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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:** | **Meetings of Technical Committee 62, Subcommittee 62C, its WG 1, its Project Team for the 4th Edition of the Linac Safety Standard and its Project Team for IEC 62926** |
| **Meeting Dates:** | **See report** |
| **Meeting Location:** | **See report** |
| **Payment $:** | **N/A** |
| **Reasons for Attending or not Attending** | **Attended as Convenor of Working Group 1, past chair of Subcommittee 62C, Technical Advisor to the US National Committee and chair, US TAG** |
| **Issues from Previous Meetings or Year:** | **See report** |
| **General Description of Activities of the Organization and/or Meeting:** | **See report** |
| **Issues for AAPM:** | **See report** |
| **Budget Request ($):** | **See budget request** |

**INTERNATIONAL ELECTROTECHNICAL COMMISSION**

**Notes from the meeting of Technical Committee 62, Subcommittee 62C, WG 1 and its Project teams for IEC 60601-2-1, IEC 62083 and IEC 62926**

**Held April 16-20, 2018 in Chiswick, England**

**Meeting venue:**

British Standards Institute

Chiswick, England

**Participants (Working Group 1 only)**

| **Last name** | **First name** | **Status** |
| --- | --- | --- |
| Ibbott | Geoffrey S. | Convenor |
| Bischof | Norbert | Secretary |
| Al Enezi | Salem | member |
| Allen | John | member |
| Brusasco | Caterina | member |
| Cho | Ilsung | member |
| Cohen | Alan | member |
| Coon | Stephen | member |
| Fukumura | Akifumi | member |
| Gruebling | Peter | member |
| Heese | Jürgen | member |
| Hernandez | Paco | member |
| Hirata | Yuichi | member |
| Jakob | Thomas | member |
| Jyrkkälä | Kari | member |
| Lamm | Inger-Lena | member |
| Olsson | Anna | member |
| Percy | James | member |
| Purwar | Anuj | member |
| Sethi | Hans | member |
| Shirato | Hiroki | member |
| Tomida | Kazuo  | member |
| van den Brink | Johan | member |
| Van Goethem | Simon | member |
| Yoshida | Mitsuhiro | member |

1. **Welcome and housekeeping**

The meeting was convened at 9:00 am on 19 April. The group agreed on the agenda and structure of the meeting days. Due to the number of projects for which work was needed to be accomplished, the Working Group agreed to break up into project teams for the 4th edition of 60601-2-1, the 2nd edition of 62083, and the first edition of 62926. The full WG would meet together each morning and each afternoon to review the work accomplished and discuss issues that could not be addressed satisfactorily by any of the project teams. On Wednesday afternoon, most members would attend the plenary meeting of Subcommittee 62C. On Thursday and Friday, some members would attend meetings of the TC 62 Chairman’s Advisory Group and the TC 62 plenary.

The following agenda items were discussed throughout the course of the week, although not necessarily in the order shown here.

1. **Program of work for the Working Group**

The WG 1 program of work is given here in approximate order of priority for development:

