

# ICRP 2013: 2nd International Symposium on the System of Radiological Protection

*Dose limits to the lens of the eyes: New limit for  
the lens of the eye - International Basic Safety  
Standards and related guidance*

Miroslav Pinak  
RSM/NSRW



**IAEA**

International Atomic Energy Agency

# Approval process for BSS

RASSC, WASSC, TRANSSC, NUSSC approved draft 4.0 in Nov-Dec 2010

*Mr S. Magnusson (Chair of RASSC at the time) noted that the ICRP public consultation on the issue of the dose limit for the lens of the eye should be completed by March 2011, at which time a formal recommendation on revision of the dose limits for both occupational and public exposure will be published. He proposed that, at this stage, no change be made to the dose limit in the draft revised BSS but that a final decision be deferred until the ICRP recommendation is available.*

# ICRP statement on Tissue Reactions, April 2011

- Lens of the eye
  - Threshold now considered to be 0.5 Gy
  - For occupational exposure, in planned exposure situations, recommended:
    - Equivalent dose limit of 20 mSv in a year
      - Averaged over 5 year periods, with
      - No single year exceeding 50 mSv
  - For public exposure – unchanged from ICRP 103

# Approval process for BSS

- Commission on Safety Standards met in May 2011. CSS approved the BSS, with the intention to incorporate the revised equivalent dose limits for the lens of the eyes into Schedule III
- By Note Verbale, Member States were invited to provide comments on the revised Schedule III by 7 July 2011
- Review of comments by Chair of RASSC
- Final endorsement by Chair of CSS
- 12-16 Sept 2011 Board of Governors meeting in Vienna
- 19-23 Sept 2011 General Conference
- November 2011 GSR Part 3: Interim Edition published

# BSS dose limits for the lens of the eye – old & new

## Planned exposure situations

Occupational Exposure of Workers	Occupational Exposure of Apprentices & Students	Public Exposure
> 18 years	16 – 18 years	

Equivalent dose to the lens of the eye:

New	Old	New	Old	New	Old
20 mSv per year averaged over 5 consecutive years, and 50 mSv in any single year	150 mSv in a year	20 mSv in a year	50 mSv in a year	15 mSv in a year	15 mSv in a year

# Safety Guides supporting the BSS

Safety Guides that will provide guidance on implementing the dose limit to the lens of the eye:

- *DS453: Occupational Radiation Protection*
  - To combine and update: RS-G-1.1: Occupational Radiation Protection (1999); RS-G-1.2: Assessment of Occupational Exposure; Due to Intakes of Radionuclides (1999); RS-G-1.3: Assessment of Occupational Exposure Due to External Exposure (1999); RS-G-1.6: Occupational Radiation Protection in the Mining and Processing of Raw Materials (2004); GS-G-3.2: The Management System for Technical Services in Radiation Safety (2008)
- *DS399: Radiation Safety in the Medical Uses of Ionizing Radiation*
  - To incorporate RS-G-1.5: Radiological Protection for Medical Exposures to Ionizing Radiation (2002)

**DS453 and DS399 to be completed in 2015 or 2016**

(drafting of text, review by RASSC, Member State comment, approval by RASSC, CSS)

# TECDOC

- TECDOC – *Implications for occupational radiation protection of the new dose limit for the lens of the eye* – has been developed
  - Shorter time scale to publish than a Safety Guide
  - Interim guidance until the Safety Guides are approved
  - Technical Meeting held in October 2012
    - Attended by 45 participants from 25 Member States and 7 international organizations (intergovernmental, professional societies, industry)
  - TECDOC is not reviewed by Member States, but it was circulated to participants of the Technical Meeting for comment
    - 310 comments from 20 organizations
  - TECDOC provided to RASSC for information – July 2013
    - Comments from 1 member of RASSC
  - Approved by Publications Committee in August 2013
  - Published by end of 2013 / early 2014



IAEA

# TECDOC - Table of Contents

## IMPLICATIONS OF THE NEW DOSE LIMIT FOR THE LENS OF THE EYE

- Safety Assessment
- Workers for whom exposure of the lens of the eye might be important
- Optimization of protection
- Monitoring of doses to the lens of the eye due to external radiation
- Health Surveillance
- Exposure of emergency workers



# TECDOC - Annexes

- Annex I: Dose limits for occupational exposures in planned exposure situations
- Annex II: Typical values of equivalent dose to the lens of the eye per procedure in interventional radiology
- Annex III: Guidance for medical practices where staff work in close proximity to patients in image guided interventional procedures

# BSS workshops

- The issue of implications of the new dose limit was part of agenda covering major changes to the revised BSS
- 2 rounds of Workshops held in all four regions: Latin America; Asia-Pacific; Europe; Africa: 2012-2014
- 1st workshop in each region – 2012-2013
- 2nd workshop in each region – 2013-2014: “Implications of the new dose limit” covered in greater detail at the request of Member States

**Thank you for your attention**

