

I. LEGAL SYSTEM

I.1. AMENDMENTS OF THE ACT ON PROTECTION AGAINST IONIZING RADIATION AND ON NUCLEAR SAFETY

The Act Amending the Act on Ionizing Radiation Protection and Nuclear Safety was published in the Official Gazette of the Republic of Slovenia, No. 60/2011, dated 29.7.2011. It entered into force on 13.8.2011.

Most provisions of the proposed amendments represent minor editorial corrections. Furthermore, the minor inconsistencies and shortcomings revealed by the application of the previous Act were eliminated.

The amended Act introduces requirements of Council Directive 2009/71/Euratom (establishing a Community framework for nuclear safety of nuclear installations) on competent authorities, self-assessment regarding their own organization and consistency of domestic legislation with internationally established standards. Furthermore, a commitment to the international peer review process is incorporated into the Act. The amended Act restricts the right to strike of certain categories of workers in radiation and/or nuclear facilities (duties important to safety) in order to protect the public interest. The provisions on physical protection have been substantially completed as the result of international commitments and because of the EU directives, where in addition to nuclear material requirements physical protection of radioactive substances was set. Regarding the licenses to carry out radiation practices and licenses for the use of a source of radiation, some unnecessary duplication of certain requirements removed from the Act. Since the Act does not use the term "competent ministry" anymore, but rather designates the actual competent authority in each case, the Act is now easier to understand and is not misleading with regard to competences of different ministries and governmental authorities. The proposed amendment also regulates the "overtime work", which can be ordered for the staff of competent authorities, and the "permanent availability" of inspectors and professional officers, who can act quickly and take appropriate actions in case of loss or finding an unknown source of radiation, in case of emergency or other similar cases.

Amendments were under preparation for more than two years. During that time the proposed solutions were discussed with the general and professional public, discussed and approved by the Expert Council for Radiation and Nuclear Safety, and finally, inter-departmental coordination was exercised with other relevant ministries and government departments. During that time the proposed amendments and an informal consolidated copy of the amended Act were available on the SNSA website "regulations in preparation".

I.2. AMENDMENTS TO THE RULES ON THE SAFETY OF RADIATION AND NUCLEAR FACILITIES

Essential improvement is in amended Article 36 of the Rules, which lays down rules concerning the assessment of changes in the nuclear or radiation facility. The change gives the operator of the nuclear facility possibility to implement very urgent temporary modifications without prior approval by the regulator. Such cases are limited to urgent situation outside the normal working hours of the regulator and are allowed only when during the operation sudden circumstances, which would endanger a stable and secure operation of the facility, occur.

Such necessary change, which operator's safety screening and safety assessment would place in category 2, are allowed to be considered as a temporary change of category 1 and therefore it can be carried out immediately, while the security screening, safety assessment and notification of the implementation of such changes should be delivered immediately to the SNSA. The SNSA will take the position towards such a change within a further three working days.

In Article 43 of the Rules, exception has been introduced to the general provisions which require of the operator of a radiation or nuclear facility to submit to the SNSA a new revision of the operating limits and conditions within 30 days after receipt of the decision approving the change in the facility. Some changes can not be carried out within 30 days after approval was granted, and consequently, the operator is unable to deliver the new revisions of operating limits and conditions within this general prescribed period. In these exceptional cases, the operator should deliver a new revision of the operational limits and conditions no later than 10 days after the change was made.

II. KRŠKO NPP - POST FUKUSHIMA ACTIONS

II.1. IMMEDIATE MODIFICATIONS AFTER FUKUSHIMA

Immediately after the Fukushima accident the Krško Nuclear Power Plant (NPP) initiated the event analysis with a purpose to identify possible short term actions that would raise the plant's preparedness for severe accidents. The result was the procurement of additional portable equipment, e.g. diesel aggregates, pumps and compressors as well as several smaller modifications on the plant itself and in the emergency operating procedures and severe accident guidelines, which will enable the use of this new equipment for the mitigation of consequences in case of a severe accident.

These modifications were in large extent implemented by the end of June 2011 and also considered in the stress test report.

II.2. STRESS TESTS

On May 30th 2011 the SNSA issued a decision for the Krško NPP to perform stress tests in accordance with the specifications adopted by ENSREG. Formally the implementation of EU stress tests was required as an exceptional Periodic Safety Review.

The plant has fulfilled its commitment in time and sent the full scope stress test progress report to the SNSA by August 15th. Likewise, the final report was prepared and sent to the SNSA by October 27th. The SNSA made a detailed review of the progress report and presented findings and comments to the plant to be taken into account in the final report.

Based on the Krško NPP progress report the SNSA prepared and sent the National progress report on the stress tests to European Commission, and also made it public on its web site.

Currently the SNSA is preparing the final national report, which is to be issued by the end of December 2011.