1. IEC 62667 Ed1: The FDIS was approved. IEC 62667 was published on 23 Aug 2017.
2. IEC 60601-2-1 Ed4: Cohen had prepared a CDV that was distributed 27 Sep 2017 with comments due 22 Dec., which was too late for review in Forchheim. The compiled comments were to be reviewed at the April 2018 meeting.
3. IEC TR 62926 Ed1: The PT had distributed a third CD in Jan 2018 for NC comments. The comments on the 3rd CD were to be discussed at the WG1 meeting in April 2018. The PT has committed to prepare a DTR to be registered by 5 Oct 2018.
4. IEC 62083 Ed2 maintenance: Since the meeting in Forchheim, work has been accomplished by email. Further work is expected to be completed at the April 2018 WG1 meeting, and at a project team meeting scheduled in June 2018. We anticipate that a CD will be prepared in the summer and the project will be formally initiated in fall 2018.
5. IEC 61217 Ed2 update: National committees approved this project via 62C/695/DC. Comments submitted by IBA and by the Swedish National Committee will be reviewed at the April meeting. Ibbott will produce a draft for the fall meeting and the project will be initiated in late 2018.
6. TR 63186: Cohen drafted a new TR containing a summary of error messages, previously included as Annex AF in the CDV of IEC 60601-2-1 4th edition. The Annex had been preserved in the 4th edition but will be removed now that a draft TR has been prepared. WG 1 considers this a high priority so that the TR could be referred to by other standards currently in development (including the 4th edition).
7. IEC 60601-2-68 Amendment 1: The WG considers that an amendment is required to correct gaps and problems in the X-IGRT standard. To prepare Q after the London meeting.
8. IEC 62274: Sethi had circulated a draft NWIP and a Q was distributed. It appears that NC administrators in several countries decided without expert input either to abstain or to submit a negative vote. A motion was introduced at the April 62C meeting to consider the Q to have passed with three positive votes and one negative vote. The title of the standard will be changed to “Safety of Radiotherapy Treatment Management Systems.”
9. TR 6XXXX: An IGRT performance standard will be proposed. We have evidence that at least one national regulatory group is considering this also.
10. IEC 60976/60977: A revision per the 4th edition of IEC 60601-2-1 will be proposed. This is a lower priority than the projects listed above, and will require substantial completion of the 4th edition.
11. IEC 60601-2-68 Update: An expansion for MR-IGRT will be considered, and possibly for other imaging methods. This would possibly be done by developing separate, new part 2 standards 60601-2-xx out of the current 60601-2-68. A proposal will be prepared after publication of the amendment.
12. IEC 60601-2-29 Ed2: Stability date is 2020. Will consider a revision or expansion for CT sim and MR sim. We will plan to collaborate with 62B. The project will be proposed after publication of 60601-2-1 Ed4.
13. **IEC 60601-2-1 4th Edition**

The project team spent more than two full days reviewing 481 comments received from National Committees. Eighteen comments will be referred to Central Office for resolution in accordance with IEC publication standards. A further 73 items will be handled through “homework” over the next several weeks. Cohen will incorporate all accepted comments and prepare an FDIS to be submitted to the Secretariat for forwarding to CO during the summer.

1. **IEC 62926, Ed. 1.0**

Much of two days was spent reviewing comments received on the 3rd CD distributed in January. Substantial progress was made, and all comments were addressed by plans for changes.

Plan for future:

1. Main text – the project leaders will prepare a new draft technical report (DTR) with changes following discussions at the meeting in London. Will send to GSI by 1 June.
2. US group to complete English/grammar review by 1 July.
3. Submit DTR to secretariat by 1 Aug.
4. Secretariat to forward DTR to Central Office to register and distribute to National Committees.
5. **Revision of IEC 62083, Ed. 2.0 (62C/684/RQ)**

Thomas Jakob and Hans Sethi had distributed several more drafts of the new edition of the treatment planning standard, which had been commented on by the Project team by email and through submission of “homework”. The full Working Group met on several occasions to focus on different parts of the draft. Much discussion was held on how the “prescription” should be captured and reported by a treatment planning system, and what data should be included in the “report”. The issue of the security of code was discussed; this is complicated by the extensive use by most manufacturers of standard code from 3rd parties. Homework was assigned. A new WG draft will be prepared for discussion at the next meeting in April 2018. A Project team meeting is scheduled for June 11-13, 2018 in Crawley. We anticipate distributing a first CD immediately after the June meeting, for review at the fall 2018 meeting of WG1. The project will be formally initiated at this time.

1. **Radioactive source security**

At the last meetings of WG 1, SC 62C and TC 62 in Frankfurt, Autumn 2016, document IEC 62C/673/INF - NWIP: Security arrangements for medical equipment using high-activity radioactive sources was discussed. WG 1 decided that the topic was too broad for the WG to consider, and forwarded it to 62C. Norbert Bischof introduced the item at the German mirror group of the German National Committee and there was a brief discussion about it. Germany has a standard (DIN 25422) in place, dealing with similar items.

