The current revision of IEC 60942 will also require a change in the same way, but as this is still at CD stage, the change will be incorporated in the current CD revision underway.
4. **Next stage**

Text of the required additional test method was agreed, and the Convenor has provided the required changes in the text that follows this report. This will have to be circulated as a CDV for each Standard Amendment by the secretariat as soon as is practical.

5. **Review of stability dates**

Depending on the outcome of the voting on the CDV, it is hoped that each Amendment can proceed to publication, subject to when Stability dates allow.

6. **Strategic Business Plan requirements**

a) Discussion of any new technologies or market requirements

It was noted that sometime in the future it is likely that the requirements for field strength at frequencies above 2 GHz will need to be increased. At present, MT18 has followed the generic EMC requirements in IEC 61000-6-1 and -2, which specify a field strength of 1V/m for this range of frequencies. There was suggestion that 5V/m would be more appropriate with the introduction of 4G and 5G mobile phones, but as yet there is no evidence that this change is necessary, and it is considered an issue for the future when evidence of its need may be available or if IEC 61000-6-1 & -2 are revised in this area of specification.

b) Need for any additional TC29 guidance documents

No further Guidance Notes were requested at this time.

c) Raising awareness of the work of TC29

No suggestions were made.

7. **Any other business**

None.

8. **Date and place of the next meeting**

No further meetings were scheduled, as is usual with this MT. If assistance with EMC matters is requested, or there is further discussion needed on the proposed Amendment that was agreed at this meeting, it will be scheduled in conjunction with the next TC29 meeting.
IMPLEMENTATION OF PROPOSED AMENDMENTS

The following Standards in their latest versions will require amending:

IEC 61252
IEC 61260-2 (awaiting publication)
IEC 61672-2
IEC 62370

In each of these documents the following standard will need to be added to those already cited


The following text should be added as detailed below:-

An alternative test method using Transverse Electromagnetic (TEM) waveguides may be employed for immunity testing. The requirements for the TEM waveguide are specified in IEC 61000-4-20, and Annex B of IEC 61000-4-20:2010 defines methods of implementing the testing. The performance requirements for the instrument under test are unchanged including the range of frequencies tested and step size.

This text will need to be added as follows:

- IEC 61252 – Para. 15.5.4.6 following on from existing text.
- IEC 61260-2 – Para. 8.3.4.1 following on from existing text.
- IEC 61672-2 – Para. 7.10.3.1 following on from existing text.
- IEC 62370 – Para. 5.4.1 following on from existing text.

The Standard reference and the text also need adding to the 2CD of IEC 60942 Ed. 4 in preparation. In the 1CD the text needs to be added to both Para. 5.9.4.4 and repeated in para. A.6.4.1, following on from existing text in both cases, although a way of avoiding the repetition may be possible.
ANNEX J

DAY REPORT

from the meeting of IEC/TC 29/MT 20 "Induction loop systems"

Wednesday 18 (p.m.) November 2015
in Paris, France

Participation

Members:
Mr J. Woodgate   Acting convenor, UK
Mr R. Dungan    UK
Mr D. Edworthy   UK
Mr D. Norman    Switzerland
Mr D. Preves    USA
Mr R. Simpson    UK

Observers:
Mr G. Gotschi    France

Apologies:
Mr C. Andersson  Convenor, Sweden

1. Opening of the meeting

The meeting was opened by John Woodgate. The Convener apologized for absence. The French National committee was thanked for the meeting arrangements.

2. Approval of the agenda

Doc. 29MT20-151019Co-convener1 was approved.

3. Membership 29MT20-151019Co-convener2 and apologies

Noted.

4. IPR declarations and conflict of interest statements

Noted.

5. Project status

To consider the next steps:

5.1 Proposal from Russell Simpson concerning amplifier measurement – amend 60118-4 only.
RS to send out a proposed text as a Word document.

5.2 Proposal from Russell Simpson concerning small volume systems.
RS to send out a proposed text as a Word document. Essential to liaise with EN 54 interests.
6. **Other business**

6.1 Effect of the European Radio Equipment Directive
Doug Edworthy to keep the MT informed.

6.2 Architect's spec
Agreed that this is a subject for the WG22 Report, not 60118-4.

6.3 Educational standard requiring a special low-frequency response
M. Gotschi to provide information

6.4 Intelligibility issues
MT 60268-16 has looked into this and found great difficulties. STI cannot easily be amended, and there are cognitive issues that cannot be addressed in the current context. An allied subject is ‘talker training’, which is the subject of an initiative by UK experts.

A text on intelligibility could be added to IEC 60118-4. Word document contributions are invited.

6.5 Future of MT20
Agreed to recommend to TC29 to postpone a decision till the next TC29 Plenary.

7. **Date and place of next meeting**

MT 20 plans to work mainly by electronic communication. An interim meeting before the next TC29 Plenary (early 2017) may not be necessary.

