



## Norwegian- Ukrainian Regulatory Cooperation Program 2015-2017

The “Ukrainian Regulatory Threat Assessment” [1] report was developed in 2015 within the framework of the Bilateral Agreement on Cooperation in Nuclear and Radiation Safety between the Norwegian Radiation Protection Authority (NRPA) and the Nuclear Regulatory Inspectorate of Ukraine (SNRIU). In early 2017, due to situational changes and developments in Ukraine as well as improvements from within international projects, it was decided to conduct an update of the report and evaluate its impact on the regulatory system.



Fig. 1 Facilities under SNRIU’s supervision (source: SNRIU).

In 2014 the Norwegian Radiation Protection Authority (NRPA) introduced its Bilateral Regulatory Cooperation Program in Ukraine within the Norwegian Plan of Action and commenced cooperation with the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU). The activities are funded by allocations from the Norwegian Ministry of Foreign Affairs. The initial step was to perform a self-assessment to highlight gaps in the Ukrainian regulatory system, which needed immediate

rectifying. At that time 43 threats<sup>1</sup> were identified and categorized as needing to be minimized or eliminated in the areas of: radiation and nuclear safety; radwaste and decommissioning; emergency preparedness and response; nuclear installation safety and organizational and general principles.

NRPA’s planned approach was based on the findings of this report and the next step was the development of a RoadMap for the 2015-2017

<sup>1</sup> “Threat” in case of this document, is defined as the potential to do harm as a result of lack of regulation or outdated regulation on radiation exposure of humans and other biota.

period, describing activities to be initiated in each of the areas to mitigate the threats with the highest priority.

## Regulatory Projects 2015-2017

An holistic approach to cooperation requires clear ideas and good communication including flexibility in perspective that produce tangible results. Important aspects of cooperation are bilateral meetings and joint workshops allowing for the active involvement of NRPA's and SNRIU's experts in the development of regulatory documents according to the newest international recommendations and best practices.



**Fig. 2. Bi-lateral NRPA-SNRIU meetings and workshops 2016-2017**

Projects implemented during 2015 resulted in the development of six regulatory documents; three of these documents are already registered in the Ministry of Justice of Ukraine and have been formally introduced into the Ukrainian regulatory system:

- Requirements for Administrative Control of Uranium Sites within Restricted Clearance from Regulatory Control
- General Safety Rules for Medical Radiation Sources
- General Safety Provisions for Predisposal Management of Radioactive Waste

The three other developed regulatory documents are in process of final official approval (January 2018):

- Radiation Safety Rules of Using Radiation Sources in Brachytherapy.
- General Radiation Safety Provisions for Mining and/or Processing of Uranium Ore.
- General Safety Provisions for Disposal of Radioactive Waste.

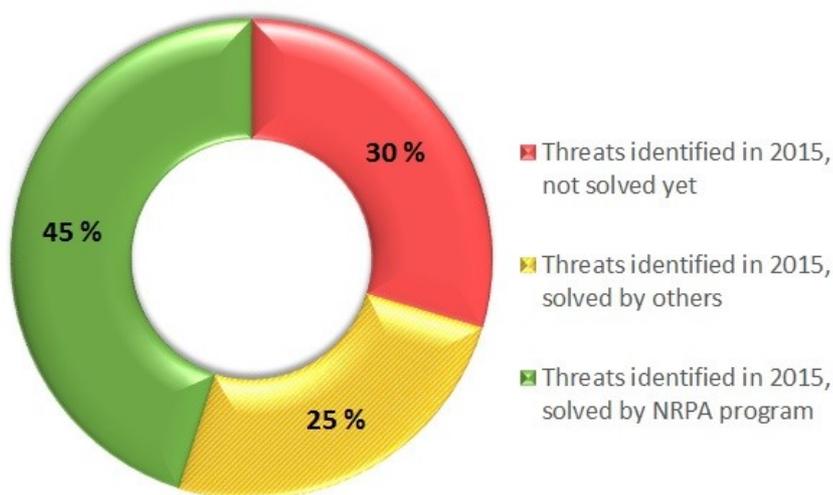
Six projects were implemented during 2016 and 2017, the objective of which were the development of seven regulatory documents:

- Basic Safety Requirements for the Use of Radiation Sources
- Rules for Nuclear and Radiation Safety in Transport of Radioactive Materials
- General Safety Provisions for Decommissioning of Nuclear Facilities
- Requirements for the Structure and Contents of Operator's Documents for Licensing Application for Decommissioning of Nuclear Facilities
- Guideline for Assessment of Safety Culture and Human and Organizational Factors in Operating Experience Analysis
- Requirements for the Structure and Contents of Emergency Documents
- New "Radiation Emergencies Response Plan"

Altogether, NRPA's projects contributed to solving 45% of all threats recognized during 2015 (fig. 3).

## Revision of the Ukrainian Regulatory Threat Assessment Report

Since the first edition of the Ukrainian Threat Assessment Report in 2015, a number of measures have been implemented and a series of events have taken place in the Ukrainian nuclear sector. During the bilateral meeting between NRPA and SNRIU in March 2017, it was decided to reassess the threats identified in 2015 and implement a joint project, the general objective of which was to obtain data on the current state of the Ukrainian legislative framework on nuclear and radiation safety and to update the findings of the 2015 report.



