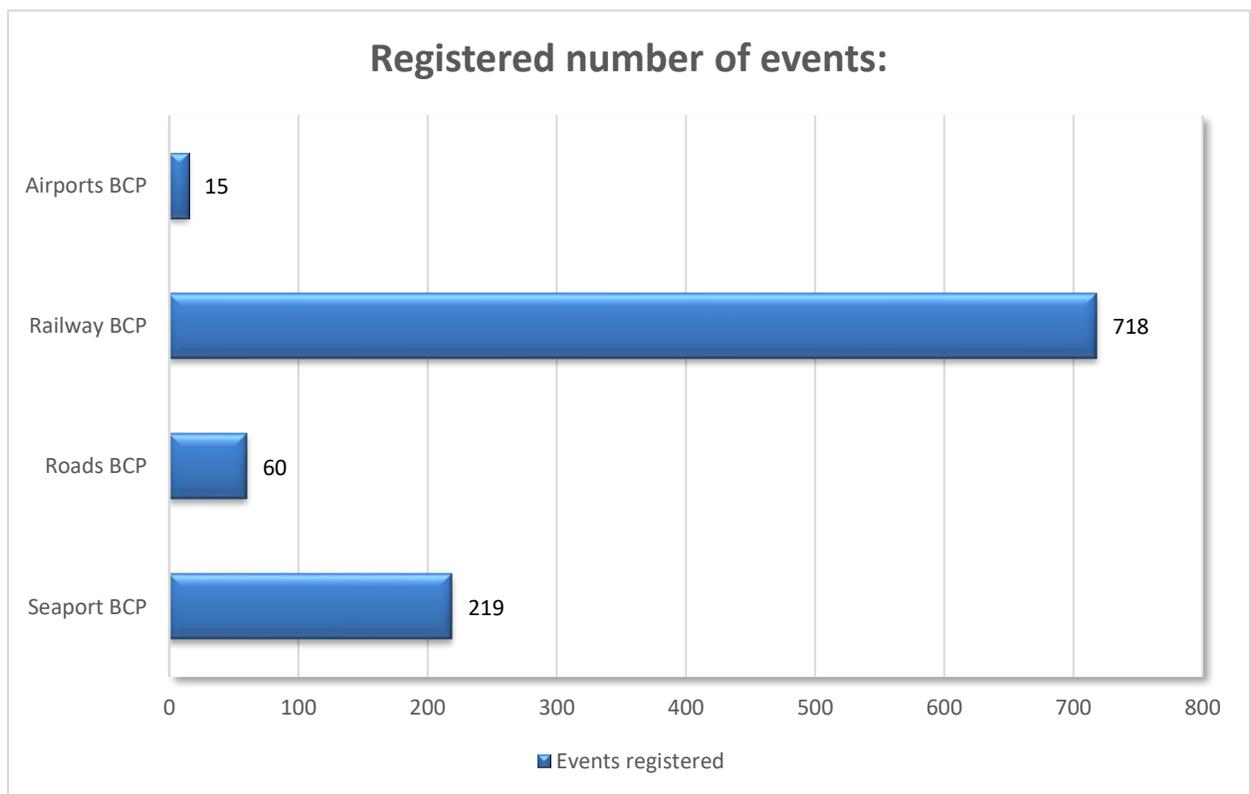


NEWSLETTER FOR THE SECOND QUARTER OF 2020

Results of border radiation detection

In the second quarter of 2020, due to COVID-19 pandemic the number of passengers crossing the external border had significantly dropped down. However, the movement of cargo and trucks and vehicles across the state border remained quite intense. Therefore, the State Border Guard Service under the Ministry of the Interior of the Republic of Lithuania (SBGS) officials mainly performed radiation detection functions of transport and cargo. The chart below shows the quantities of the radiation detection events¹ recorded in the second quarter of 2020 at different border crossing points (BPC):