8. **Closing**

Members were thanked for attendance and co-operation. New contributions should be submitted by 2016-01-01.
ANNEX K

DAY REPORT

from the meeting of WG 21 "Head and ear simulators"

Tuesday 17 November 2015
in Paris, France

Participation

Members:
Mr T Fedtke   Convenor, Germany
Mr R Barham   UK
Mr S Barrera-Figueroa  Denmark
Mr Y Fujisaka   Japan   (afternoon only)
Mr H Husstedt   Germany (afternoon only)
Mr S Jønsson  Denmark
Mr A Narang   India   (afternoon only)
Mr E Nielsen   Denmark
Mr D Rodrigues   France
Mr U Richter   Germany   (morning meeting only, via internet conference tool)
Mr R Rohweder   Germany   (afternoon only)
Mr M Tateno   Japan   (afternoon only)
Mr M Wille   Denmark
Mr J Øygarden   Norway   (afternoon only)

Observers:
Mr G Frost   UK   (afternoon only)
Mr R Grason   USA
Mr E Sandermann-Olsen Denmark  (afternoon only)
Mr D Preves   USA   (afternoon only)
Mr Z.M. Soares   Brazil   (afternoon only)

1. Opening of the meeting

The meeting was opened at 9:00 a.m. and the members and observers were welcomed by the convenor. Apologies were received from Mr C Hof, Switzerland. Further apologies were forwarded from the TC29 secretariat for Mr C Struck, USA.

2. Approval of the draft agenda

The draft agenda was adopted with the addition of items 9. to 11.

3. Membership

The convenor welcomed new members of WG 21: Mr Henrik Husssted, Germany, Mr Alok Narang, India and Mr Morten Wille, Denmark.

4. Information on IEC 60318-3 "Electroacoustics – Simulators of human head and ear – Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry"

Project leader: Thomas Fedtke

The convenor informed the WG that the standard was published on 22 January 2015.

   Project leader: Utz Richter

   The comments (doc. 29/880/CC) received on the first 1CD/TS (doc. 29/866/CD) were discussed during the WG 21 meeting, based on a revised CD/TS layout prepared by the project leader, WG21(Richter, Fedtke)N082, and proposed actions from the project leader, WG21(Richter, Fedtke)N083 along with the comment received from Morten Wille after circulation of N082 and N083. A few open issues still were to be agreed on, but finally all comments were resolved during the meeting.

   The informative Annex E on '3D CAD data of example pinna simulators' contains 3D scans that cannot be represented in a printed version of the DTS. It is still to be clarified how these 3D PDF data can be provided to the user (permanent download link by IEC, optical disk, etc.). If it turned out to be not possible to provide these 3D data, the DTS would be submitted without Annex E, otherwise with Annex E (plain text in the main document plus digital 3D data).

   The DTS is expected to be sent to the TC29 secretariat by the end of 2015.

6. **Discussion of the status on guide IEC 60318-X "Electroacoustics – Simulators of human head and ear – Part X: Guide to the intended use of ear simulators"**

   Project leader: Richard Barham

   The project leader presented a concept (WG21(Barham)N086) how to proceed with WD2 of the guide, which is intended as a help for users of head and ear simulators in various fields of application, e.g. audiological purposes, telecommunication, audio engineering and hearing protection. It was agreed to distribute the responsibility for progressing this document to a small group of WG21 experts (section leaders), who may then in turn delegate the review activity to other experts outside the working group as necessary, and manage their contribution.

   Based on this concept the following timescale was agreed on:

   - Immediate circulation of the current WD2 to experts by the project leader
   - Review of sections by section leaders, revisions submitted to project leader by March 2016
   - New WD3 by project leader to WG21 by April 2016
   - WG21 review of new WD3 by May 2016
   - CD submitted to TC29 by project leader by June 2016

7. **Discussion of the Preliminary Work Item proposal for ear simulators for neonates and children**

   The PWI WG21(Barham)N081 was circulated to WG21 on 19 August 2015. WG21 discussed the proposal and decided to register this PWI with TC29. The scope, however, was confined to an "Occluded ear simulator for neonates". Dominique Rodrigues, in liaison with Richard Barham and Søren Jønsson, was appointed project leader. A first WD is to be developed for discussion at the next WG21 meeting. TC29 is kindly requested to register a PWI for an "Occluded ear simulator for neonates" from WG21.

8. **Information on completion of the EURAMET EARS project (Metrology for a universal ear simulator and the perception of non-audible sound)**

   The project was completed in May 2015. Richard Barham, Dominique Rodrigues, Erling Sandermann-Olsen and Thomas Fedtke presented key facts and the main project outcome that is relevant for ear simulator standardization to the WG, see item 7. of this report. It was pointed out that information on the project results is still available online: [http://www.ptb.de/emrp/ears-home.html](http://www.ptb.de/emrp/ears-home.html)

9. **Discussion of progress of DTS 62886 "Hearing aids – Method for measuring electroacoustic performance up to 16 kHz" in WG 13 (Hearing aids)**

   The updated CD TS (WG13(Gebert)N290) was circulated to WG 21 by the TC29 secretariat on 3 November 2015. Though the document describes a procedure for measuring hearing aids, major parts of the contents relate to a small-volume acoustic coupler. WG 21 considers adding a new part, specifying an acoustic coupler for measuring hearing aid performance up to 16 kHz, to the IEC 60318 series.
10. **New technologies and market requirements**

Future standards on HATS intended for measuring sound sources close to the ear were discussed. It was agreed that the major amendments to the current (D)TS 60318-7, whose scope is confined to hearing aid purposes, are the inclusion of more types of pinna simulator and a possible extension of the frequency range. WG 21 proposes a PWI on "Amendment of TS 60318-7 for the measurement of sound sources close to the ear". Thomas Fedtke was appointed project leader. It is intended to establish a liaison with TC 100, since this TC maintains IEC 60268-7 "Sound system equipment - Part 7: Headphones and earphones", which already describes a measurement system using HATS. A first WD or progress report is expected for the next WG 21 meeting.

