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

ARMENIA

1 The implementation of European Directives

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

The European Directives are not foreseen to be implemented yet. The process of implementation of ED legislation has been started (non nuclear and radiation) and it will include the nuclear legislation as well. It will take a few years.

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

As for ICRP and IAEA recommendation, they are implemented partially: fully for nuclear facilities and partially for non nuclear sources (medical, industrial…).

2 Justification principle

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

The exact wording of justification in Armenian regulation is almost the same as in IBSS.

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

The practices related to production of consumer product, public exposure for research proposes.

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

In Armenia, the Armenian Nuclear Regulatory Authority with Ethical Committee of Ministry of Health are responsible to determine whether the practice is justified (before licensing of activities with IS).

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 exact wording of optimisation in Armenian regulation is almost the same as in IBSS.

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)?*

Yes!

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

In Armenia there are some prescriptive regulations which are describing more detail how to implement the radiation protection requirements, especially ALARA principle. The ”Rules for designing and operation of NPPs” is describing how to implement the ALARA trough organising the ALARA Committee and dose reduction planning.

4 Dose limits

1. *.Can you provide us with present regulatory dose limits established to reduce the probability of occurrence of stochastic effects?*
2. *What are the legal dose limits to prevent public and workers from deterministic health effects?*

The following dose limits for normal operation of facilities are specified by categories:

- For A category personnel:
  - Up to 20 mSv annual effective dose averaged for 60 months (5 years)
  - Up to 50 mSv effective dose for each separate year (12 months)
  - Up to 150mSV equivalent annual (12 months) dose for eye lens
  - Up to 500 mSv equivalent annual (12 months) dose for extremities (palms and foots) or for skin
- For B category personnel: ¼ of dose limit for A category

The following dose limits values are specified for public:

- Up to 1 mSv annual effective dose averaged for 60 months (5 years)
- No more than 5 mSv annual effective dose for each year (12 months)
- Up to 15 mSv equivalent annual (12 months) dose on lens of eye
- Up to 50 mSv equivalent annual (12 months) dose on extremities (palms and...) or on the skin

Three critical organs groups are specified:

a) First group, that includes the whole body, gonads and bone morrow (red)
b) Second group that includes: muscles, thyroid, adipose tissue, kidney, spleen, gastrointestinal system, lungs, lens of eye, other organs not included in first and third groups;
c) Third group includes: skin, bone surface, elbow, knees, and feet.

For the emergency situation (in order to prevent the deterministic effects) the emergency intervention criteria's has been established for the different protective action (evacuation, sheltering iodine prophylactics) which are fully compatible with IAEA Safety Guides on Emergency intervention Criteria's for emergency workers and for public.

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.*

Dose Constraint

A part of the dose limit intended to limit the population (public, workers, patients) exposure from a given man-made radiation sources or given exposure pathway (external exposure, intake of radioactive materials in water, food and air).

For example for public dose constraint from NPP is 0.25 mSv (Source related) – defined by RB.

The general requirements on dose constraint and the principal of its implementation are defined by Regulations. The operators approaches for the distribution of doses (mainly job-related) are defined in local rules which should be agreed with Regulatory Authority.

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?*

The dose constrained defined by RB or utilities never been exceeded in Armenia.