REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT AND SPATIAL PLANNING
SLOVENIAN NUCLEAR SAFETY ADMINISTRATION

First mission in Slovenia – Good Practices since the Beginning

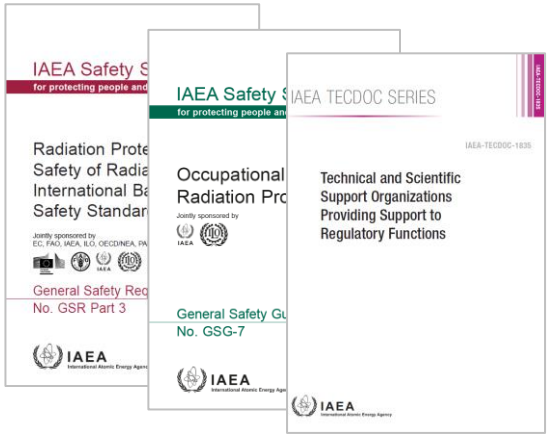
Helena Janžekovič

IAEA TM on Occupational Radiation Protection Appraisal Service (ORPAS)
13.-17.09.2021
Virtual event

IAEA

ORPAS COLLABORATION PLATFORM FOR MEMBER STATES

- Introduction
- First OPRAS mission – mission in Slovenia (2001)
- Good Practices
- Conclusions

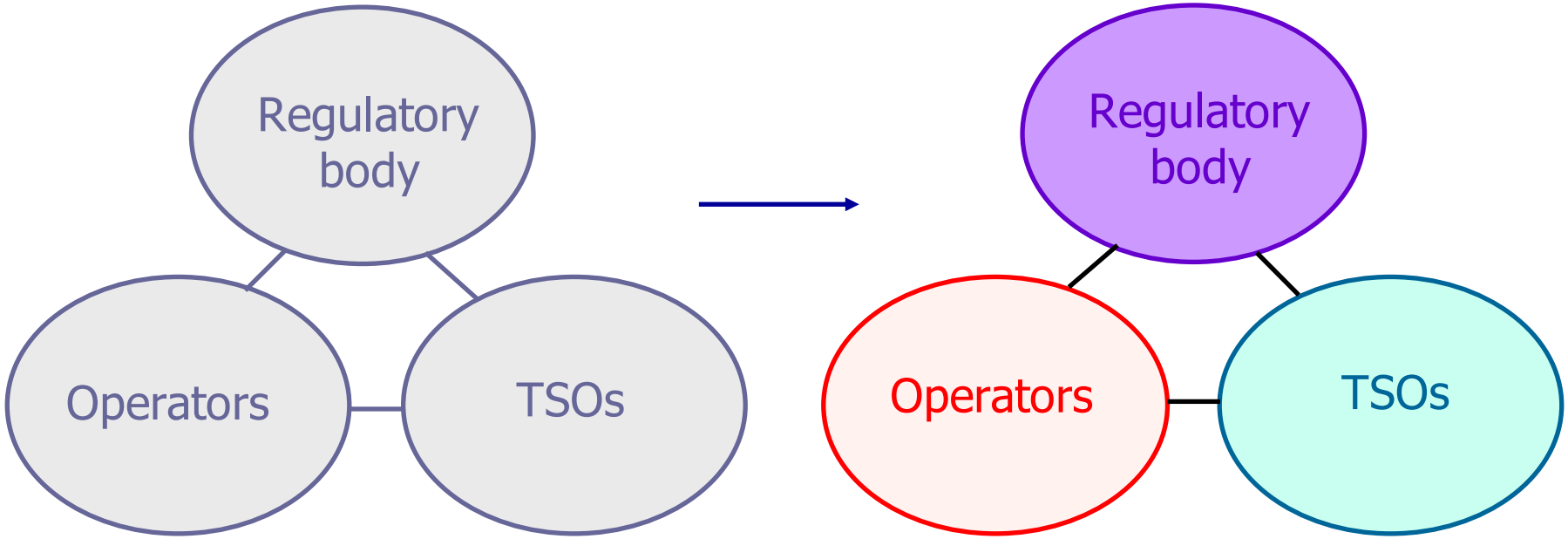




Introduction

Why to invite the ORPAS experts?

- The goal: enhancement of implementation of the IAEA standards on occupational exposure in the state.