Another important application of HATS is the measurement of hearing protecting devices' attenuation. Standards in this field are being developed and maintained by ISO/TC 43/SC 1 "Noise". To the knowledge of WG 21, only an acoustical test fixture has been standardized so far. WG 21 will contact ISO/TC 43/SC 1 to explore potential need for development of IEC standards on HATS for hearing protector measurements. It is, however, recognized, that this work will strongly depend on further research and compilation of knowledge.

WG 13 (Hearing aids) expressed the potential need for an ear simulator that allows variable insertion depths for specific hearing aid measurements (e.g. CIC hearing aids). However, such a device is neither available nor under development. Hence, WG21 noticed this request for future consideration.

11. **Raising awareness of new and revised standards**

WG 21 standards are well represented in the awareness references doc. TC 29(Paris/Secretariat)9. The WG will follow respective activities of its members and keep the TC 29 secretariat informed.

12. **Review of stability dates for WG 21 documents**

New stability dates for the documents in the IEC 60318 series were proposed as follows:

| IEC 60318-1 | 2017 |
| IEC 60318-3 | 2017 |
| IEC 60318-4 | 2017 |
| IEC 60318-5 | 2017 |
| IEC 60318-6 | 2017 |
| IEC/TS 60318-7 | 2015 |

13. **Any other business**

Nothing.

14. **Date and place of next meeting**

It was agreed that most of the proposed work for the immediate future could be handled by correspondence.

The next meeting of WG 21 will, therefore, most probably be held in conjunction with the next TC 29 meeting. If required, however, an intermediate WG 21 meeting (or internet conference) is to be scheduled for May 2016 at NPL, UK.

15. **Closing of the meeting**

The meeting was closed at 4:00 p.m.
DAY REPORT
from the meeting of IEC/TC 29/WG 22 "Audio-frequency induction-loop systems for assisted hearing"
Thursday 19 November 2015
in Paris, France

Participation

Members:
Mr J. Woodgate       Convenor, UK
Mr R. Dungan         UK
Mr D. Edworthy       UK
Mr H. Husstedt       Germany
Mr A. Narang         India
Mr D. Norman         Switzerland
Mr D. Preves         USA
Mr R. Rohweder       Germany
Mr R. Simpson        UK
Mr M. Tateno         Japan

Observers:
Mr R. Simpson        UK

Apologies:
Mr C. Andersson      Sweden

1. Opening of the meeting

The meeting was opened by John Woodgate. The French National committee was thanked for the meeting arrangements.

2. Approval of the agenda

Doc. 29WG22-151019Convener53 was approved.

3. Membership 29WG22-151019Convener54 and apologies

Noted.

4. IPR declarations and conflict of interest statements

Noted.
5. **Project status**

To consider the next steps:

5.1 TR based on BS 7594: 29WG22-130417Convener50 TR6xxxx 2WD

This draft was considered clause-by-clause up to line 1876, with the exception of Annex C, which is more suited to detailed consideration between committee meetings. Members are encouraged to send to all members their comments on the remaining clauses and Annexes before the end of March 2016. The Convener will then circulate a new draft, which might be suitable for CD circulation.

5.2 Possible amendment of IEC 62489-1 concerning compliance voltage

Agreed in MT20 that no change will be needed.

6. **Other business**

Russel Simpson proposes some work on accommodating amplifier specifications for non-perimeter loops. Target for draft document March 2016.

7. **Date and place of next meeting**

Not yet decided. If convenient, an interim meeting will be held before the next TC29 Plenary and WG meetings.

8. **Closing**

The Convener thanked the members for their attendance and good co-operation.
ANNEX M

DAY REPORT

from the meeting of IEC/TC 29/MT 23 "Instruments for Aircraft Noise Certification"
Tuesday 17 November (p.m.) 2015

in Paris and by teleconference

Participation

Members:
Mr D Josephson* Convener, USA
Mr J-A Marheim* Norway
Mr S Gauthier* France
Ms S Dowson UK
Mr F Larsen* Denmark
Mr M Ohya Japan
Mr P Hanes Canada

Observers:
Mr I Bork Germany
Mr P Bousquet* France
Mr T Groß Germany
Mr R Nel South Africa

* - by telephone

1. Opening

The meeting opened with thanks to the French national organization for standardization AFNOR for hosting the physical meeting and acknowledgement of members and observers present and participating by teleconference. Apologies were noted from John Woodgate who is traveling to join TC 29 meetings later in the week and Per Rasmussen who sent an informative document on groundplane microphones.

