

International Commission on Radiation Units and Measurements (ICRU)

- Short report on relevant activities



Report issued November 2016

- Implementation of ICRU recommendations on key data for dosimetry
- Recommended values have an impact on primary realization for dosimetry standards
- CCRI working group formed (2017) to assess impact and to make recommendations on implementation
- Changes to international reference standards of BIPM published (Burns & Kessler 2018 *Metrologia* **55** R21) and implemented January 2019
- NMIs in process of adoption

Meeting of CCU - Oct 2019

Operational Quantities for External Radiation Exposure

- Draft report prepared jointly with the International Commission on Radiological Protection (ICRP), revised following public consultation
- Proposal addresses the existing operational quantities ambient and personal dose equivalent:
 - introduced in the 1980s for workplace and personal monitoring as a *measurable* intermediate between the quantities describing the radiation field (fluence, kerma) and the radiation protection quantity effective dose (which is not measurable)
 - used as estimators of effective dose for legal purposes
 - in practice, few physical standards exist; dose equivalent normally derived by *calculation*
 - radiation beam types and energy ranges have greatly increased in the intervening years
- Report introduces calculated conversion coefficients that directly convert fluence or air kerma to a new quantity, ambient or personal dose, that is a better estimator of effective dose
- Issues over the perceived gain and the estimated cost of developing appropriate instrumentation and calibration procedures
 - timescale for implementation perhaps 10 years
- Report currently undergoing final approval within ICRU and ICRP