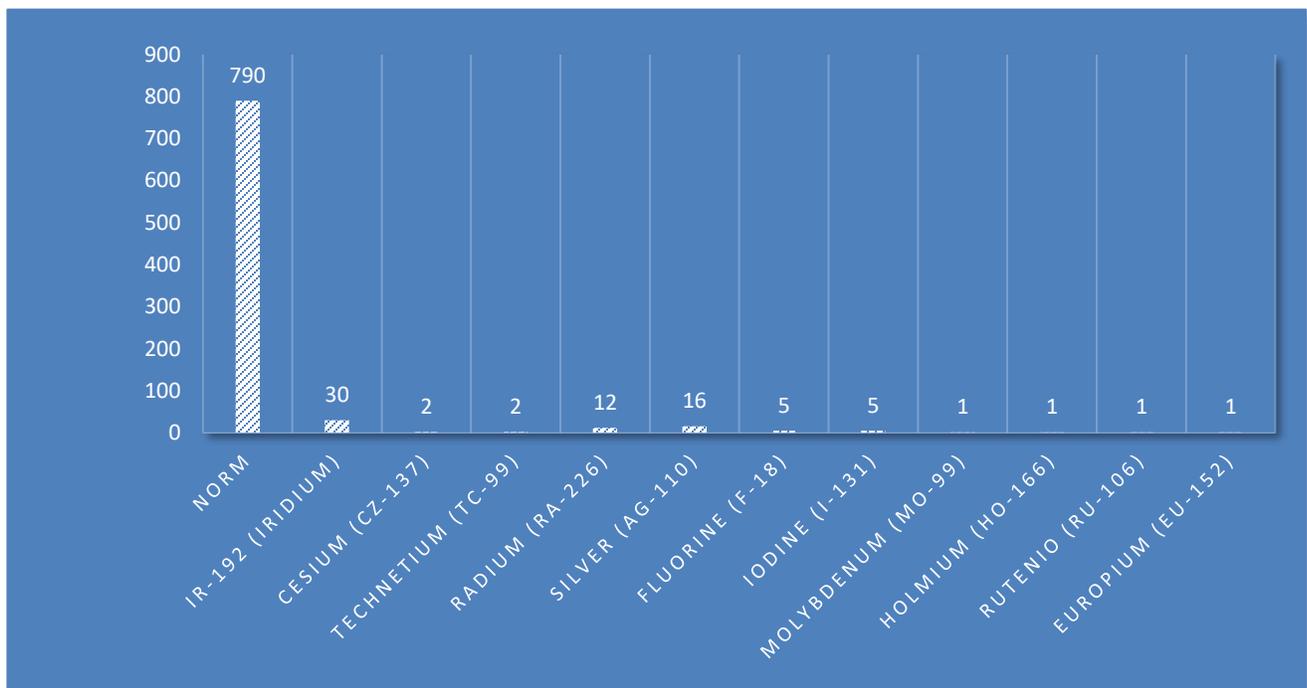
¹ Event - an alarm signal generated by specialized equipment deployed at the border crossing point informing that a certain object (person, vehicle or object, cargo) in the BCP emits ionizing radiation higher than the natural background.

Here we can see that during the 2d quarter of 2020, a total number - **1012** radiation detection events were recorded. The SBGS officers assessed and responded to each of these events in accordance with valid protocols.

Nuclear Security Centre of Excellence (NSCOE) comment: *Analysis of all detection events have shown that, in most cases, the transport, cargos, objects or persons emitting increased radiation dose rates crossed the state border legally.*

With regard to the specific radioactive materials detected by SBGS officials, the cargoes (construction materials, fertilizers, granite, stone chippings, coal, ceramics, etc.) with a higher concentration of naturally occurring radionuclides were mostly transported. There were **801** such cases in total.

However, in **76** cases the radioactive materials used in industry and medicine were identified:



NSCOE comment: *unlike radionuclides of natural origin, radioactive materials for industrial and medical purposes are more active. Failure to comply with the requirements for radiation protection and the transport of hazardous substances can endanger human health and life. Therefore, the circulation of radioactive materials for industrial and medical purposes is regulated and strictly controlled. A carrier transporting radioactive materials for industrial and medical purposes across the state border must obtain and present for inspection cargo documents and a permit issued by the Radiation Protection Center for the transport of such materials.*

The information provided in this newsletter is generic and depersonalized; all related documents, detailed information have been collected and analyzed by the NSCOE.