2. Revision of IEC 61265:1995 "Electroacoustics – Instruments for measurement of aircraft noise – Performance requirements for systems to measure one-third-octave band sound pressure levels in noise certification of transport-category aeroplanes"

A review of several outstanding issues from the third committee working draft of the 61265 revision was conducted.

More work may be required to conform the uncertainty provisions to TC29 recommendations, and Mr. Hanes will suggest some gaps where additional guidance is required. It was agreed that the former clauses providing an additional 0,1 dB tolerance in areas of instrument measurement range overlap were no longer needed.

Needs were identified for the comprehensive treatment of measurement system immunity, including sensitivity to high power RF fields at a test range, and proper anti-aliasing filters to assure that out-of-band signals do not create in-band artifacts to contaminate the measurement result. A decision is needed as to whether this should be informative language or normative. We can certainly extend e.g. IEC 61326 requirements to measurement systems covered by this standard, however there is some concern especially for smaller applicants that this would amount to significant additional stringency.

An applicant would be required to document that a composite measurement system had been tested for immunity by a recognized facility. Since this standard is used by applicants for certification, any immunity issue will result in additional noise being registered, e.g. a poorer result, so there would be no incentive for an applicant to use systems having less immunity than appropriate.
Mr. Hamon reported that industry was suggesting that ICAO switch from grazing-incidence microphones to groundplane microphones in order to reduce the variability between test sites due to differences in ground reflection. New topologies not presently covered by ICAO Annex 16 or this standard are being considered. It was agreed that we would focus on covering the existing recommendations in this revision, and move on to the new version in the next revision.

There may be an opportunity for liaison with IEC TC 88 who have developed a form of groundplane microphone for use in measuring wind turbine noise in the IEC 61400 series of standards. There is also work on this topic in ANSI S12.75, “Methods for the Measurements of noise emission from high performance military jet aircraft.” A document provided by Mr. Rasmussen is now available on the MT23 collaboration tools site.

Revisions to the 4th working draft will continue by correspondence with an aim toward releasing a first CD before the end 2016-06. ICAO CAEP WG1 will meet in 2016-05 and we expect more information on their requirements.

3. Liaisons

Liaison with ICAO was discussed, with Mr. Hamon reporting that he had previously been appointed as the liaison with MT23, but that it may be preferable to have two liaison members, adding Dave Read as the other. Convener to discuss with Hamon and Read and make recommendation to TC 29 on asking ICAO to appoint or re-appoint liaison members to MT 23.

4. Stability Dates

The Stability Date of IEC 61265 was reviewed and changed from 2015 to 2016.

5. Any other business

Suggestions for new guidance documents within TC 29 were requested, but none were received.

6. Next meeting

The next meeting of MT 23 will likely be by teleconference but not later than the next meeting of TC29, which is planned for the first half of 2017.
REFERENCES TO THE WORK OF IEC/TC 29

Stig Arlinger, member of WG 10

- A list of international standards relevant for people within audiology on the web-page of the International Society of Audiology on http://www.isa-audiology.org/standards.asp (maybe not completely up to date).

Susan Dowson, chair of TC 29, convenor of MT 17 and member of MT 4


Ryuzo Horiuchi, member of WG 5


(These reports are in Japanese)

Erling Sandermann Olsen, member of WG 5 og MT 17

- Erling Sandermann Olsen and Richard Barham presentation on calibration of microphones at extreme frequencies at BIPM CCAUV meeting 2015-11-25/27
Gert Ravn, convenor of WG 13

  - National and International Standards: Standardization and Calibration, Laura Wilber, Ph.D., Einar Laukli, Ph.D., and Robert Burkard, Ph.D.
  - Physics of Sound and Electroacoustics, John D. Durrant, Ph.D. and Lawrence L. Feth, Ph.D.
  - Sound Level Calibration: Microphones, Ear Simulators, Couplers, and Sound Level Meters, Dr-Ing. Thomas Fedtke and Lee Grason.
  - Audiometric Calibration: Air Conduction, Craig A. Champlin, Ph.D. and Tomasz Letowski, Ph.D.
  - Bone-Conduction Calibration, Robert H. Margolis, Ph.D. and Gerald R. Popelka, Ph.D.
  - Audiometric Calibration: Speech Signals, Graham Frost, M.Sc. and Harry Levitt, Ph.D.

  - Calibration/Standardization of Short-Duration Stimuli, Einar Laukli, Ph.D. and Robert Burkard, Ph.D.
  - Acoustic Immitance, Absorbance, and Reflectance in the Human Ear Canal, John J. Rosowski, Ph.D. and Laura Ann Wilber, Ph.D.
  - Hearing-Aid-Related Standards and Test Systems, Gert Ravn, B.Sc. and David Preves, Ph.D.
  - Vestibular Function Measurement Devices, Richard D. Miles, Ph.D. and David A. Zapala, Ph.D.

Christopher J. Struck, member of WG 13

- My paper at InterNoise 2015 in San Francisco this August "An Overview of the ASA/ANSI Standards Program" referenced the US TAG to IEC TC29. It will be reprinted in Sound & Vibration in December.
- A session on Standards for an ASA meeting in Dec 2016 in Honolulu OR May 2017 in Boston on "Pactical Applications of Standards" or "Standards in Action".

