



Possible New Aspects of Slovenian Radiation Protection Legislation

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Introduction

- Introduction
- Radiation protection in Slovenia
- ICRP 2007 and possible implications
- Conclusions



Introduction

Basic facts related to radiation and nuclear safety legislation

- First fundamentals prepared already in the sixties of the last century.
- Extensive legislation based on the Act from 1984 (ICRP 26).



The Krško PWR NPP started its commercial operation in 1983.

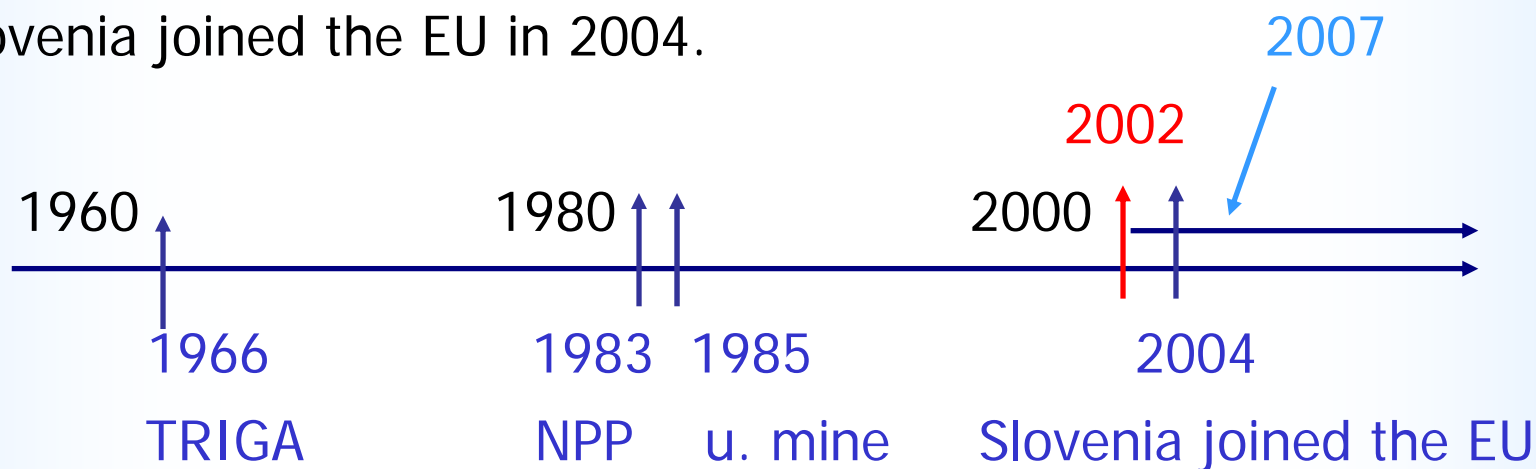


Introduction cont.



In 2002 the updating of legislation started.

- “Act on Protection against Ionising Radiation and Nuclear Safety” was published.
- The extensive updating of legislation is still taking place.
- The ICRP 60 is included as well as IAEA standards, EU directives and WENRA publications.
- Slovenia joined the EU in 2004.





Introduction cont.

Partial reorganisation of the responsibilities took place.

- The *Nuclear Safety Administration* (SNSA) with 47 employees within the Ministry of the Environment and Spatial Planning was established in 1987.
- The *Slovenian Radiation Protection Administration* with 5 employees within the Ministry of Health was established in 2003.

Annuals reports on radiation and nuclear safety have been prepared for a more than a decade in order to inform stakeholders.

<http://www.ursjv.gov.si/en/>



Implementation of Radiation Protection

Three main activities took place:

- authorisation or updating of authorisation of practices and sources
- inspections
- prevention.

The activities were based on:

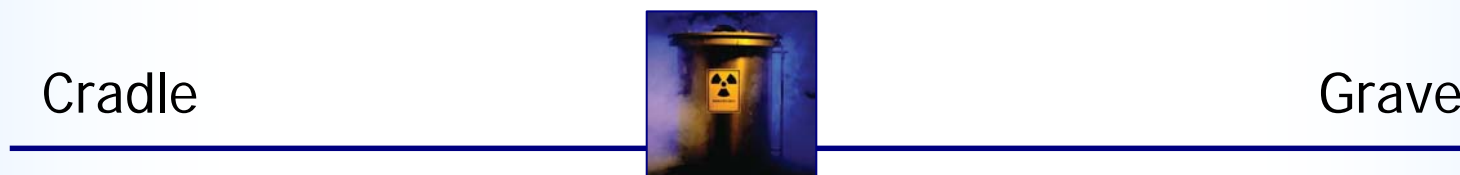
- authorities' databases from the past as well as databases of the technical support organisations
- new identifications of practices and sources
- assessment of risks which also included published experiences (i.e. use of IRID (NRPB), ITDB (IAEA))



Implementation of Radiation Protection cont.

Implementation of new regulations in authorisation procedures

- The updated authorisation takes into account all phases of a source.



- The authorisation procedures have a few well defined steps.
- Maintenance of knowledge was important. At many users of ionising radiation or operators of nuclear facilities the introduction of ICRP 60 recommendations did not cause major problems partly also due to the fact that the legal system before 2002 was based on an important role of qualified experts who already currently followed development of radiation protection.



Implementation of Radiation Protection cont.

Implementation of new regulations in inspection procedures

- Practices with higher risk were inspected first (i.e. industrial radiography).
- The SNSA has a 24 hour on duty inspector.
- Equipment for measurements or detection of radiation included new devices (i.e. FieldSpec Instrument etc.)





Implementation of Radiation Protection cont.

