Survey on the implementation of the "justification", "optimisation" and "limitation of doses" radiological principles in national regulations in Europe

MACEDONIA

1 The implementation of European Directives

1. *Since when have the European Directives 96/29 and 97/43 been implemented in your country?*

Law on Ionizing Radiation Protection and Safety (Official gazette of R.Macedonia No 48/2002) refers to IAEA – BSS.

2. *If they are not implemented, is it expected and when?*

Complete implementation expected by the end of may 2007.

2 Justification principle

1. *What is the exact wording of the justification principle in the Law?*

Economic, social and other benefits yielded by all types of practices involving operation of sources of ionising radiation to individuals or society must outweigh the damage which may be caused by radiation to human health and environment.

2. *Which practices are explicitly named as unjustified or forbidden?*

The authorization shall not granted to a legal entity which applies for a authorization to carry out activity which does not justify the usage of sources of ionizing radiation from a social, economic, medical or other aspect established by the law.

3. *Which regulatory body(ies) is (are) responsible to determine if a practice is justified or not?*

Radiation Safety Directorate of R.Macedonia

3 Optimisation principle

1. *Could you give is the exact wording (citation) of the optimisation principle (ALARA) as defined in the Law or national regulation?*

Any kind of exposure of individuals and society must be as low as reasonably achievable, economic and social factors being taken into account.

2. *Does the national regulation give a description on the practical way to implement the optimisation principle (e.g. need to perform dose prediction and to establish dose objectives, need to perform real-time dose follow-up, need to write feedback experience report, etc)?*

No

3. *Does it exist a specific guidance to help operators / end-users in implementing the optimisation principle?*

No.

4 Dose limits

1. *Can you provide us with present regulatory dose limits established to reduce the probability of occurrence of stochastic effects?*

Basic limits of occupational exposure

- Σ E (external and internal exposure) < 100 mSv/5 year;
- Σ E (external and internal exposure) < 50 mSv/year;

$$\frac{GU_{inh}}{GGU_{inh}} + \frac{GU_{ing}}{GGU_{inh}} + \frac{D_s}{GGD} \leq 1$$

Where:

GU_{inh} = annual intake by inhalation

GGU_{inh} = limit of annual intake by inhalation

GU_{ing} = annual intake by ingestion of water, food or medicines

GGU_{ing} = limit of annual intake by ingestion

D_s = dose

GGD = annual dose limit

- H < 150 mSv/year in eye lens;
- average H < 500 mSv/year in 1 cm2 of skin;
- average H < 500 mSv/year to arms from fingers to forearms, for legs from feet to ankles, are not exceeded.
- interventions: 100 mSv

Based on the Law the following persons shall not be allowed to work with sources of ionising radiation:

1. persons under 18 years of age;
2. women during pregnancy, and during breast feeding period if working with open sources;
3. persons suffering certain diseases, to whom work with ionising radiation sources is contra indicated

Basic limits of public exposure

The total effective dose per member of the public

- E ≤ 1 mSv/year **(excluding natural radiation exposure)**
- For a limited period of few years the annual limit may be 5 mSv, provided that the average annual effective equivalent dose for the lifetime period does not exceed the base limit of 1mSv per year.
- The individual annual limit of the equivalent dose for a separate organ or tissue is 50 mSv

5 Dose constraints

1. *Here again, could you give is the exact wording (citation) of the Law or regulations where the concept of dose constraint is mentioned.*

This concept is not introduced so far.

2. *In which domain (e.g. public dose, occupational dose, patient dose, etc) and by whom (regulatory body, operators, etc) are dose constraints implemented in your country?*
3. *What are the corresponding values and rationales behind these values?*
4. *What is(are) the status(es) of dose constraint(s)?*
5. *What is effectively done if a constraint is exceeded?*