John Woodgate, member of MT 20 and WG 22

- A hearing loop system that worked!, J M Woodgate, Institute of Sound and Communications Engineers Magazine, Autumn 2015.
PROPOSALS FOR AMENDMENTS TO THE STRATEGIC BUSINESS PLAN

- Item C, heading: Change to "Liaisons and system approach aspects"
- Item C, first alinea: Extend to "... and to system committees and to seek new liaisons where relevant."
- Item C, add at the end: "New liaison to be sought:
  o IEC/TC 88 "Wind energy generation systems"
  o European Telecommunications Standards Institute (ETSI)"
ANNEX P

APPROVED STRATEGIC BUSINESS PLAN (SBP)

<table>
<thead>
<tr>
<th>IEC/TC or SC:</th>
<th>SECRETARIAT:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>DS</td>
<td>2016-01</td>
</tr>
</tbody>
</table>

Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

A. STATE TITLE AND SCOPE OF TC

Title
Electroacoustics.

Scope
Standardization of instruments and methods of measurement in the field of electroacoustics. This includes performance requirements, calibration and test methods for electroacoustic transducers (e.g. microphones, sound calibrators, filters, earphones, bone vibrators), sound measuring instruments (e.g. sound level meters), audiometric equipment as well as hearing aids and induction loop systems, and equipment used for measurement of aircraft noise.

Excluded are:

a) standards for sound and video recording as dealt with by TC 100;
b) standards for equipment in the field of audio and audio-visual engineering as dealt with by TC 100;
c) standards and terminology for ultrasonic techniques dealt with by TC 87.

NOTE - Close co-operation is, however, be maintained with TC 87 in the fields of common interest.

B. MANAGEMENT STRUCTURE OF THE TC

MT 4: Sound level meters
WG 5: Measurement microphones
WG 10: Audiometric equipment
WG 13: Hearing aids
MT 17: Sound calibrators
MT 18: EMC requirements and updates of relevant IEC/TC 29 standards
MT 19: Revision of IEC 61260, Filters
MT 20: Revision of IEC 60118-4, Induction loop
WG 21: Head and ear simulators
WG 22: Audio-frequency induction-loop systems and equipment for assisted hearing
MT 23: Revision of IEC 61265, Instruments for aircraft noise certification

C. BUSINESS ENVIRONMENT

TC 29's technical work plays a vital role in underpinning large areas of social, environmental, medical and rehabilitation work, which requires the accurate production, and measurement of sound. Acoustical instrumentation and devices are therefore required by a very diverse range of users.

The declaration and verification of noise emission values for all kinds of machinery as presently required by many national or regional regulations presupposes the use of uniformly specified and sophisticated sound measuring instrumentation with tight tolerances.

A major change in the business environment has been the rapid growth of telephone retailing, banking and information provision. Such development has created a demand for the use and development of TC 29
standards in determining the acoustic environment in which these businesses operate.

For the control of noise immission there is a growing need for instrumentation for the measurement and analysis of noise exposure in the work place as well as in residential areas, and within the entertainment sector. The available instruments and measuring methods still represent a high degree of simplification compared to the perception of noise by man and to the effect on the human ear. However, current instrumentation provides a consistent means of measurement, which allows preventative action to be taken where appropriate based on the best available data.

Regulation and law on acoustical instrumentation differs widely from country to country. For example, in some countries pattern evaluation of new models of instrument against the international standard is required before the device can be sold, and regular testing of individual specimens is also required by law. In other countries this is not the case and it is up to the user to follow good measurement practice. Hence the aim of TC29 is also to encourage testing in countries where it is not mandated by use of the same agreed international specified test methods within all countries, ensuring consistency and cost-effective testing across world markets.

In terms of worldwide market this varies considerably for the different instruments within the scope of the Committee’s remit, and as the number of key manufacturers in some areas is quite small, data on sales is often not available for commercial reasons. However, as examples some 8 million hearing aids are manufactured worldwide each year, and it is known that in some countries lost productivity due to noise can equate to up to approximately 2% of GDP.

### D. Market Demand

The demand for acoustical devices and measurement is worldwide, with many applications and stakeholders, and in many countries the control and measurement of noise is covered by law or legislative directives.

The range of users of the standards will include governments, local authorities, planners, the medical profession, manufacturers of acoustical devices, those measuring environmental noise, consultants as well as the many laboratories and test houses around the world.

Users of TC 29 standards include international and national standards organizations, and in many countries the international standards are directly adopted with no change as equivalent national standards.

As an example, up to 170 million citizens in the EU alone are said to be living in areas where the noise levels were such as to cause serious annoyance during daytime. Also, reports from some countries found that some 30% of the population are highly disturbed by road traffic noise. Measures to be taken to reduce the noise are normally very expensive and must be based on proven facts. Similarly ability to make reliable measurement of aircraft noise is vital to the industries concerned, airport operators and the general population.

Noise induced hearing impairment is one of the most frequent occupational hazards resulting in large social expense. Equipment for the measurement and analysis of noise as covered by TC 29, is in high demand and allows facts to be gathered based on accurate and reproducible measurements. Worldwide research in psychoacoustics is aiming at a better understanding of human reactions to noise exposure that certainly will call for further development of measuring techniques and instrumentation. Monitoring of hearing functions with improved audiometric equipment may contribute to an early detection and the minimizing of related risks.

