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REGULATORY CONTROL OF RADIATION SOURCES IN SLOVAKIA

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Abstract. In Slovakia, there are two regulatory authorities. Regulatory control of the utilization of nuclear energy, based on the Slovak National Council's law No. 130/1998 on the peaceful uses of nuclear energy, is exercised by the Nuclear Regulatory Authority of the Slovak Republic. The second regulatory authority — the Ministry of Health — is empowered by law No. 72/1994 on the protection of human health to license radiation sources and is responsible for radiation protection supervision (there are nearly 3000 establishments with sealed sources, radiation generators and unsealed sources in Slovakia). Pursuant to a new radiation protection regulation based on international standards, radiation sources are to be categorized in six classes according to the associated exposure and contamination hazards. A national strategy for improving the safety of radiation sources over their life-cycle and for the management of disused and orphan sources is being prepared for governmental approval.

INTRODUCTION

In Slovakia, radioactive materials and other radiation sources are used widely in medicine, industry, research and other fields. However, the number of radiation sources relative to the number of establishments with such sources has been declining slowly during the past ten years, especially in industry, since the decommissioning of radiation sources is very expensive and radiation-based techniques have therefore, where possible, been replaced by ultrasonic and other techniques.

An indication of Slovakia's inventory of radiation sources is given in the following tables.

NUCLEAR FACILITIES	Number of reactors
Bohunice NPP	4 in operation 1 being decommissioned
Mochovce NPP	2 in operation

MEDICINE	Number of establishments
Diagnostic radiography and fluoroscopy, including CT scanning	2200
Teletherapy, remote-controlled after-loading brachytherapy, accelerators	70
Unsealed sources (nuclear medicine departments, radioimmunoassay laboratories)	50
RESEARCH	
Unsealed sources	150
Sealed sources	30
INDUSTRY	
Nuclear gauges, radiography (X-rays, gamma rays), X-ray fluorescence, diffraction and spectrometry applications using X-ray generators, neutron capture and activation analysis techniques using radioactive sources.	380

REGULATORY AUTHORITIES AND LEGISLATIVE INFRASTRUCTURE

There are two regulatory authorities responsible for the safety of radiation sources and the security of radioactive materials in Slovakia.

NUCLEAR FACILITIES

The regulatory authority responsible for nuclear safety is the Nuclear Regulatory Authority of the Slovak Republic. Governmental administration and supervision in the field of nuclear energy utilization is based on the Slovak National Council's law No. 130/1998 on the peaceful uses of nuclear energy, which has been supplemented by 16 regulations.

OTHER RADIATION SOURCES AND RADIOACTIVE MATERIALS

Regulatory control relating to the safe use of radiation sources, to the security of radioactive materials and to radiation protection is based on the Slovak National Council's law No. 272/1994 on the protection of human health as amended by law No. 290/1996. The national regulatory authority is the Ministry of Health, and there are four regulatory bodies — four State institutes of public health with radiation protection departments, located in Bratislava (2), Košice and Banská Bystrica.

The current legislative system consists of the laws mentioned above, regulations (recommendations), guides, national standards and EC/IEC/ISO standards adopted as national standards.

THE NEW NATIONAL SYSTEM FOR THE NOTIFICATION, REGISTRATION, LICENSING AND INSPECTION OF RADIATION SOURCES AND RADIOACTIVE MATERIALS

New radiation protection legislation was approved by the Government on 14 September 2000.* It is based on the BSS and empowers the regulatory authority to:

- require notification of all uses of ionizing radiation;
- require notification of proposed imports of sources;
- require imported sources to be returned to the manufacturer/supplier at the end of their useful life;
- issue authorizations (licences) for sources in categories 4, 5 and 6; and
- require appropriate qualifications and training for "qualified experts".

The amendment of the current legislation will improve the licensing and supervisory system. Radiation sources are to be categorized in six classes according to the associated exposure and contamination hazards. Certain categories of practices will be subject to prior authorization by the competent authorities — the use of radiation sources in categories 4 and 5 will require prior authorization (a licence) from the regional authority. In particular, a licence issued by the Ministry of Health — the national regulatory authority — will be required for the entire nuclear fuel cycle, for large irradiators and for other sources in category 6 (e.g. irradiation facilities, isotope production units and radioactive waste disposal facilities). The holder of a

* The new legislation entered into force on 1 January 2001.

source in category 2 or 3 will be required to notify the regional authorities. A radiation protection regulation will prescribe the manner of notification. No reporting will be required for practices involving radioactive substances at activity levels or activity concentrations below the nuclide-specific *exemption values* listed in an annex to the law — such practices will be classified as category 1 practices. No reporting will be required for apparatus satisfying criteria listed in the new regulation and classified as a category 1 radiation source. In general, licences will be granted by the competent authority in response to individual applications. The production, disposal, recycling and reuse of materials containing radioactive substances will be subject to prior authorization.

MANAGEMENT OF SPENT SOURCES

The regulations relating to the handling of disused sources require that, if it is not possible to return such sources to the producer, they should be collected by an authorized organization and transported to the national decommissioning centre for conditioning and safe storage in an authorized radioactive waste disposal facility. The problem with radium needles has not yet been resolved; they are being temporarily stored at the hospitals where they were used. A proposal to establish a State agency responsible for the management of all legally used radiation sources during their life-cycle is awaiting approval by the competent ministries. There are plans to construct a facility for the temporary storage of radiation sources that have been in legal applications, of radiation sources that have been the objects of illicit trafficking and of orphan sources and radioactive materials found in metal scrap, the aim being to reduce the risk of their getting out of control.