Implementation of new regulations in inspection procedures

- An extensive campaign of the SNSA related to abandoned sources from past activities took place.
- The SNSA systematically followed and analysed all incidents related to sources including incidents related to border transport.
- The diversity of sources is very large.



Implementation of Radiation Protection cont.

Abandoned source in an abandoned industrial facility (2004)



Cs-137 (5 GBq at a time of recovery)



Implementation of Radiation Protection cont.

Abandoned contaminated equipment in a storage (2005)



Contamination: uranium



Implementation of Radiation Protection cont.

Abandoned source in a laboratory (2007)



Tc-99 (2,5 GBq at a time of recovery)



Implementation of Radiation Protection cont.

Prevention



Increase of number of stakeholders due to:

- past activities related to existing sources
- foreseen activities due to a change in the market.

The activities of the regulatory authorities:

- informing all stakeholders (i.e. managers in bankruptcy, police, customs, scrap yard managers) about activities of the SNSA
- regular publications of leaflets since 2001
- preparation of a book containing basic practical radiation protection recommendations in 2006.
- improvement of information systems including databases.



ICRP 2007 and Possible Implications

Selected topics from the ICRP 2007

1. Three types of situation:
 - Planned exposure situation
 - Existing exposure situation
 - Emergency exposure situation
2. Optimisation, dose constraints and reference levels
3. Focusing on a source related approach and not only to dose limits



ICRP 2007 and Possible Implications cont.

1. Identification of types of exposures and legislation

- Each type of exposure situation has its own characteristics.
 - *Planned exposure situation* could be treated by well defined authorisation procedure including well prepared documentation. Stakeholder are usually well defined.
 - *Existing exposure situation* very often requires careful study of past activities at a site as well as an analysis of future use of a site. Very often the existing situation requires involvement of many stakeholders.
- Focusing on this fact the updated legislation could be more efficient.



ICRP 2007 and Possible Implications cont.

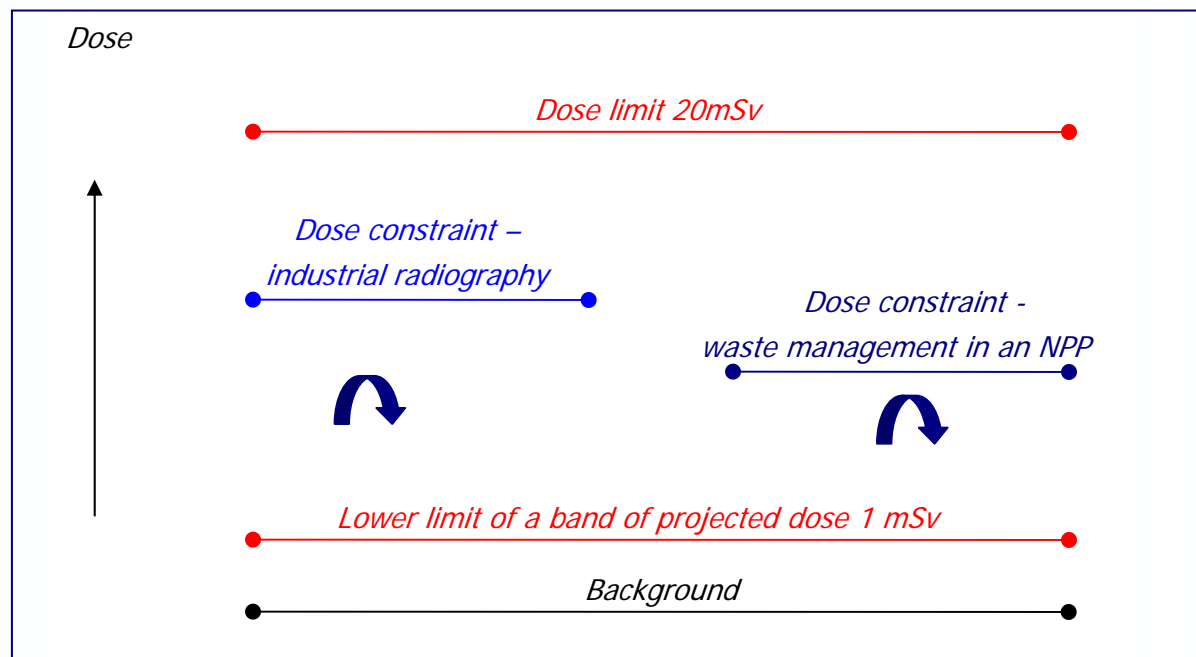
2. Optimisation, dose constraints and reference levels

- The aim of the optimisation procedure without well defined indicators could be a very difficult task.
 - The stakeholders (i.e. designers, users, owners of sources, contractors, other regulatory authorities) could have difficulties in understanding their role in the procedure.
- Focusing on well defined dose constraints and reference levels set by updated legislation could be useful performance indicators of a specific optimisation procedure.



ICRP 2007 and Possible Implications cont.

Identification of optimisation procedure





ICRP 2007 and Possible implications cont.

3. Focusing on a source related approach and not only to dose limits

- The Slovenian legislation already requires the application of dose constraints which are set on a case by case bases with a help of qualified experts.
- During the implementation the constraints are very often replaced by dose limits leading to unintentional decline of radiation safety culture.
- Focusing on an unambiguous relation between a source and exposure could lead to strengthening radiation safety culture at users of sources.



Conclusions

- The harmonised revision of Slovenian legislation related to radiation and nuclear safety started in 2002 and is still under way.
- A first study of inclusion of the ICRP 2007 recommendations in legislation showed that concepts of three exposure situations, setting dose constraints and reference levels and focusing on a source – related approach could lead to efficient and well understood legislation by all stakeholders.