Hearing aid performance, specification and measurement is the subject of a series of standards produced by TC 29. The associated standardization of ear simulators and head and torso simulators for measuring performance has allowed a better understanding to be found of the relationship between subjective and objective measurements. The effect of these standards has been to improve the means by which the vast majority of hard of hearing people communicate, and so improve their quality of life.

The ability to accurately measure the threshold of hearing is crucial to hearing conservation programmes, the early detection of hearing loss in children and the diagnosis of hearing loss. TC 29 works in conjunction with ISO/TC 43 to ensure that standards for thresholds of hearing and other techniques for audiometry are
The same close cooperation also takes place on the integration of measurement methods and the necessary instrumentation for determination of acoustic power emission from machinery, total noise exposure of workers during a work day, etc.

**E. TRENDS IN TECHNOLOGY AND IN THE MARKET**

**Technology trends**

The current rapid development in digital measurement, manufacturing techniques and miniaturisation offers increased capabilities and more sophistication in sound measuring instrumentation in general, and for audiometry and hearing aids. The advent of automated methods of testing and calibration also have a key role to play, and newer digital designs may mean that in practice reduced test procedures are appropriate. Hence the international standards require continuous revision and updating to ensure specifications and test procedures remain appropriate and fit-for-purpose.

New technologies are continually evolving, for example in terms of hearing aids and microphones, and the Committee needs to ensure that as time progresses the standardisation keeps pace with the new products and systems introduced.

**Market trends**

Market trends are broadly in line with the technology trends mentioned in B.3, which is often allowing greater flexibility, more customisation and enhanced functionality of device, whilst maintaining a static cost base. Similarly miniaturisation in hearing aids and other areas has progressed considerably over recent years, and although some further change may occur the usability of devices will continue to be a key factor. TC 29 has liaisons with relevant TCs and these are unlikely to change substantially as TC 29 only provides specifications of measurement performance.

**F. SYSTEMS APPROACH ASPECTS (REFERENCE - AC/33/2013)**

TC 29 will actively continue to promote the ongoing liaisons to other committees and to system committees and to seek new liaisons, where relevant.

<table>
<thead>
<tr>
<th>Systems committees (TC 29 as a supplier of standards)</th>
<th>TC 62</th>
<th>Electrical equipment in medical practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TC 87</td>
<td>Ultrasonics</td>
</tr>
<tr>
<td></td>
<td>TC 100</td>
<td>Audio, video and multimedia systems and equipment</td>
</tr>
<tr>
<td></td>
<td>TC 108</td>
<td>Safety of electronic equipment within the field of audio/video, information technology and communication technology</td>
</tr>
<tr>
<td>ISO/TC 43</td>
<td>Acoustics</td>
<td></td>
</tr>
<tr>
<td>ISO/TC 43/SC 1</td>
<td>Noise</td>
<td></td>
</tr>
<tr>
<td>ISO/TC 108/SC 3</td>
<td>Use and calibration of vibration and shock measuring instruments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Systems committees (TC 29 as a customer of standards)</th>
<th>SC 77B</th>
<th>High frequency phenomena</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TC 87</td>
<td>Ultrasonics</td>
</tr>
<tr>
<td></td>
<td>TC 100</td>
<td>Audio, video and multimedia systems and equipment</td>
</tr>
<tr>
<td></td>
<td>TC 106</td>
<td>Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure</td>
</tr>
<tr>
<td></td>
<td>TC 108</td>
<td>Safety of electronic equipment within the field of audio/video, information technology and communication technology</td>
</tr>
</tbody>
</table>

Cooperation established:

- Through liaison with the following international organisations:
  - ITU-T "International Telecommunication Union – Telecommunication Standardization Sector"
  - OIML "International Organization Of Legal Metrology"
  - ICAO "International Civil Aviation Organization"
- Through experts working on other TCs or with other bodies e.g. TC 106, ISO/TC 43, OIML, ICAO
- Previous experience of joint WG with ISO/TC 43.
- New liaisons to be sought:
  - IEC/TC 88 "Wind energy generation systems"
  - European Telecommunications Standards Institute (ETSI)

### G. CONFORMITY ASSESSMENT

Essentially all standards of TC 29 include test specifications, reproducible test requirements and test methods.

With regard to uncertainties and conformance assessment TC 29 has prepared a basic document on policy on measurement uncertainty and conformance assessment for use in documents prepared by IEC/TC 29, Electroacoustics, given in doc 29/810/INF.
Objectives

1. To keep TC 29 standards up-to-date to reflect new/changing technologies and user requirements both in the marketplace and via customer IEC and ISO Technical Committees.

2. Respond to requests for development of new standards to meet new marketplace and business needs and environmental noise protection concerns following IEC guidelines in a timely manner.

3. Ensure consistency within TC 29 standards on common aspects e.g. uncertainties of measurement and ensure the standards are written in such a way that requirements are clear to end-users.

