

## Nuclear Security in Slovak Republic

Regulatory oversight for nuclear security: practices and challenges

The Nuclear Regulatory Authority of the Slovak Republic (UJD) is responsible, inter alia, for state supervision upon nuclear safety and physical protection. In recent years we have been facing new challenges and practices, changes in threat environment and new threats have to be taken into consideration, when carrying out our obligations / duties. This article describes the most recent changes.

The nuclear security legislation lags behind the requirements on nuclear security in two to three years. The main reason for this lag lies on one hand in a long and complicated legislative process, on the other hand in rapid changes in requirements for nuclear security. The UJD is at present drafting new legislation which reflects the requirements from the Amendment to CPPNM and also in some new areas.

Based on the fundamental principle G the UJD prepares annually state's Threat Assessment and Design Basis Threat. These documents reflect besides "classic" threats also newly arisen threats. The UJD also deals with new views on nuclear security and its interactions mainly with nuclear safety and emergency response and preparedness.

One of the most rapidly growing threats is misuse of unmanned aerial vehicles (drones). Drones may be used for several types of malicious acts, for theft, sabotage and also for monitoring of physical protection system and helping the adversaries when performing their tasks. Slovak government established and founded a working group which is responsible for the preparation of countermeasures against the use of drones in critical infrastructure objects and nuclear installations. At present the process of the selection of effective anti-drone systems is underway.

Cyber threat represents for nuclear/cyber security one of the most difficult challenges and a dangerous topic. Classic cyber security (administrative systems cyber security, internet security, ...) is not sufficient enough to eliminate all the threats faced by nuclear installations today. When planning the cyber threat countermeasures, the operators of nuclear installation in Slovakia focus on three main tasks. The first task is cyber security of physical protection systems itself, the second task is protection of operational and emergency control systems and protection of sensitive information.

Protection against plane crash became relevant some years ago. It represents a difficult task for the physical protection system and could be defined as a threat beyond the design basis threat. Two units of the nuclear power plant under construction in Mochovce are equipped with protection of some important systems against intentional attack by small aircraft. The UJD also requires that the planning and design of the project of interim spent fuel storage facility capacity extension is designed against an accidental crash of an airliner, or deliberate attack with an airliner.

New threats in nuclear security area have highlighted the issue of the effectiveness of physical protection systems. For the evaluation of physical protection systems, we use SAVI and EASI software. However, this software does not calculate the probability of neutralization of attackers. The UJD has developed a new calculation tool which can perform a calculation of probability of detection as well as probability of neutralization. Physical protection system effectiveness represents technical part of an effective physical protection system. Equally important for the effectiveness of physical protection system is nuclear security culture as a part of organizational culture. The UJD in co-operation with the operators evaluate the level of nuclear security using self-assessment described in IAEA's document NSS No. 28 -T, Self-assessment of Nuclear Security Culture in Facilities and Activities.

Common aim of nuclear safety and nuclear security is protection of persons, assets, society and the environment from the harmful effects of ionizing radiation. However, the ways how they achieve its goal are different. The UJD actively participates in international meetings dealing with nuclear safety – nuclear security interface. The UJD sees possible benefits and synergies in this area, though it is important to see the equal importance of nuclear safety and nuclear security.

New threats and new challenges in nuclear security area request also new approaches from regulatory organs. It is imperative that the regulator responds in a timely manner to the new realities, and it is also necessary to modify the legislation accordingly.

### State

Slovakia

## **Gender**

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