**Fig. 3 Summary of gaps recognized in Ukrainian Regulatory Threat Assessment Report 2015**

New gaps existing in the Ukrainian regulation of nuclear and radiation safety were recognized. The revised report provides information on current and planned SNRIU activities aimed at overcoming the identified threats. In particular, the report describes:

- Organization and general principles for activities of Regulatory Authority
- Safety of nuclear installations
- Transport of radioactive materials
- Emergency preparedness and response
- Radioactive waste management and decommissioning

- Radiation safety
- Main identified threats and proposals for their elimination
- Overview and status of international projects and effort to eliminate identified threats

The final section of the report describes threats recognized in the 2015 Report, including activities undertaken to mitigate them and identifies new threats.

Each threat is described with reference to the relevant section of the report including detailed justification, possible way(s) to eliminate the threat or minimize its impact on respective SNRIU activity(s), priority of actions to be undertaken to eliminate the threat and risks caused by the threat and their exacerbation if the threat is not eliminated or mitigated.

Part of the report is dedicated to international cooperation and in particular the Norwegian program, including description of on-going and planned projects and their influence on the situation regarding both the regulatory body and the Ukrainian regulatory system. This approach facilitates analysis of all the international engagements to avoid overlapping and enabling more effective and complementary activities.

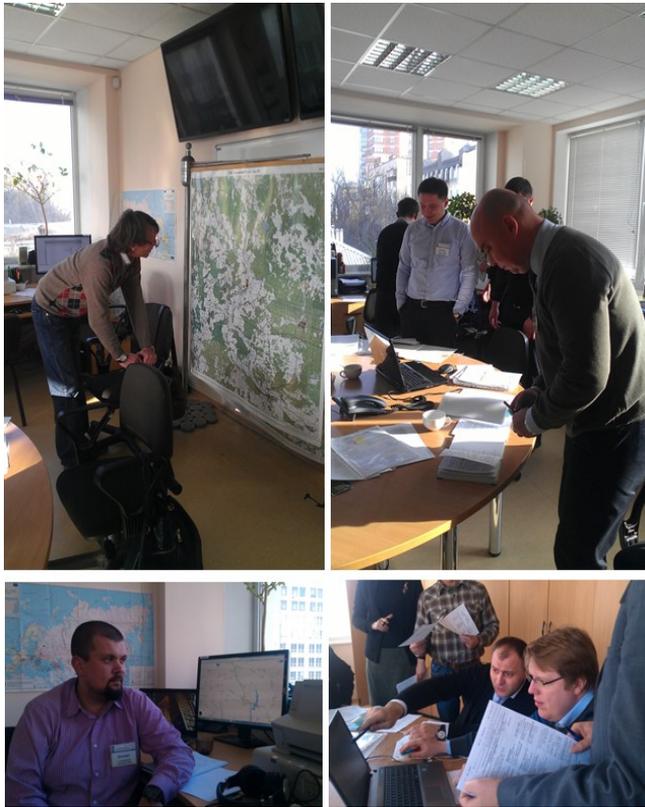
### Emergency preparedness and response

NRPA closely cooperate with SNRIU on the enhancement of emergency preparedness and response arrangements in Ukraine and the harmonization of the Ukrainian legal basis on EPR with IAEA, EURATOM directives and European countries' best practices.

In November 2017, during a bi-lateral meeting in Kiev, discussion was initiated and initial arrangements made regarding the development of the early notification and information exchange procedure.

NRPA is also involved in the development of the new Ukrainian "Radiation Emergencies Response

Plan”, the main objective of which is to identify gaps and issues in the existing document that lays down requirements for the planning of response to radiation emergencies with respect to the recent



**Fig. Activities of the IEC Data Analysis Group during emergency training (source: SNRIU)**

IAEA Safety Standards in the field of preparedness and response to a nuclear or radiological emergency and development of a new draft of this national regulatory document.

The new draft document should reflect a national consensus on issues that are high-level requirements in terms of preparedness for and response to nuclear or radiological emergencies.

### **Need for extension and improvement of the regulatory framework for nuclear security**

The activities of the SNRIU under the State Physical Protection System are aimed at maintaining

physical protection as one of the most important components of the nuclear security regime. Existing regulatory documents on physical protection comply generally with up-to-date approaches to safety regulation.

In order to further enhance the regulatory framework regarding the security of nuclear installations, nuclear materials, radioactive waste and other radiation sources, it is advisable to take into account the latest Euratom regulations and IAEA recommendations in determining a list of Ukrainian regulatory documents requiring revision or development.

### **Compliance and enforcement**

During the last meeting of October 2017 in Kiev, the necessity to introduce issues connected to compliance and enforcement of developed regulatory documents into the overall cooperation was discussed. The long-term objective of the NRPA’s regulatory cooperation programme in Ukraine is the support of the development of an enhanced safety culture, through planned, holistic and integrated activities in the field of nuclear and radiation safety. This implies that, when developing or updating existing documents, there is a need to take into account the whole cycle of regulatory activities, from development through regulating process to reviewing.

Currently, components of the regulatory documents developed under the NRPA’s Regulatory Cooperation program are in the final approval process or already in force, which means they are in operation when regulation is applied to achieve regulator’s objectives.

This issue, together with compliance and enforcement, are under the Program’s attention underlining the involvement of the stakeholders and need of their involvement.

#### References:

- [1] *Ukrainian Regulatory Threat Assessment Report: identifying priorities for improving supervision of nuclear and radiation safety* <http://www.nrpa.no/publikasjon/straalevernrapport-2016-10-ukrainian-regulatory-threat-assessment-identifying-priorities-for-improving-supervision-of-nuclear-and-radiation-safety-and-security.pdf>