4. Promote the work of the committee and increase the awareness of TC 29 publications.

5. Encourage new membership of the Committee.

Strategies

1. Continue regular reviews of the Stability Dates for each standard and ensure a comprehensive review of the options available for each.

2. Raise early awareness of new technologies or market requirements, likely to have an impact on existing standards or likely to trigger NWIPs, by using WG and MT members expert knowledge to identify.

3. Identify any additional guidance documents that would be useful to Convenors/Project Leaders on common aspects, clarity of wording or Committee decisions.

4. Discuss with IEC Central Office marketing staff effective methods to increase awareness of the work of TC 29 and of its publications. Encourage experts to perform a similar task at National Committee level.

Action plan

1. Maintain current record of Stability Dates, including a list in WG/MT order to ease identification of those due for review in the immediate future. In advance of plenary meetings, Convenors/Project Leaders to review and add relevant documents to their WG/MT Agendas to ensure members have an opportunity to consider requirement for revision prior to WG/MT meeting. *Initiate RR forms as appropriate.*

2. Agendas to include an item for discussion on new technologies or market requirements likely to impact the work of the Committee. *Convenors/Project Leaders to document, and initiate RR or NP as appropriate.*

3. Guidance documents – need for additional documents to be reviewed at each plenary meeting. *Convenors/Project Leaders to suggest any further documents required. Ongoing from 2015.*

4. Raise awareness of new and revised standards, and the work of TC 29, through internationally and nationally available channels such as professional bodies, conferences and journal papers. *All Members. Ongoing from 2014.* (References registered as per November 2015-11 are given in the annex).

Useful links to IEC website

The TC home page gives access to membership, TC/SC Officers, scope, liaisons, WG/MT/PT structure, publications issued and work and maintenance programmes and similar information for SCs, if any.
<table>
<thead>
<tr>
<th>Strategic Objectives 3-5 Years</th>
<th>Actions to Support the Strategic Objectives</th>
<th>Target Date(s) to Complete the Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain current record of stability dates</td>
<td>all stability dates reviewed and updated during the meeting</td>
<td>none</td>
</tr>
<tr>
<td>Agendas of WGs and MTs to include discussion of new technologies and market requirements likely to impact the work</td>
<td>discussed by all WGs and MTs</td>
<td>none</td>
</tr>
<tr>
<td>Consideration of need for additional guidance documents</td>
<td>discussed</td>
<td>none</td>
</tr>
<tr>
<td>Raise awareness of new and revised standards of TC 29</td>
<td>references collected and compiled</td>
<td>none</td>
</tr>
</tbody>
</table>