Slovenia - Overview

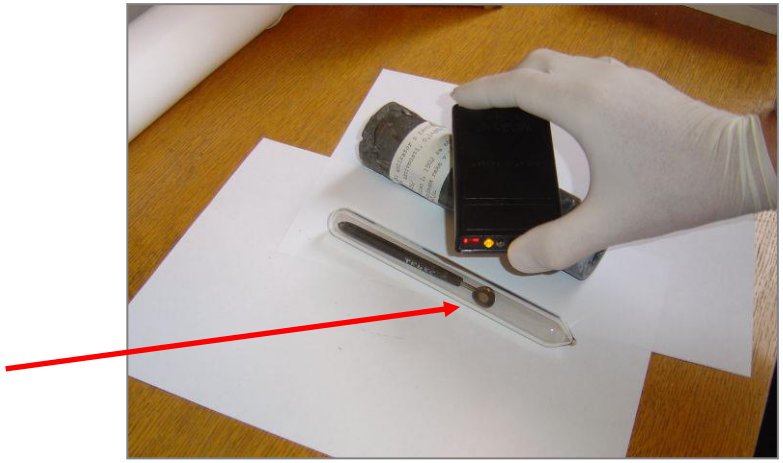


A flight from Vienna takes less than an hour.

- **Selected basic facts:**

- Institute of Oncology (1938 -)
- Westinghouse NPP (1983 -)
- TRIGA MARK II research reactor at Jožef Stefan Institute (1966 -)
- former uranium mine (1962 - 1990)…

Slovenia - Overview



The oldest man-made source used in Slovenia was ^{226}Ra source of 0.15 MBq produced in 1902 and used in ophthalmology. Later it was lost for decades.

(In 2007 it was found in an abandoned storage during the SNSA inspection programme of finding non-registered sources in the state.)

First OPRAS mission – mission in Slovenia (2001)

ORPAS Mission Experts

- The very first ORPAS mission took place in Slovenia from 1 till 6 July 2001.

- The mission was led by
  A.P. Hudson (UK).
- Other members:
- Z. Prouza
- L. Dobis
- J. van Dijk
- R. Cruz-Suárez (IAEA).



First OPRAS mission – mission in Slovenia (2001)

Slovenian Counterparts



Slovenian Nuclear Safety Administration (SNSA)
Vojkova 59
1000 Ljubljana
Tel: 01 - 47 21 100
www.sigov.si/ursjv/uvod.htmlanguage=iso2

Health Inspectorate of the Republic of Slovenia (HIRS)
Parmova 33
Ljunljana
Tel: 01 - 43 62 298
www.gov.si./mz/

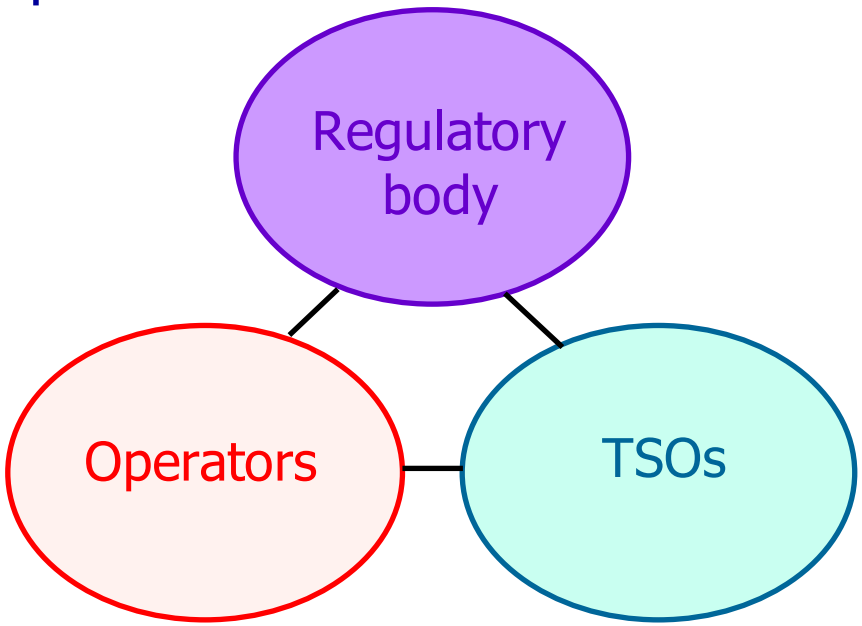
Today:
- Slovenian Nuclear Safety Administration (1987 -)
- Slovenian Radiation Protection Administration

First OPRAS mission – mission in Slovenia (2001)

The Mission Visits

- The work done is impressive as experts visited:

- both regulatory authorities
- TSOs (service providers)
  1. Institute Jožef Stefan
  2. Institute of Occupational Health
  3. Nuclear Medicine Department at UCCL
  4. NPP Krško
- operators
  1. Institute of Oncology
  2. Nuclear Medicine Department at UCCL
  3. Clinical Institute for Radiology and Cardiology Department at UCCL
  4. Slovenian National Building and Civil Engineering Institute
  5. NPP Krško.



First OPRAS mission – mission in Slovenia (2001)

Slovenia - Final Results

- The report addresses findings and grades them in three levels, i.e. recommendations might be essential, important or advised.