The German Committee is interested in participating with experts in the preparation of the work item. The experts are: Dr. Wolfgang Baus, Uniklinikum Köln, and Mr. Thomas Burke, Bayerisches Landesamt für Umwelt.  The Swedish team will prepare a formal proposal in the next few weeks and will submit to SC 62C for review.

1. **Subcommittee 62C Plenary (agenda attached)**

In my report to the Subcommittee, I indicated our main priorities for the SC:

* The Questionnaire regarding a revision of IEC 62274 be considered approved, even though most national committees (including the US) abstained without contacting their TAGs or individual experts. This was approved.
* WG 1 also proposed to withdraw IEC 61859 (a technical report on non-shielding aspects of treatment room design) as it is obsolete and redundant given the appearance of other new reports and updates to reports such as the NCRP reports on shielding design.
* We recommended that the stability date of 8 other standards be extended five years. We are currently preparing new editions or amendments to three of these, and have plans to update three others.
* A PDF of the slides presented at the SC meeting are attached.

I serve as liaison to the Subcommittee from the IAEA and the ICRU. My liaison reports were accepted.

Other decisions made by SC 62C include:

* SC 62C (re-) confirms the Convenors of SC 62C working groups WG 1, 2, 3 and PT 62926 for three years.
* SC 62C wishes to establish the following new Liaison and to nominate the Liaison Officer Sarah Peters HERCA http://www.herca.org/ Liaison B.
* SC 62C approves the project IEC 63077, Good refurbishment practices for medical imaging equipment to include Gamma-Cameras and PET and offers the Convenors of WG 1, Geoffrey Ibbott and Working Group 2, Hartwig Newiger to join a collaboration with SC 62B/WG 53, to establish consensus about the next draft.
* The Officers of SC 62C are going to participate in the discussion on the work items IEC 63077 (SC 62B) and IEC 63120 (SC 62A) in the TC 62 CAG London meeting.
* SC 62C, if TC 62 and its subcommittees are invited, would like to hold its next meeting with the IEC General Meeting 2019, October 14 to 26 in Shanghai, China.
* SC 62C request the IEC Central office to remind inactive National Committees about participation at plenary meetings. Egypt will be demoted to become Observer.
1. **Technical Committee 62 (agenda attached)**

Items that are of direct interest to 62C and WG 1:

* The representative from Sweden asked about the decision made in Frankfurt to contact ISO TC 85 on behalf of IEC 62C/WG 1 about a project by ISO on Gammaknife calibration. It appears no more had been done. The Technical Officer from Geneva agreed to investigate.
* IEC now counts 171 member countries of whom 85 are full members, 86 are affiliates.
* An ad-hoc group was approved to review IEC terms and definitions and try to minimize duplications and conflicts.
* The chairs of SCs 62A, B, and C will review and resolve overlaps in scope of IEC 63120 and IEC 63077.
* TC 62 requests ISO TC 210 to establish a joint exploratory group to investigate equipment life cycles including refurbishing of electronic medical devices, in view of “green” principles.
* All recommendations from 62C were approved, including the proposal regarding IEC 63077 (see above).
* G. Ibbott was confirmed as liaison officer from IAEA and ICRU for both SC 62B and 62C.
1. **Next meetings of WG 1 and project teams**
2. June 11-13 2018: Meetings of the project team for IEC 62083 in Crawley.
3. October 8-12, 2018: Plenary meeting of Working Group 1, in Seoul, South Korea.
4. Spring 2019; Plenary meeting of Working Group 1, location TBD
5. October 14-25, 2019; Plenary meeting of TC 62, its subcommittees and working groups in Shanghai, China
6. October 2020; Plenary meeting of TC 62, its subcommittees and working groups in Stockholm, Sweden
7. **Final Notes**

One of the members of the US TAG resigned recently and needed to be replaced. This member was supported by the ACR, so a search was conducted to find a replacement. We decided to invite Dr. Steven Sutlief who has accepted and was approved by the ACR. He will be appointed through ANSI in the near future.

Respectfully submitted,

Geoffrey Ibbott

Convenor IEC 62C/WG 1

Technical Advisor to US National Committee

Chair, US TAG