Note: The progress on the actions should be reported in the RSMB.
## Annex Q

### Approved Stability Dates

**Sorted in MT/WG order**

<table>
<thead>
<tr>
<th>Publication Number</th>
<th>Publication Date</th>
<th>Present SD</th>
<th>New SD</th>
<th>MT/ WG</th>
<th>Project in progress/remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 61252 am1 Ed. 1.0</td>
<td>2000-10-09</td>
<td>2016</td>
<td>2016</td>
<td>04</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61252 Ed. 1.1.0</td>
<td>2002-03-12</td>
<td>2016</td>
<td>2016</td>
<td>04</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61672-1 Ed. 2.0</td>
<td>2013-09-30</td>
<td>2016</td>
<td>2018</td>
<td>04</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61672-2 Ed. 2.0</td>
<td>2013-09-30</td>
<td>2016</td>
<td>2016</td>
<td>04</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61672-3 Ed. 2.0</td>
<td>2013-09-30</td>
<td>2016</td>
<td>2018</td>
<td>04</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61094-1 Ed. 2.0</td>
<td>2000-07-20</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-2 Ed. 2.0</td>
<td>2009-02-20</td>
<td>2015</td>
<td>2016</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-3 Ed. 1.0</td>
<td>1995-11-16</td>
<td>2015</td>
<td>2015</td>
<td>05</td>
<td>New edition SD: 2018</td>
</tr>
<tr>
<td>IEC 61094-4 Ed. 1.0</td>
<td>1995-11-16</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-5 Ed. 1.0</td>
<td>2001-10-16</td>
<td>2015</td>
<td>2015</td>
<td>05</td>
<td>New edition SD: 2018</td>
</tr>
<tr>
<td>IEC 61094-6 Ed. 1.0</td>
<td>2004-11-10</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 61094-8 Ed. 1.0</td>
<td>2012-09-19</td>
<td>2016</td>
<td>2018</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC/TS 61094-7 Ed. 1.0</td>
<td>2008-05-22</td>
<td>2015</td>
<td>2017</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>IEC 60645-1 Ed. 3.0</td>
<td>2012-02-16</td>
<td>2015</td>
<td>2015</td>
<td>10</td>
<td>Amalgamated part 1/2 in prep. SD: 2018</td>
</tr>
<tr>
<td>IEC 60645-2 Ed. 1.0</td>
<td>1993-11-11</td>
<td>2015</td>
<td>2015</td>
<td>10</td>
<td>Amalgamated part 1/2 in prep. SD: 2018</td>
</tr>
<tr>
<td>IEC 60645-3 Ed. 2.0</td>
<td>2007-03-20</td>
<td>2016</td>
<td>2017</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>IEC 60645-5 Ed. 1.0</td>
<td>2004-11-23</td>
<td>2017</td>
<td>2017</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>IEC 60645-6 Ed. 1.0</td>
<td>2009-04-29</td>
<td>2015</td>
<td>2017</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>IEC 60645-7 Ed. 1.0</td>
<td>2009-04-29</td>
<td>2015</td>
<td>2017</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-0 Ed. 3.0</td>
<td>2015-06-09</td>
<td>2018</td>
<td>2018</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-05 Ed. 1.0</td>
<td>1983-01-01</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-07 Ed. 2.0</td>
<td>2005-10-21</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-08 Ed. 2.0</td>
<td>2005-10-19</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-09 Ed. 1.0</td>
<td>1985-01-01</td>
<td>2015</td>
<td>2016</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-12 Ed. 1.0</td>
<td>1996-10-09</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-13 Ed. 3.0</td>
<td>2011-04-11</td>
<td>2015</td>
<td>2015</td>
<td>13</td>
<td>Ed. 4.0 in preparation. SD: 2017</td>
</tr>
<tr>
<td>IEC 60118-15 Ed. 1.0</td>
<td>2012-02-21</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 61669 Ed. 2.0</td>
<td>2015-11-14</td>
<td>2020</td>
<td>2020</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60601-2-66 Ed. 2.0</td>
<td>2015-06-26</td>
<td>2017</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC/TR 62809 Ed. 1.0</td>
<td>2013-01-29</td>
<td>2015</td>
<td>2017</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>IEC 60942 Ed. 3.0</td>
<td>2003-01-30</td>
<td>2016</td>
<td>2016</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>IEC 62585 Ed. 1.0</td>
<td>2012-07-25</td>
<td>2015</td>
<td>2017</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>IEC/TS 62370 Ed. 1.0</td>
<td>2004-05-10</td>
<td>2016</td>
<td>2016</td>
<td>18</td>
<td>Additional EMC test method to be included</td>
</tr>
<tr>
<td>IEC 61260-1 Ed. 1.0</td>
<td>2014-02-14</td>
<td>2017</td>
<td>2017</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-4 Ed. 3.0</td>
<td>2014-12-11</td>
<td>2018</td>
<td>2018</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>IEC 60318-1 Ed. 2.0</td>
<td>2009-08-31</td>
<td>2017</td>
<td>2017</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC 60318-3 Ed. 2.0</td>
<td>2014-12-11</td>
<td>2017</td>
<td>2017</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC 60318-4 Ed. 1.0</td>
<td>2010-01-21</td>
<td>2017</td>
<td>2017</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC 60318-5 Ed. 1.0</td>
<td>2006-08-16</td>
<td>2017</td>
<td>2017</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC 60318-6 Ed. 1.0</td>
<td>2007-11-27</td>
<td>2015</td>
<td>2017</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC/TS 60318-7 Ed. 1.0</td>
<td>2011-02-24</td>
<td>2015</td>
<td>2015</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>IEC 62489-1 Ed. 1.1</td>
<td>2014-12-17</td>
<td>2017</td>
<td>2017</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>IEC 62489-2 Ed. 2.0</td>
<td>2014-09-24</td>
<td>2018</td>
<td>2018</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>IEC 61265 Ed. 1.0</td>
<td>1995-04-13</td>
<td>2015</td>
<td>2016</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>IEC 60118-14 Ed. 1.0</td>
<td>1998-02-19</td>
<td>2015</td>
<td>2017</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>IEC 60263 Ed. 3.0</td>
<td>1982-01-01</td>
<td>2015</td>
<td>2017</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>IEC 61012 Ed. 1.0</td>
<td>1990-01-31</td>
<td>2015</td>
<td>2017</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>IEC 61043 Ed. 1.0</td>
<td>1993-11-30</td>
<td>2015</td>
<td>2017</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>IEC 61183 Ed. 1.0</td>
<td>1994-06-07</td>
<td>2017</td>
<td>2017</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>
### ENGLISH EDITING COMMITTEE

<table>
<thead>
<tr>
<th>MT or WG</th>
<th>English Editor</th>
</tr>
</thead>
<tbody>
<tr>
<td>WG 5</td>
<td>Richard Barham</td>
</tr>
<tr>
<td>WG 10</td>
<td>Graham Frost</td>
</tr>
<tr>
<td>WG 13</td>
<td>Graham Frost</td>
</tr>
<tr>
<td>WG 21</td>
<td>Richard Barham</td>
</tr>
<tr>
<td>WG 22</td>
<td>John Woodgate</td>
</tr>
<tr>
<td>MT 4</td>
<td>Richard Tyler</td>
</tr>
<tr>
<td>MT 17</td>
<td>Susan Dowson</td>
</tr>
<tr>
<td>MT 18</td>
<td>Richard Tyler</td>
</tr>
<tr>
<td>MT 19</td>
<td>Richard Tyler</td>
</tr>
<tr>
<td>MT 20</td>
<td>John Woodgate</td>
</tr>
<tr>
<td>MT 23</td>
<td>John Woodgate</td>
</tr>
</tbody>
</table>