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

CROATIA

1 The implementation of European Directives

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

European Directives 96/29 and 97/43 are not explicitly implemented in Croatia. There is no formal referencing about compliance with Directives but the Law and regulations are based on the stipulations from these Directives. Croatian legislative dating from 1999 and 2000 and Directives are in good accordance.

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

Croatian national Law/regulations on radiation protection during preparation have been inspired by both ICRP recommendations and IAEA BSS as well as on EU directives.
In the first half of 2006 the new Law fully adapted to Directives will be promulgated (it is in final stage of adoption by the Parliament).

2 Justification principle

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

"The principle of justification, in relation to practices involving ionising radiation, is achieved if the practice involving exposure of persons in all circumstances produces net benefit to an individual and society which is greater than the harm that might be caused by exposure to ionising radiation, economic and social factors being taken into account."

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

Use of radioactive sources as attachments to lightning rods, addition of radioactive substances to drugs, cosmetics, personal ornaments, toys and food.

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

Ministry of Health and State Office for Radiation Protection.

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?*

"The principle of optimisation of protection against ionising radiation in relation to practices is achieved by the application of protection measures pursuant to which the individual exposure of workers and other persons to ionising radiation from all such practices and ionising radiation sources within practices is reduced to as low as is reasonably achievable, within the prescribed limits, - technical, organisational, economic, health 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)?*

In national regulation there are issues related to practical implementation of the optimisation principle…

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

No, there is no such a specific guidance to help operators/end-users in implementing optimisation principle.

4 Dose limits

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

Dose limit for public exposure is effective dose of 1 mSv per year.
Occupational dose limits are: effective dose of 100 mSv in five consecutive five-years period and a maximum of effective dose of 50 mSv in any single year.
There is no difference for permanent and interim workers, males or females. There is a limit for pregnant women of effective dose of 1 mSv during pregnancy.
Post accidental intervention limits are the same as in IAEA BSS (Appendix V. (V.27) and Schedule V).

2. *What are the legal dose limits to prevent public and workers from deterministic health effects?*

There are no separate or additional limits for deterministic health effects.

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.*

There is only one dose constraint – source related in regulations.

"Any source within the authorised practice shall not produce effective dose exceeding 0.3 mSv per year."

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?*

Dose constraint is implemented in occupational exposure by regulatory body.

3. *What are the corresponding values and rationales behind these values?*

The dose constraint is source-related. There is no level below which the optimisation principle has not to be applied.

4. *What is(are) the status(es) of dose constraint(s)?*

It is mandatory to use dose constraint (i.e. stated by the regulations).

Note: In Croatia ongoing is the process of adapting our legislation to that of European Union. We will use the opportunity to address and introduce new concepts of radiation protection including dose constraints, security of the sources, etc.

5. *What is effectively done if a constraint is exceeded?*

New safety assessment, investigation of the causes and improvement of protection measures (organisation of work, shielding, etc.).