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| **Reported by (Name):** | **Geoffrey S. Ibbott, Ph.D.** |
| **Organization:**  | **International Electrotechnical Commission** |
| **Position Title:** | **Convenor, Working Group 1; Technical Advisor, USNC; Chair, US TAG** |
| **Activity:** | **Meeting of the US Technical Advisory Group (TAG) for Subcommittee IEC 62C** |
| **Meeting Dates:** | **See report** |
| **Meeting Location:** | **See report** |
| **Payment $:** | **N/A** |
| **Reasons for Attending or not Attending** | **Attended as Technical Advisor to the US National Committee and Chair, US TAG for 62C** |
| **Issues from Previous Meetings or Year:** | **See report** |
| **General Description of Activities of the Organization and/or Meeting:** | **See report** |
| **Issues for AAPM:** | **See report** |
| **Budget Request ($):** | **See budget request** |

**Report of Meeting: US Technical Advisory Group**

The US participates in the development of international standards and technical reports for the safety and performance of electrical equipment, specifically, equipment related to the delivery of radiation therapy. This is accomplished though a group called the US Technical Advisory Group (US TAG) consisting of representatives from ASTRO, ACR and AAPM as well as several from industry. This group advises the U.S. National Committee (USNC) of the International Electrotechnical Commission (IEC), a Committee of the American National Standards Institute. Since 1993, Geoffrey Ibbott, Ph.D has been USNC Technical Advisor, chair of the U.S. TAG, and a liaison between the U.S. TAG and the USNC. From 2006-2016, he was chair of subcommittee 62C, and he continues as Convenor of its Working Group 1.

The IEC develops standards for the design of electrical equipment, and medical electrical equipment specifically is handled by its subcommittee 62C. Working Group 1 of 62C deals with equipment used for radiation therapy. These standards have immediate and far-reaching consequences on the design and operation of radiation therapy equipment. For example, the Working Group has published standards that set acceptable levels of leakage radiation, requirements for dosimetric safety and accuracy, and standards for parameters such as gantry angle conventions.

Dr. Ibbott represents the US radiation oncology community at meetings of IEC Working Group 1, subcommittee 62C and Technical Committee 62. The membership of these committees is at least 50% manufacturers’ representatives, so maintaining a clinical medical physics presence is critical.

A meeting was held of the US TAG on March 6, 2017, in Alexandria, VA. The meeting took place at AAPM Headquarters. The agenda and a brief description of the discussion is as follows:

1. IEC 61223-3-5 Ed 2 on Acceptance testing of CT equipment. The TAG reviewed a committee draft, 62B/1036/CD that had been distributed by subcommittee 62B (the subcommittee dealing with diagnostic radiology equipment) with comments due on March 10. This draft had been brought to our attention only recently and consequently an urgent response was required. The draft new edition contains a section dedicated to CT scanners intended for use as radiotherapy simulators, and the US TAG voiced its concerns to subcommittees 62B and 62C that we were not informed sooner. A number of comments were prepared pointing out several significant misconceptions in the use of CT simulators and the conduct of standard commissioning procedures. A number of editorial errors also were noted.
2. IEC 62926 Ed1 on Recommendations for safe integration and operation of adaptive external-beam radiotherapy system for intra-fractionally moving target volumes. The TAG reviewed a committee draft, 62C/683/CD that had been distributed with comments due March 31. A large number of technical and editorial comments were prepared, as has been the case with earlier versions of this technical report. Our careful review of this technical report is important as it will guide the subsequent development of acceptance tests and performance evaluation of radiotherapy equipment designed for gating and tracking, under image guidance using x-ray and other imaging systems.
3. IEC 60601-2-1 Ed4 on safety of linear accelerator in radiation therapy. The TAG reviewed 62C/677/CD that had been distributed with comments due on March 14. The US TAG has largely been responsible for drafting this new edition, so we had relatively few comments. Still, the discussion generated a number of recommendations for improving the standard, clarifying some of the requirements, and improving the compliance tests.
4. IEC 61217, Coordinates, movements and scales. This is the standard that defines the so-called “IEC coordinate system” that is applied to all radiotherapy equipment. The US has proposed to prepare a new edition that will address newer designs of radiotherapy equipment that includes robotic couches, gimbaled treatment heads, and novel imaging systems including MRI. Discussions were held over the specific clauses we propose to change.

This spring, the WG 1 will meet in Palo Alto on April 17-21. The TAG meeting reported here was held in preparation for this meeting. It is expected that at least one Project Team will meet during the summer, and the next WG1 meeting will be held in the fall, probably in Europe. Depending on the work expected to be discussed at the WG1 meeting, another TAG meeting may be scheduled in the early fall. As an advisor to USNC/IEC and as Convenor of the Working Group, it is important that Dr. Ibbott attend these meetings.

Respectfully submitted,

Geoffrey S. Ibbott, Ph.D.