1. For example, in April 2020, during the border checks, a truck leaving the Republic of Lithuania triggered an alarm of the radiation portal monitor. During the inspection, officials found that the cargo consists of various goods (grinding sand, carbon belts, profiled wire, coil wire, metal drums) and emits increased ionizing radiation (IR). The officers managed to identify the exact radionuclide - Europium (Eu-152). As the carrier did not present the documents permitting the transport of radioactive materials, the vehicle was detained until the conclusion of the Radiation Protection Center was received. After that the border guards allowed the cargo to continue its way from the Republic of Lithuania.

2. Another example - a truck arriving in the Republic of Lithuania triggered an alarm of the radiation portal monitor. An in-depth inspection was completed and the increased IR dose rate was detected within the inspected transport trailer. The radioactive material - Radium (Ra-226) was identified within the cargo - zirconium. After the conclusion of the Radiation Protection Center had received, the vehicle was granted the entry to the Republic of Lithuania.

Refusals / seizure

In the 2nd quarter of 2020, a single event was recorded in Klaipeda Seaport, when a truck that transported scrap metal was detected by the radiation portal monitor. Significantly increased IR dose rate was determined and radionuclides Radium (Ra-226) and Iridium (Ir-192) were identified, which should not be present in the scrap metal. The vehicle and cargo were detained and handed over to the Radiation Protection Center.

NSCOE comment: *shipments of scrap metal in some rare cases contain objects contaminated with radioactive materials or equipment where such materials have been used. Subsequently, when such equipment becomes irrelevant, the owners dispose of them in an unauthorized manner (i.e. without complying with the requirements for the disposal of radioactive materials). If such items were melted during recycling, they would most likely contaminate the entire batch of metal. This would cause significant economic losses and other negative consequences.*

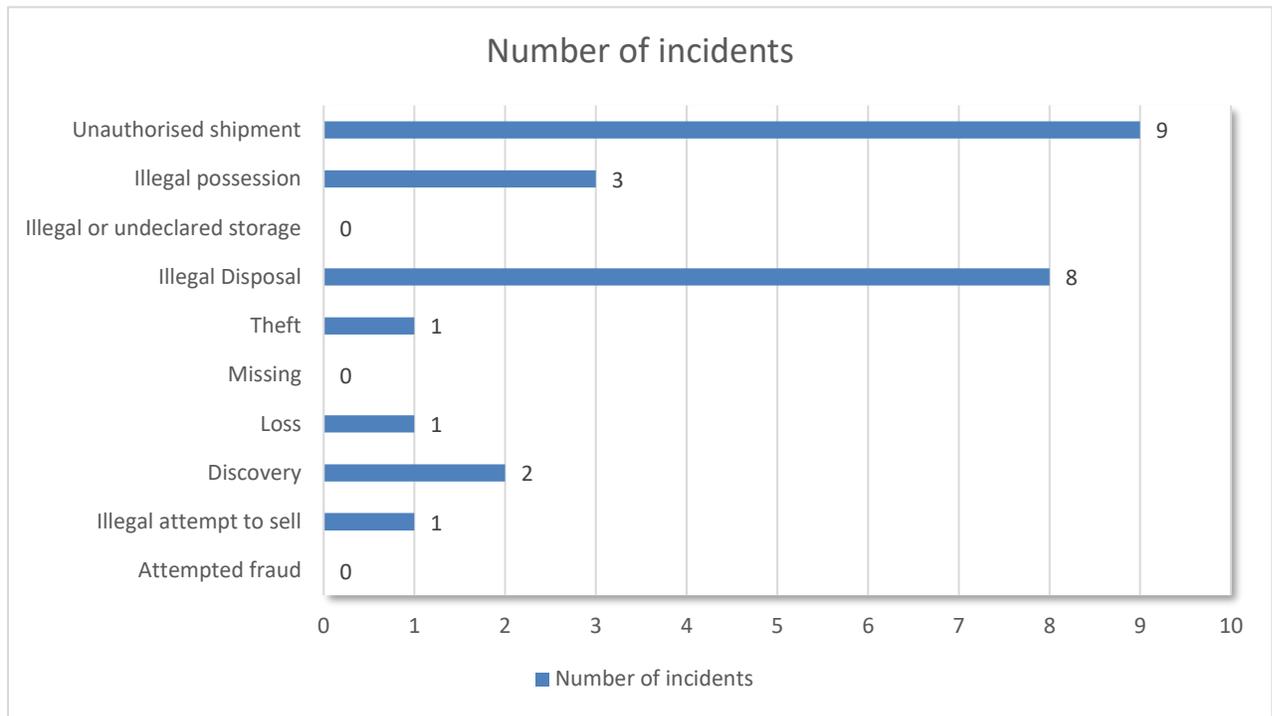
To the world about Lithuania and to Lithuania about the world

