

Reported by (Name):	Wesley Culberson
Organization, SC and Group:	University of Wisconsin – Madison IEC SC62C WG3 – Performance of Dosimeters
Position Title:	IEC SC62C WG3 member Associate Professor UWADCL Director
Activity:	IEC subcommittee 62C Working Group 3 meeting
Meeting Dates:	May 22-23, 2025
Meeting Location:	Berlin, Germany
Payment \$:	Requesting \$2,250 for travel reimbursement (pending) from WGIEC budget
Reasons for Attending or not Attending	I am a technical expert on radiation dosimetry representing the interests of the AAPM and am a member of the AAPM Working Group for IEC (WGIEC).
Issues from Previous Meetings or Year:	This year a significant amount of work has been done to discuss connectors and adapters for radiotherapy QA systems. Although most prefer for this to be standardized by the IEC, there is still some opposition, and the various pathways have been explored. Also this year work has been done to incorporate solid-state detectors into a much needed update to IEC 60731 standard. Previously, this standard only accommodated ion chambers. The meeting in Berlin was a working meeting where we discussed various detector standards and responded to comments from National Committees. The stakeholders in this group are clinical physicists and the major QA manufacturers (PTW, IBA, Standard Imaging, and SNC).
General Description of Activities of the Organization and/or Meeting:	The IEC sets performance and safety standards for manufacturers of equipment being used in radiation therapy. Working Group 3 deals specifically with the radiation dosimetry standards. Constant work is required to ensure the best safety for our AAPM members as well as the most accurate deliveries of dose to the patients in radiation therapy.
Issues for AAPM:	Incorporation of diodes and scintillators as standard dosimeters in radiation therapy, accurate calibrations of well chambers, and inclusion of international standard beams in therapeutic x-ray therapies. A new standard for these detectors is being developed in this Working Group. Also standardization of radiotherapy equipment connectors.

MEETING MINUTES

OF IEC SC62C WG 3

May 22-23, 2025

Meeting Location:

PTB (Abbestraße 2/12, 10587 Berlin) [[map](#)]

Meeting Times

Thursday, May 22, 2025 - Meeting - 9:00am - 5:00pm CEST

Friday, May 23, 2025 - 8:00am – 11:00am CEST

Chair: Wesley Culberson, Convenor

Attendees

	Name	Country	Email	Attending
1	Wesley Culberson	USA	wsculberson@wisc.edu	In-person
2	Jan Wuerfel	Germany	jan.wuerfel@ptwdosimetry.com	In-person
3	Kun Wang	China	wangkun@nim.ac.cn	In-person
4	Soren Stuesson	Sweden	soren.stuesson@rtigroup.com	In-person
5	Andreas Schoenfeld	Germany	andreasschoenfeld@sunnuclear.com	In-person
6	Stefan Pojtinger	Germany	stefan.pojtinger@ptb.de	In-person
7	Paula Toroi	Finland	paula.toroi@stuk.fi	In-person
8	Mattias Greiter	Germany	mg@quart.de	In-person
9	Annika Lohstroh	Germany	Annika.lohstroh@vacutec-gmbh.de	In-person
10	Mattias Gustavsson	Germany	Mattias.gustavsson@fluke.com	In-person
11	Doug Pfeifer	USA	xraydoug@me.com	In-person
12	Ulrike Ankerhold	Germany	Ulrike.Ankerhold@ptb.de	In-person
13	Shannon Holmes	USA	sholmes@standardimaging.com	Virtual
14	Annette Hagen	IEC	lectc62.team@siemens-healthineers.com	Virtual
15	Daniel Boedecker	Guest	Daniel.boedecker@iba-group.com	In-person
16	Jochen Krimmer	Germany	Jochen.Krimmer@iba-group.com	In-person

Day 1

9:15am – Meeting Start (~15min delayed due to technical difficulties)

1. Opening of the Meeting / Introductions [Culberson]

Everyone introduced themselves

2. Confirmation of the minutes of the in-person meeting held in May 2024 [Culberson]

The meeting minutes and Action Items were reviewed and approved. Wes has invited Shannon Holmes to join WG3. Andreas Schoenfeld followed up on linac QA and found that it probably belongs in another IEC WG, if at all. That will be tabled for now.

3. Reports

a) Secretary of SC62C [Annette Hagen]

Regina was unable to attend, but Annette Hagen provided an update to the group and shared a few pages virtually for the attendees to see. They are attached to these meeting minutes.

b) Convenor to WG3 [Culberson]

The convenor presented slides to the group, which are attached to these meeting minutes. While updating the group on new members, Wes mentioned that there are 2 new members from France that Wes hasn't heard of. **Action Item** Wes to contact NIST asking for who might be a good new representative from them on WG3?

c) Update from TraMeXI [TOROI]

Paula provided an update from TraMeXI. This project is in year 2 of 3 and a report will be provided to WG3, as required by the funding agency, before the project concludes. There were some comments on the challenges of calibrating XMMs, since the Radiation Qualities used by the manufacturers and end users aren't the same as the ones used in calibration laboratories (IEC beam qualities). There was a little discussion on whether or not a separate XMM standard would be the goal.

