



Acoustical Standards Committee

CSA Offices 1:00 pm May 19, 2011

Summary of Meeting

1. Present: Tim Kelsall, Dave Shanahan, Peter van Delden, Bill Gastmeier, Christian Giguere, Tony Brammer, Dave Quirt, John Kowalewski, Vic Schroter, Stephen Keith (by phone), Stephen Bly (by phone), Cameron Sherry (by phone), Brian Howe (by phone), Eva Karpinski, Greg Green.
2. The agenda was approved as written.
3. The record of the last meeting was approved, as published in *Canadian Acoustics*. Publishing of the meeting summary was discussed, and it was unanimously agreed that the practice of publishing a summary with issues and decisions (but without attribution of opinions to individuals) should continue via *Canadian Acoustics*, the CAA website and other acoustics newsletters selected by the Chair. Dave Quirt agreed to draft a preliminary summary of this meeting, for subsequent refinement by Subcommittee Chairs.
4. Update on transfer of standards from CSA was presented by Tim Kelsall and Dave Shanahan. CSA secretariat has provided a MS-WORD version of CSA Z107.10, and a similar version of Z107.9 was promised if the Built Environment Committee does not assume responsibility for it. An official transfer to CAA of the copyright for these documents is expected soon.
5. Update on CSA Technical Committee S304 on Occupational Hearing Conservation was presented by Tim Kelsall. This CSA Committee met earlier on 19 May and details of progress in the five subcommittees are presented separately.
6. Items from the CAA Board of Directors were presented by Tim Kelsall and Christian Giguere, who explained pertinent highlights of the Board meeting earlier in May. The Board is eager to make the CAA updated version of the former CSA Z107.10 (an annually updated Overview of Recommended Acoustical Standards) available on the website. The intent is to establish a sponsored website and permit free downloads of the pdf document.
7. Update From Subcommittees:

- a. Environmental Noise (Bill Gastmeier and Brian Howe)
- Via an email consultation with the committee, the Chair has established a set of four key regulatory issues across Canada: noise from wind turbines, noise from highway traffic, noise from high voltage transmission lines, and changes in the regulatory process (in Ontario and Alberta).
 - Brian Howe reported by phone on current issues for wind turbine noise. Work on CSA 61400 is focusing primarily on equipment characterization, especially the effect of wind shear on emitted sound power and amplitude modulation effects whose importance to measures of loudness/annoyance may not be properly captured. There appears to be a consensus that infrasound is not a major concern.
- b. CAC ISO TC43 SC1 (Stephen Keith):
- Current CAC membership:
Alberto Behar (vice chair), Stephen Bly, John Bradley, Bill Gastmeier, Christian Giguere, Dalila Giusti, Stephen Keith (chair), Tim Kelsall, Emanuel Mouratidis, Colin Novak, Dave Quirt, Cameron Sherry, Helen Ule, Jeremy Voix
 - New CAC members:
Layton Gilroy (DRDC Atlantic) Catherine Guastavino, (McGill), Murray Schafer, Barry Truax (SFU)
 - ISO active working group memberships (8 of 12 WGs):
 - i. TC43 Technical Advisory Panel – S. Keith
 - ii. WG8 ISO26101 Qualification of free-field environments – S. Keith
 - iii. WG28 ISO374x, ISO1120x Machinery noise S. Keith (project leader ISO3745), T.Kelsall
 - iv. WG45 ISO1996-x Environmental noise - S.Keith, T.Kelsall
 - v. WG17 ISO4869 Hearing Protectors- A. Behar, J.Voix
 - vi. WG9 ISO532-x Method for calculating loudness level C. Novak (project leader ISO532-2), H.Ule
 - vii. WG42 ISO16254 Minimum noise emitted by road vehicles – C. Novak, H.Ule
 - viii. Underwater sound from ships – L.Gilroy
 - ix. WG54 ISO 12913-1 Perceptual assessment of soundscape quality – Catherine Guastavino, Murray Schafer; Barry Truax
 - Working groups without active participation (4 of 12 WGs):
WG 1 Threshold of hearing, WG 22 Structure-borne sound, WG 27 Vehicle noise testing. Effect of temperature, WG 39 Pavement surface texture using a profiling method
 - 2011 ISO Plenary meetings in London, UK:
 - Canadian delegation
Alberto Behar, Stephen Keith (head), Tim Kelsall, Colin Novak, Helen Ule
 - New working group activity
 - Preliminary work item on environmental noise assessment of wind turbines to be incorporated in ISO1996 (project leader Bernard Berry, UK)
 - new revision of ISO 389-3 reference threshold levels for audiometric bone vibrators
 - new work items for revision of ISO 226:2003 "Acoustics – Normal equal-loudness-level contours." Revision will incorporate new data at high frequencies.
 - New standard and new subcommittee TC3 on "Underwater sound from ships," a US initiative. TC 43 is solely responsible for formulating methods of measurement and systems of assessment of noise emitted by different sources and also their effect on man (which apparently includes underwater). This standard should be developed by acousticians and not in the product committees. A letter was to be sent to the ISO Central Secretariat to protest the failure of TC8 to follow procedures in creating a fast track standard on this same subject.
 - New revision of ISO3743 machinery sound power measurement in special reverberation test rooms. An annex on uncertainty is to be added.