Priority	Timing of Implementation
Essential	Should be immediate, certainly without undue delay.
Important	Should be as soon as can be reasonably achieved.
Advised	Implementation enhances effectiveness but may be delayed.

- Today:

RECOMMENDATIONS, SUGGESTIONS AND GOOD PRACTICES

First OPRAS mission – mission in Slovenia (2001)

Slovenia - Final Results

- From the IAEA:

The number of recommendations, suggestions and good practices is in no way a measure of the occupational radiation protection status and arrangements of participating organisations in the host country.



Selected findings and recommendations

First OPRAS mission – mission in Slovenia (2001)

Selected Recommendation to the RB

- „The Republic of Slovenia urgently needs new legislation to reflect both the requirements of the BSS and the requirements of the current, relevant EU Directives (although the latter are not strictly the focus of this mission). The appraisal team wishes to emphasize, again, that current occupational radiation protection practice in Slovenia is rather better than the current legislation. [Essential]"

Regulatory body

First OPRAS mission – mission in Slovenia (2001)

Selected Recommendation to Institute Jožef Stefan - Service Provider

- „The entire irradiation and radiation ~~standards~~ system at IJS should be converted to the current ICRU operational quantities and irradiation conditions should comply to ~~ISO~~ 4037-1, -2 and -3. This includes radiation qualities or sources, geometry, use of build-up sheets and conversion coefficients. [Essential]"

TSOs



FIG.4. Calibration facilities at the SSDL, Josef Stefan Institute.

First OPRAS mission – mission in Slovenia (2001)

Recommendation to the operator - Clinical Institute for Radiology and Cardiology Department at UCCL

- „Consideration should be given to the current practice of designating the whole of both departments as controlled areas. It may be that this devalues the concept of such designations, and that a suitable combination of controlled and supervised areas could be more appropriate. [Advised]"

Operators



Photo is symbolic. (Souce: IAEA)

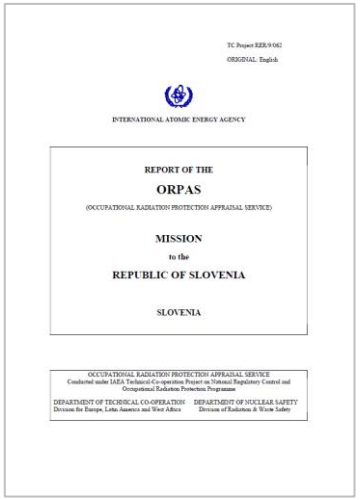
First OPRAS mission – mission in Slovenia (2001)

Slovenia – Final Results

- The report is open to the public.
- ORPAS mission was one of the basic milestones in upgrading radiation safety in the state.

  In 2002 a new law on nuclear and radiation safety has been published replacing two other laws, namely from 1980 and 1984.
- The cooperation of regulatory staff and experts from TSO's (service providers) with international community started or was enhanced.

  Strong cooperation with IAEA, OECD/NEA and EURADOS started.
- The ORPAS recommendations were a huge support to the RB when addressing shortcomings.


TC Project RER/9/061
ORIGINAL: English

INTERNATIONAL ATOMIC ENERGY AGENCY

REPORT OF THE
ORPAS
(OCCUPATIONAL RADIATION PROTECTION APPRAISAL SERVICE)

MISSION
to the
REPUBLIC OF SLOVENIA

SLOVENIA

OCCUPATIONAL RADIATION PROTECTION APPRAISAL SERVICE
Conducted under IAEA Technical Co-operation Project on National Regulatory Control and Occupational Radiation Protection Programme

DEPARTMENT OF TECHNICAL CO-OPERATION
Division for Europe, Latin America and West Africa

DEPARTMENT OF NUCLEAR SAFETY
Division of Radiation & Waste Safety

Good Practices

From Recommendations and Suggestions to Good Practices

- The ORPAS report did not identify „good practices" but the report is positively oriented to areas showing good safety culture.
- Recent ORPAS missions follow the systematic approach to „good practices".

ORPAS mission Sri Lanka – 2019

GP1:	**Good Practice: The movement of every of mobile X-ray unit is recorded in a logbook.**
GP2:	**Good Practice: Protective aprons are checked every year using fluoroscopy and findings, including images, are recorded.**

- Several good practices are noted during ORPAS missions, e.g.
- Bosnia and Herzegovina - 2018
- UAE - 2015.

Conclusions

- The very first ORPAS mission was challenging.
- It was an excellent opportunity to take lessons learned from international experts, e.g. to learn about good practices.
- Involvement of RB staff, TSO experts and operators provided opportunity to establish a radiation protection community.
- Involvement of young professionals was very beneficial.