The plant's final report shows that the plant is well designed against all credible and even some very unlikely external threats at the site. Moreover, with additional planned and ongoing modifications, it will further increase its robustness and thus nuclear and radiation safety of its employees and public in general.

II.3. SEVERE ACCIDENTS BEYOND STRESS TESTS

In addition to the plant's obligation to perform the EU stress tests, the SNSA also issued a decision requiring from the plant to reassess the Severe Accident Management strategy, existing design measures and procedures and implement necessary safety improvements for prevention of severe accidents and mitigation of its consequences.

This evaluation shall be finished by January 2012. The action plan shall be reviewed and approved by the SNSA and completely implemented by the end of the year 2016.

II.4. UPGRADING OF FLOOD PROTECTION DIKES ALONG THE SAVA RIVER

The construction of a chain of hydro power plants on the Sava River has been running several years. To assess the flooding hazard of the Sava River and the chain of hydro power plants construction on the Krško NPP several studies have been prepared. The new Probable Maximum Flood study (PMF) shows that the new estimated value for the PMF flow is 7100 m³/s (the old value is 6500 m³/s).

The Krško NPP flood protection is established by means of flood protection dikes along the Sava River which are designed to protect the site against a ten-thousand-year flow. The flow that would exceed the ten-thousand-year flow would overflow onto the right bank of the Sava River up to the PMF flow.

Based on the new facts, the Krško NPP has prepared an upgrade of flood protection dikes along the Sava River on the left bank site upstream from the Krško NPP and its tributary Potočnica. The project considers rising of the dikes, by a maximum of 1.8 m. The adequacy of the new dikes height were approved by the hybrid-hydraulic model considering the PMF, flooding waves, influence of hydro power Brežice and a bridge across the Sava River.

The construction work on dikes upgrading is in progress right now.

III. RADWASTE MANAGEMENT

III.1. JOINT CONVENTION

In September 2011 the Government of the Republic of Slovenia adopted the fourth national report on fulfilment of the obligations of the Joint Convention. The report presents the achievements and contributions to enhance the



safe handling and disposal of spent fuel and radioactive waste. In the report the fulfilment of the obligations in the period 2008-2010 is evaluated. It can be concluded that Slovenian regulations and practices are in compliance with the obligations of the Joint Convention.

IV. EMERGENCY PREPAREDNESS

IV.1. EXERCISES

Slovenia conducted the INEX 4 exercise on 16 November 2011. The exercise was postponed from March because of the Fukushima accident. The original scenario provided by the OECD/NEA was adapted to Slovenian needs. The exercise included the response phase as well. It was conducted as table-top exercise. In addition field monitoring teams were deployed in order to exercise new solutions in this area for national emergency planning.

The Krško NPP and the SNSA successfully carried out annual joint exercise on 29 November 2011. The main theme this year was an earthquake disaster, which made inoperable many of the plant's safety systems, which needed to put in operation systems acquired in the framework of recent post-Fukushima modifications (described above in II.1).

V. INTERNATIONAL COOPERATION

V.1. IRRS MISSION TO SLOVENIA

The IRRS mission to Slovenia was conducted from 25 September to 4 October. The subject of the IRRS review were all activities, which are regulated by the Slovenian Nuclear Safety Administration (SNSA), including the SNSA's actions in response to the TEPCO Fukushima Dai-ichi accident. The team visited also the installations, such as the Krško NPP, research reactor Triga in Podgorica near Ljubljana, central interim radioactive waste storage in Brinje, and institutions Slovenian Radiation Protection Administration, Administration for Civil Protection and Disaster Relief, Agency for Radioactive Waste, Ministry of Environment and Spatial Planning and Ministry of Economy.

The IRRS team identified good practices and gave advice on areas for future improvements. Among the good practices were the development of SNSA's quality management system and the SNSA's integrated information management system. Also the radiation monitoring system and the emergency preparedness activities received appreciation by the team.

The IRRS team identified particular strengths in the Slovenian regulatory system. Among strengths the comprehensive legal framework was pointed out. The IRRS team concluded the SNSA has in place an effective process for carrying out this responsibility. The opinion of the team was that Slovenia's response to the accident at the TEPCO Fukushima Daiichi power plant has been prompt and effective. Communications with the public, development of actions for improvement within the Slovenian nuclear industry and coordination with international stakeholders was considered effective. Further lessons learned will also need to be adequately addressed.

The IRRS Review Team also identified certain issues warranting attention or in need of improvement. It believes that consideration of these would enhance the overall performance of the future regulatory system. Among these issues were:

- Slovenia should develop a national policy and strategy for nuclear safety which would be supported by a national co-ordinated plan to ensure the appropriate national infrastructure is in place;
- Consideration should be given to possible alternative methods of financing SNSA to provide it with the flexibility to meet its regulatory responsibilities while also ensuring it operates effectively. This should include provision for research and development;
- SNSA should develop and implement a process for carrying out a systematic review of the organisational structure, competencies and resource needed for it to effectively discharge its current and future responsibilities; and
- The Government should make the necessary provision for the Low and Intermediate Level Waste Repository to ensure radioactive waste can be disposed at the appropriate time.

