



## Prevention of the Smuggling of Nuclear and Radioactive Materials at the Ukraine-Moldova Border

In June 2014, the Department of Energy (DOE) of the United States and the Norwegian Ministry of Foreign Affairs (MFA) signed a Memorandum of Understanding (MOU) entitled «Cooperation on Nonproliferation Assistance». The MOU specifically cites the detection and deterrence of illicit trafficking of nuclear materials across international borders.



*Before RPM Installation*



*After RPM Installation*

The Norwegian Radiation Protection Authority (NRPA) has funded DOE's National Nuclear Security Administration's Nuclear Smuggling Detection and Deterrence program (NSDD) to partner with the State Border Guard Service (SBGS) of the Ukraine to install fixed radiation portal monitors (RPMs) along four border crossings on the Ukraine/Moldova border. The project falls under the scope of the Norwegian government's Nuclear Action Plan and is funded by the MFA.

This effort will directly support the regional nuclear detection architecture aimed at detecting nuclear and radioactive materials that have fallen out of regulatory control. The project is a tangible

deliverable that meets specific goals of key nonproliferation treaties/forums, such as the Nuclear Security Summit (NSS) and the G8 Global Partnership, the Treaty on the Nonproliferation of Nuclear Weapons, and recommended guidance and practices by the International Atomic Energy Agency.

### Regional Border Security

At the 2014 NSS, in the Hague, the Norwegian Prime Minister made a statement committing to cooperation with the Ukraine on nuclear safety and security. Bilateral statements supporting such

projects were also made during PM Solberg's first visit to the Ukraine in November 2014.

Acting under the 2014 MOU, NRPA co-partnered with the NSDD program of DOE to coordinate the installation of four RPMs along the Ukraine/Moldova border aimed at preventing the unauthorized cross-border movement of nuclear/radioactive materials. NRPA and NSDD each contributed ~8million kr towards this project.

A RPM is a detection device that provides Customs and Border Protection (CBP) with a passive, non-intrusive means to screen trucks and other conveyances for the presence of nuclear and radiological materials. One RPM installation includes two portals through which a conveyance passes allowing full detection coverage. NRPA has maintained the only portal monitor stationed in Norway that covers the border crossing Storskog to Russia. The portal monitor used in Norway uses the same technology, however it is much larger in size. Thus, it makes it easier for the Customs to subsequently verify and identify radioactive materials with handheld instruments. In the Ukraine, border guards will use a handheld instrument (Flir Identifinder) and isotope identifier (Inspector 1000) for this same purpose.

The RPMs will be installed at international, interstate, ferry inbound and outbound border crossings (some remote), 7-8 hours by car from Kyiv, on the Ukrainian side of the border with Moldova.

In September 2015, NRPA staff accompanied DOE (NSDD) and SBGS staff to inspect the completion and proper function of RPMs installed at two of the four planned sites.<sup>1</sup> Installation of the remaining two RPM sites is slated for December 2015. This will include observation of a full functional test of the RPMs and confirmation that the necessary ancillary support infrastructure for effective use of the RPMs is in place.<sup>2</sup>

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<sup>1</sup> Also present were staff from RapiScan, URS, EUBam, and XXXX.

<sup>2</sup> Some examples of ancillary support are traffic flow moderation (speed humps, jersey barriers, spikes, etc.), procedures for handling real and false alarms (central alarm station, secondary screening of materials, handheld detectors etc.), staff training on

By closing one more gap, the installation of fixed RPMs at border check-points is a complement to existing nuclear smuggling interdiction efforts. Over the past few years, Moldovan authorities have made interdictions of highly enriched uranium (HEU) and other radioactive materials. Material that could be used in a radiological dispersal device or in the case of HEU is considered a direct use material because it can be used for the manufacture of nuclear explosive devices without further enrichment. The International Atomic Energy Agency reported that in 2011 a sting operation in Chişinău led to the arrest and seizure of several grams of HEU<sup>3</sup>. In 2014, over 200 grams of uranium-238 and a kilogram of unidentified radioactive material were seized in a similar operation.<sup>4</sup>

## End Result

The installation of portal detection equipment provides the SBGS and State Ecological Inspectorate Office with the tools and training necessary to maintain an indigenous capacity to deter, detect, and interdict illicit trafficking of nuclear and other radioactive materials in a high priority region. The Norwegian contribution covers 4 out of 62 border crossings with RPMs. The Ukraine has over 200 border crossings. Once installation and testing is complete the RPMs will contribute to completion of a chain of RPMs that span Ukraine's borders and enhance regional nuclear security.<sup>5</sup>

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equipment, stable electricity and data transmission with back-up generators.

<sup>3</sup> Tudor Gill. IAEA Division of Public Information. June 2013. "HEU Seizure Highlights Moldova's Strong Work in Nuclear Security". Accessed: 9/9/2015

<https://www.iaea.org/newscenter/news/heu-seizure-highlights-moldovas-strong-work-nuclear-security>

<sup>4</sup> Interpol. December 2014. "Moldova police arrest seven suspected uranium smugglers". Accessed: 9/9/2015. <http://www.interpol.int/News-and-media/News/2014/N2014-238>

<sup>5</sup> An article was published on this work in Aftenposten: <http://www.aftenposten.no/nyheter/uriks/Norge-skjal-stanse-atomsugling-fra-ukrainske-kraftverk-8168828.html>