The International Atomic Energy Agency (IAEA) collects, analyzes and provides alerts to the Member States on incidents involving illicit transfers of nuclear and other radioactive materials, shares information on the circumstances of detection, seizures and investigations of these cases, as well as on the modus operandi and general trends of offenders. The data is stored and processed by the IAEA Incident and Transport Database (ITDB). The competent authorities of 171 countries around the world use this data to develop, enhance and assess their capabilities in the field of nuclear security.

In the 2nd quarter of 2020, the information on **25** global incidents related to illicit activities involving nuclear or other radioactive materials had been recorded by the ITDB. 10 of these incidents involved nuclear materials.

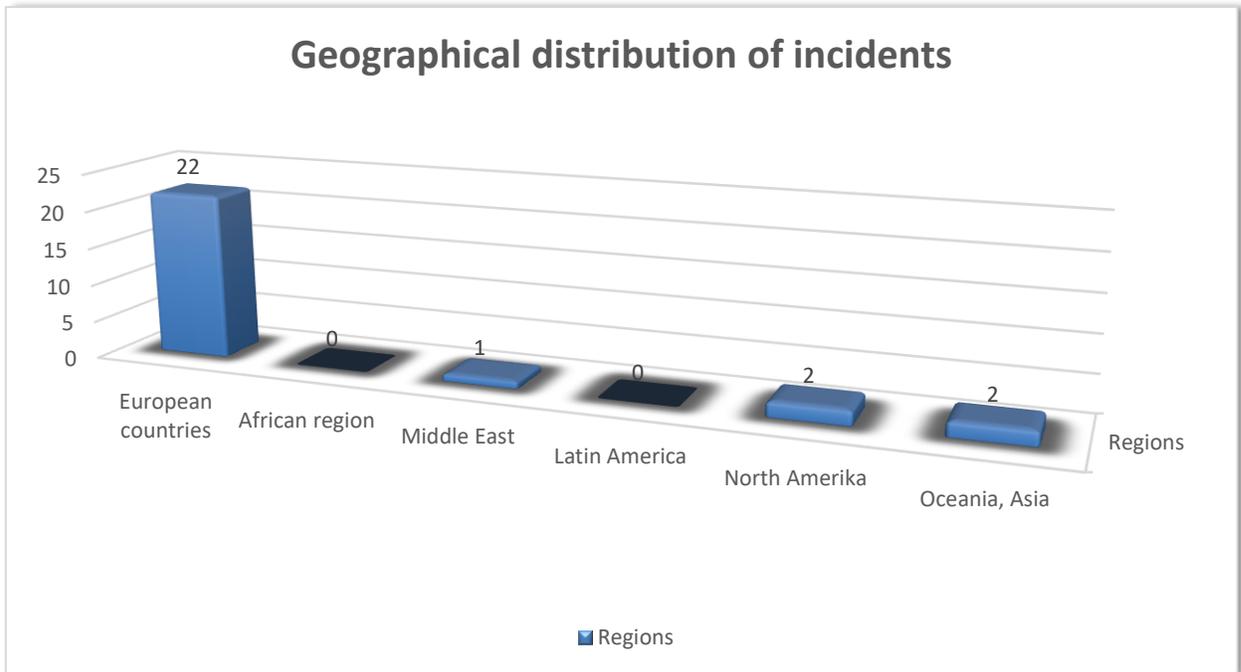
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Distribution of incidents by type of event:



Geographical distribution of incidents:

European countries - 22,
 Africa - 0,
 Middle East - 1,
 Latin America - 0,
 North America - 2,
 Oceania, Asia - 0 events (see the chart below).



The security of nuclear and other radioactive materials remains a matter of serious concern, as these materials may become illegally traded or be used for criminal and malicious activities. The Lithuanian State Border Guard Service and other authorized institutions implement their functions and enhance cooperation in preventing and response to the illicit circulation of nuclear and other radioactive materials out of regulatory control.

Thank you for your attention!