During the exit meeting the following statements, given by the SNSA Director and the IRRS Team Leader, summarized the main impressions. Andrej Stritar, Director of Slovenian Nuclear Safety Administration, stressed "how important it is for a small country like Slovenia to tightly follow international standards in the area of nuclear safety." He also expressed his gratitude to the IAEA, and the countries from which team members came, for their support and for their intensive work during the last ten days. Mission Team Leader Colin Patchett, Deputy Chief



Inspector from the UK's Office for Nuclear Regulation, commended "the Slovenian authorities for their commitment to nuclear and radiation safety regulation and for sharing their experience."

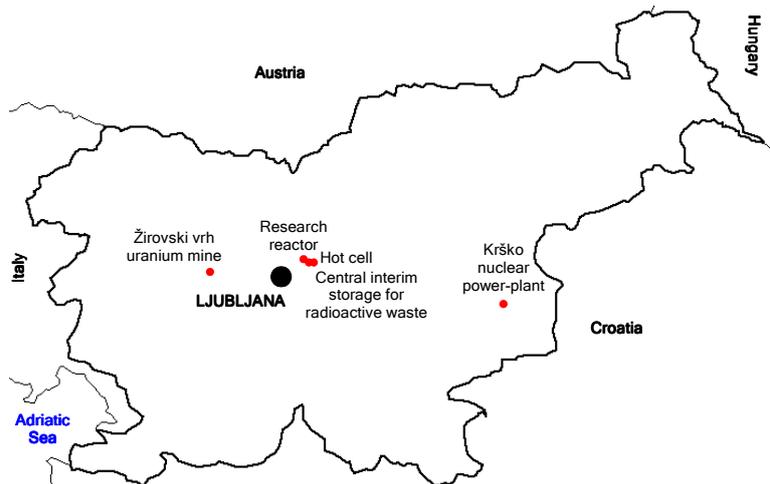
VI. ANNIVERSARIES

VI.1. 20th ANNIVERSARY OF THE SLOVENIAN NUCLEAR SOCIETY

Slovenian Nuclear Society was established in 1991 and this year its 20th anniversary was celebrated on 28th November 2011 in the Hotel Union. At this occasion the first speaker was the mayor of Krško, Mr. Bogovič, who pointed out good cooperation and reputation the NPP staff has within the community and that the municipality looks forward to the new investments such as radioactive waste repository and the potential new nuclear unit. Mr. Špiler spoke on behalf of the Krško NPP and described the history of the NPP. Mr. Deconinck of European Nuclear Society discussed relations and international involvement of Slovenian experts. Mr. Čepin, the President of Slovenian Nuclear Society, went through the main achievements in the last 20 years. Mr. Cizelj explained about the competition of students who prepared their individual essays under the theme "Nuclear Energy Today and Tomorrow". Three students were awarded. The event was accompanied with a cultural programme and a reception was organized for all participants at the end of the programme.

VI.2. 20 YEARS OF SLOVENIAN RADWASTE MANAGEMENT AGENCY

The Slovenian Agency for Radwaste Management ARAO was established in 1991. Initially, its main task was to provide for safe disposal of radioactive waste. Later its competence and tasks became more comprehensive, including the design of the LILW repository, performing the public service of radioactive waste management from small producers, planning of spent fuel and high level radwaste management and supporting governmental institutions.



Nuclear Slovenia in Brief

Slovenia is the smallest country with the nuclear power plant operating at its territory. Nuclear facilities include: **1 Nuclear Power Plant** in operation (PWR, 2-loops, Westinghouse, 696 MWnet), **1 Research reactor** in operation (TRIGA Mark II, 250 kW), **1 Central interim storage of radwaste** (not for NPP waste - radioactive waste and spent nuclear fuel from NPP is stored within the NPP site) as well as radiation facilities and practices: 1 repository of hydro-metallurgical tailings, 1 repository of mine tailings, and around 300 organizations, engaged in radiation practices with altogether about 2000 radiation sources in use.

The **Slovenian Nuclear Safety Administration** was established in 1988 as a body within the Ministry of the Environment and Spatial Planning. It is responsible for nuclear and radiation safety, transport, and management of nuclear and radioactive materials in the Republic of Slovenia.

For the radiation safety in medicine the competent authority is the **Slovenian Radiation Protection Administration** within Ministry of Health.

Physical protection of nuclear materials and nuclear facilities is responsibility of Ministry of Interior.

Agency for Radioactive Waste Management deals with site selection and planning of the repository for low and intermediate level radwaste and is the public service of radwaste management from small producers.

Link to the SNSA's public reports and previous News from Nuclear Slovenia: <http://www.ursjv.gov.si/index.php?id=4635&L=1>