- Developments:
 - SCC provided full subsidies (\$1000 each) for 3 delegates. In the past we were only able to get 2 subsidies, one for each subcommittee meeting. Thanks go to Ginette Grant SCC.
 - very little Japanese participation in ISO meetings due to recent earthquake
 - Mexico is a new participating member in TC43 so there may be more support for North (and Central) America
 - all ISO standards will now be up for review on a 5 year basis (formerly 3 year basis)
 - TC43 had 150 delegates and will no longer meet in conjunction with IEC/TC29 due to size of meetings
 - no host has been proposed for the next plenary
 - final draft of ISO3745 precision method for measurement of sound power will be sent for publication this summer
 - soundscape standard had 3 days of meetings in London and Brighton with 70 attendees. They are finishing the first part of standard which will define soundscapes in a manner that is relevant to policymakers
 - new software to predict noise in workrooms is available from large companies Datakustic and Soundplan, smaller offerings are from Murray Hodgson in Canada and Doyle in the UK.
 - discussion in WG9 loudness working group (as well as in the plenary session) on the choice between the old industry standard DIN method (which employs Zwicker loudness), or the new Cambridge (Moore-Glasberg) loudness method. At issue is obsolescence of existing equipment, different results by the two methods (taking into consideration that recent improvements to equal loudness curves can be included in Zwicker method)

c. CAC IEC TC29 (report submitted by Lixue Wu)

- The primary achievement for Canada was the resolution of the Canadian negative vote on the CDV of IEC 61672-1: after much debate, MT04 members voted to reverse the proposed increase on tolerance limits that were introduced on the basis of a misunderstanding of the use of measurement uncertainties in determining tolerance limits. The correct approach will now be promulgated into other standards under preparation by TC29.
- Canadian contributions to the Committee effort:
The Canadian contribution in all these meetings was significant and meaningful in supporting comments submitted by the Canadian Sub-Committee, in providing scientific expertise, and in resolving technical and editorial issues. In specific:
Peter Hanes (NRC) attended the main TC29 meeting on 2011-03-28 and 2011-04-01, an ad hoc information session on measurement uncertainty on 2011-03-28, a meeting of MT04 (sound level meters) on 2011-03-28 and 2011-03-29, a meeting of WG17 (sound calibrators) on 2011-03-30, and meeting of MT19 (filter sets) on 2011-03-31.

Bill Cole (Etymotic Research) attended the main TC29 meeting, an ad hoc joint meeting of WG10 and WG13 (regarding the revision of IEC 61669:2001), and a meeting of WG13 (hearing aids).
- Problem areas and decisions not in Canada's interest: none
- Evaluation of the importance of the work to Canada
The topics covered by IEC TC29 remain very important to Canada. The work covers not only instruments and devices that are manufactured by Canadian companies, but also has a huge impact on workplace and environmental safety and health for every Canadian.

Canadian participation as a Participating Member of IEC TC29 should continue. Given the number of parallel meetings taking place, the CSC should attempt to expand its membership in the hope that more Canadian WG experts will participate in the meetings.

d. Redrafting Z107.10 / Editorial (Cameron Sherry and David Quirt)

- A usable copy of Z107.10 has been provided by Dave Shanahan. Input will be requested from each subcommittee chair, to update existing entries in each technical area. These will then be combined and circulated for comment ASAP. Tim and Christian will deal with setup of the supporting website page.

e. CAC ISO TC43 SC2, “Building Acoustics” (David Quirt)

This report presents an overview of immediate suggestions for Z107-10, together with updates on key standardization activity in ISO/TC43/SC2 and ASTM E33, the two standards committees of obvious relevance for Canada.

