Report on IEC TC87

Scope

A revised scope has recently been agreed for the committee as follows:

To prepare standards related to the characteristics, methods of measurement, safety, and specifications of fields, equipment and systems in the domain of ultrasonics. Excluded from this scope are: Safety standards for medical electrical equipment and systems.
Close liaison will be maintained with TC 62 and TC 29 in fields of common interest.

Total number of publications issued: 41
Number of Projects under development: 11
TC 87 has formal liaisons with: IEC/TC 29, IEC/TC 62,

P-members: Australia, Austria, China, Czech Republic, Denmark, Germany, Italy, Japan, Korea (Republic of), The Netherlands, Romania, Russian Federation, Spain, Switzerland, U.S.A., United Kingdom.

Working Groups:

The committee has working groups covering the following areas:

WG 3: High power transducers

WG 6: Focussed transducers

WG 7: Ultrasonic surgical equipment

WG 8: Ultrasonic field measurement

WG 9: Pulse-echo diagnostic equipment

WG 10: Ultrasonic diagnostic flow measuring and imaging systems

WG 12: Ultrasound exposure parameters

WG 13: Terminology

WG 14: Determination of ultrasound exposure parameters

WG 15: Underwater Acoustics

IEC TC87 Meeting, 2006

A meeting was held of IEC TC87 on 14th-19th May 2006 in New Orleans, Lousiana, USA. Delegates from 11 countries attended the meeting, the countries represented being: China (1), Czech Republic (1), Denmark (1), Germany (6), Italy (2), Japan(11), Korea (4), Netherlands (1), Spain (1), UK (4), USA (14).

A major topic of discussion at the meeting was High Intensity Focussed Ultrasound (HIFU) and how to proceed with the development of suitable standards. A number of potential sources of information were reviewed, a major source being an NPL

Document “DQL/Acoustics 015 Requirements for Measurement Standards in High Intensity Focused Ultrasound (HIFU) Fields.” It was agreed that this report would form the basis of an IEC Technical Report. Work to develop standards will continue toward producing a CDV within approximately two years. Comments were made about the relevance of water measurements to in-situ conditions, although the means of either measuring in-situ, or estimating in-situ from in-water measurements, are considered problematic. One way would be to use water at low levels, and then use computational methods to estimate both non-linear and in-situ effects.

The following standards are currently at the FDIS stage:

IEC 60565 Ed. 2.0 Underwater acoustics - Hydrophones - Calibration in the frequency range 0.01 Hz to 1 MHz

IEC 61161: Ultrasonics - Power measurement - Radiation force balances and performance requirements up to 1 W in the frequency range 0,5 MHz to 25 MHz and up to 20 W in the frequency range 0,75 MHz to 5 MHz
IEC 61391-1 Ed. 1.0

The following standards are currently at the CDV stage:

IEC 61689: Ultrasonics – Physiotherapy Systems – Performance requirements and methods of measurement In the frequency range 0,5 MHz To 5 MHz

IEC 62127-1:Ultrasonics - Hydrophones - Measurement and characterization of ultrasonic fields up to 40 MHz using hydrophones,
IEC 62127-2:Ultrasonics - Hydrophones - Calibration of hydrophones to be used in ultrasonic fields up to 40 MHz,
IEC 62127-3:Ultrasonics - Hydrophones - Properties of hydrophones for ultrasonic fields up to 40 MHz,

IEC 61157: Requirements for the declaration of the acoustic output of medical diagnostic ultrasonic equipment

IEC 60050-802 Ed. 1.0 International Electrotechnical Vocabulary - Chapter 802: Ultrasonics.

IEC 61949 Ed. 1.0 Ultrasonics - Field Characterization - In-situ exposure estimation in finite-amplitude ultrasonic beams

Next meeting

TC 87 will meet again in Japan in autumn 2007 subject to an official invitation from the Japanese national committee.