4. IEC 61674: "Medical electrical equipment – Dosimeters with ionization chambers and/or semiconductor detectors as used in X-ray diagnostic imaging"

A report on the current state of the standard was given by Stefan Potjinger. The most recently updated standard version was published in 2024, with stability date is 2027. New to IEC, there is a commented version. It can easily be extended.

Stefan presented a proposal for the next revision, based on the TraMeXI project. His slides are attached to these meeting minutes. Some of the recommendations included adding a reference class, copper filtered beams, dental beams, updating the rated ranges, add HVLs down to thinner amounts, and a lower limit of variation (5%).

There was a fair amount of discussion on uncertainties and how the current IEC uncertainties are pretty high compared to reality.

There was some discussion on whether or not we really need reference class, when nobody is buying it. The general consensus was to keep it the way we have it, but it is certainly an interesting discussion.

5. IEC 61676: "Medical electrical equipment – Dosimetric instruments used for non-invasive measurement of X-ray tube voltage in diagnostic radiology"

A report on the current state of the standard was given by Wesley Culberson. It was decided that it might be nice to combine this standard somehow with the beam quality standard. **Action Item** Wes will schedule a meeting in the Fall to discuss / brainstorm next update. Consider inviting Annette.

6. IEC 61267: "Medical diagnostic X-ray equipment – Radiation conditions for use in the determination of characteristics"

A report on the current state of the standard was given by Stefan Potjinger. This standard is running close to a deadline, so it is moving as quick as possible. There was one negative comment from France that Mo beams are outdated. All agreed on this, but it will not be addressed until the next standard. A vote to approve the FDIS was conducted and unanimously approved by WG3.

Then there was discussion on what would be included in the next version. Slides are attached to these minutes providing details.

7. IEC 60731: "Medical electrical equipment - Dosimeters with ionization chambers as used in radiotherapy"

A report on the current state of the standard was given by Jan Wuerfel. Slides are attached to these minutes. Jan just received 89 comments on the CDV, and a few of the major comments were discussed by the group. More discussions by the working group will be scheduled later summer to go through the rest of the comments.

Day 2

IEC 60731 [continued from Day 1]

8. IEC 60580: "Medical electrical equipment – Dose area product meters"

A report on the current state of the standard was given by Wes Culberson. We are considering an update to this standard. It was decided to wait a little longer before taking action. Annette mentioned that if ~10% or fewer changes are made, it can be an amendment. If major changes are to be made, then it would be Edition 4. It was suggested that Annika Lohstrohl may be a suitable project leader for an update. She was amenable to this suggestion. **Action Item:** Annika will schedule a meeting through the portal to start a conversation.

9. New Work Item – Technical Specifications for Connectors

A summary of discussions / meeting minutes on connectors was given by Wes Culberson. The connector discussion has persisted in WG3 for over a year and has been productive, although not fully resolved. It was decided to not include connector information in 60731. There was general agreement that a Technical Report could be a good mechanism to at least standardize existing connectors. Some connectors of the same style have different dimensions, which leads to problems for users. Need to inspect IEC 61169-68 and -67 for information on bayonet and threaded triax connectors. It was agreed that general materials, specs, and resistance values, among others, would go into a report like this. The vendors in the room, as well as Kun from China, are all interested in discussing more.

The idea of a 3-lug BNC Triax was discussed. This would help prevent messing up connectors by connecting to a coax cable, and would inconvenience manufacturers similarly.

Action Item: Wes to organize a meeting to discuss this further in the Fall.

10. IEC 62467: "Medical electrical equipment – Dosimetric instruments as used in brachytherapy – Part 1: Instruments based on well-type ionization chambers"

A report on the current state of the standard was given by Wes Culberson. It was decided by the group that a five year extension would be most appropriate. **Action Item:** Wes to request the 5-year extension. Paula provided a short update on her involvement with the CARE project, where DAP meters have been discussed. She will keep our WG3 informed.

11. Further work, any other business and place and date of the next meeting

Next meeting location discussed and most likely best spot is RTI HQ in Gothenburg, Sweden. Soeren would be local host. He agreed to this. Targeting a May time period. ESTRO is in Stockholm May 15-19. Could consider before or after. If after, will conflict with TraMeXI meeting (May 18-22). May 13-14 generally agreed would be best.

11:00am - Adjourned