- Building Acoustics in “document formerly known as CSA Z107-10” requires updating. Summaries for 13 ASTM standards were in CSA Z107-10, as published in 2006; most of these have since been revised or reapproved and those entries should be updated in the CAA version, at least to the extent of identifying the current version. At least three other standards should be added to the document:
 - ANSI S12.60-2002, “Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools,
 - ISO 15712-1, “Estimation of acoustic performance of buildings from the performance of elements — Part 1: Airborne sound insulation between rooms” which is being considered as a referenced document for the National Building Code, and would have obvious utility for any consultant working on noise control in buildings.
 - ANSI-ASTM E2638-2008, “Standard Test Method for Objective Measurement of the Speech Privacy of Closed Rooms”. A draft entry for Z107-10 can easily be prepared, including reference to the related requirements for federal government buildings.
- Issues in ISO/TC43/SC2:

Steady advance of the ISO standards beyond their ASTM counterparts invites serious consideration of eventually basing the noise control provisions in the National Building Code on ISO standards, but meanwhile they provide technical content for ASTM to use. More members joining Canadian Advisory Committee to ISO/TC43/SC2 would be nice, but there has been no response to recruiting efforts. Voting by current members has been erratic. Those interested in participating in the building acoustics CAC are encouraged to contact DQ. The ISO TC43/SC2 meetings in London in April 2011, brought advances in ISO drafts and added several useful new work items:

 - Revision of laboratory sound transmission standards:

The new series of laboratory standards for airborne and impact sound insulation (ISO 10140) has 5 parts (test codes for products, airborne transmission, impact transmission, measurement procedures, laboratory & equipment). JDQ is the Canadian participant, with BNG as alternate. These were approved in 2010 and corresponding parts of ISO 140 have been withdrawn; the next stages include refining some procedures and adding extra procedures for transmission through slits, and rainfall noise. These are becoming the required standards for testing products for noise control in buildings in Europe. To help Canadian exporters, these should be referenced in Z107.10 as part of the information about corresponding ASTM standards.
 - Revision of field sound transmission standards (remaining parts of ISO 140) is beginning; JDQ is acting as formal Canadian participant (with others from NRC

attending some meetings). If the National Building Code changes from its current simplistic focus on the separating wall or floor assembly, then these standards (and their ASTM counterparts) will become the main focus for noise control in buildings.

- Revision of ISO 717 (ratings for sound transmission) is beginning; BNG has been nominated as a Canadian participant, with JDQ as alternate. A parallel technology development project to establish international consensus on these ratings is underway (COST TU0901) and NRC Canada is participating.

- Issues in ASTM E33:

Members of our CAC have leading roles within ASTM Committee E33, which is responsible for standards in “Building and Environmental Acoustics”. Most recent meeting was the first week of October 2010. Trevor Nightingale is Chair of Subcommittee E33.03 which is responsible for all ASTM standards pertinent to sound transmission in buildings, and hence building codes. BNG is leading several task groups in E33.03 and Chair of Subcommittee E33.05, currently dealing mainly with issues for microphone specification and for statements of precision & bias. Current activity in ASTM E33 includes revision of ASTM E336 (airborne sound transmission in field), ASTM E1007 (field, impact transmission). Activity to maintain and revise ASTM standards is presented on the ASTM website, and for building acoustics, this is at <http://www.astm.org/COMMIT/SUBCOMMIT/E33.htm> . For each current standard, there is a brief summary of significance and use, plus the scope, and an outline of the issues for any current revision

f. Human Vibration (Tony Brammer)

g. Loudness Evaluation (Colin Novak): no report

8. New Business:

Problems with meeting notification were noted; Tim Kelsall volunteered to update the list of members and verify contact details

9. Next Meeting:

It was agreed that the next Committee meeting would take place at 5 pm on October 12 in the Hotel Chateau Laurier Québec in conjunction with the CAA conference. The CAA meeting would also host those subcommittees of CSA S304 who want to join us. A break in mid-meeting is planned, to allow the members to attend the CAA reception that evening.

10. Meeting adjourned at 3:30 pm.