

Progress of the Republic of Moldova in establishment of the Nuclear Security and Safety System

Dr. Ionel Bălan - National Agency for Regulation of Nuclear and Radiological Activities (NARNRA),
Republic of Moldova

With the approval by the Government of UNSCR-1540 (2004) and the new international instruments in the field of nuclear safety and security, the Republic of Moldova shows that it is engaged in a long-term campaign promoted and developed by the world community to prevent non-state actors from acquiring and using weapons of mass destruction and related technologies materials.

The protection against the theft or sabotage of nuclear/radioactive materials and facilities is a major focus for Republic of Moldova, which has some experience fortification of national nuclear security capabilities and in combating of illicit traffic of nuclear materials. One of the important needs challenge for young, independent countries is to develop efficient interagency activities, all players coordination for many-side implementation of UNSCR-1540 and other relevant international acts.

With support of Office of Nuclear Security (ONS) of IAEA in 2008 in the Republic of Moldova by National Agency for Regulation of Nuclear and Radiological Activities (NARNRA) has been launched the Integrated Nuclear Security Support Plan (INSSP) and together with support of the DoE/NNSA, DTRA and NRC of the United States of America, European Commission, Swedish Radiation Safety Authority and STCU, in Republic of Moldova were implemented many projects on strengthening nuclear security capacities and combating illicit traffic of radioactive/nuclear materials.

The assistance consisted of:

- Border Stationary Monitoring Portal - gamma and neutrons portals for detection of nuclear material and radioactive sources for Customs Service;
- Mobile equipments for General Inspectorate of Border Police for detecting of radioactive or nuclear materials in vehicles crossing state border;
- Mobile spectrometer with HPG detector "Microdetective" "Ortec";
- Mobile Spectrometers type "Identifinder", other types of detection and identification devices, neutron monitors and counters, personal and individual dosimeters, beta and alpha radiometers;
- Human resources training, Drills and Field Exercises;
- Establishing Nuclear Forensics Capacity.



INTERNATIONAL LEGAL INSTRUMENTS in NUCLEAR SECURITY AREA

- Convention on the Physical Protection of Nuclear Material;
- Amendment to the Convention on the Physical Protection of Nuclear Material;
- UN Security Council Resolution 1540.

NATIONAL RELEVANT LAWS AND REGULATIONS CONNECTED TO NUCLEAR SECURITY AND SAFETY

- Law No.132 from 08.06.2012 on safe deployment of nuclear and radiological activities; *and*
- Law No. 68 on 13.04.2017 National Strategy on radioactive waste management with Action Plan 2017-2026;
- Law No 1163-XIV from 26.07.2000 "On the export, import, re-export and transit of strategic goods";
- Government Decision No. 608/03.07.2018 radiological protection and safety in activity of unshielded facilities;
- Government Decision No. 388/2009 on Radioactive Waste Management;
- Government Decision No. 1268. 23.11.2016 on security in nuclear and radiological activities;
- Government Decision No. 1017/2008 on National register of ionizing radiations sources and of legal or physical authorized persons;
- Government Decision No. 153/28.02.2014 on State control and supervision of nuclear and radiological activities;
- Government Decision No. 434/16.07.2015 Safety transportation of radioactive material.

NATIONAL STAKEHOLDERS OF NUCLEAR SECURITY AREA

- NARNRA
- General Inspectorate of Border Police
- Custom Service
- General Inspectorate of Police
- General Inspectorate for Emergency Situations
- Information and Security Service

PHYSICAL PROTECTION OF NUCLEAR AND RADIOLOGICAL FACILITIES



Since 2007 NARNRA - as single and independent Regulatory Body, begun the process of drafting of legislative and normative framework in the field of nuclear/radiological activities and fulfilling international obligations arising from international treaties to which Republic of Moldova is a party. In this context has been elaborate and approved high importance legislative acts in radiological safety and nuclear security area including combating of illicit trafficking of radioactive materials.

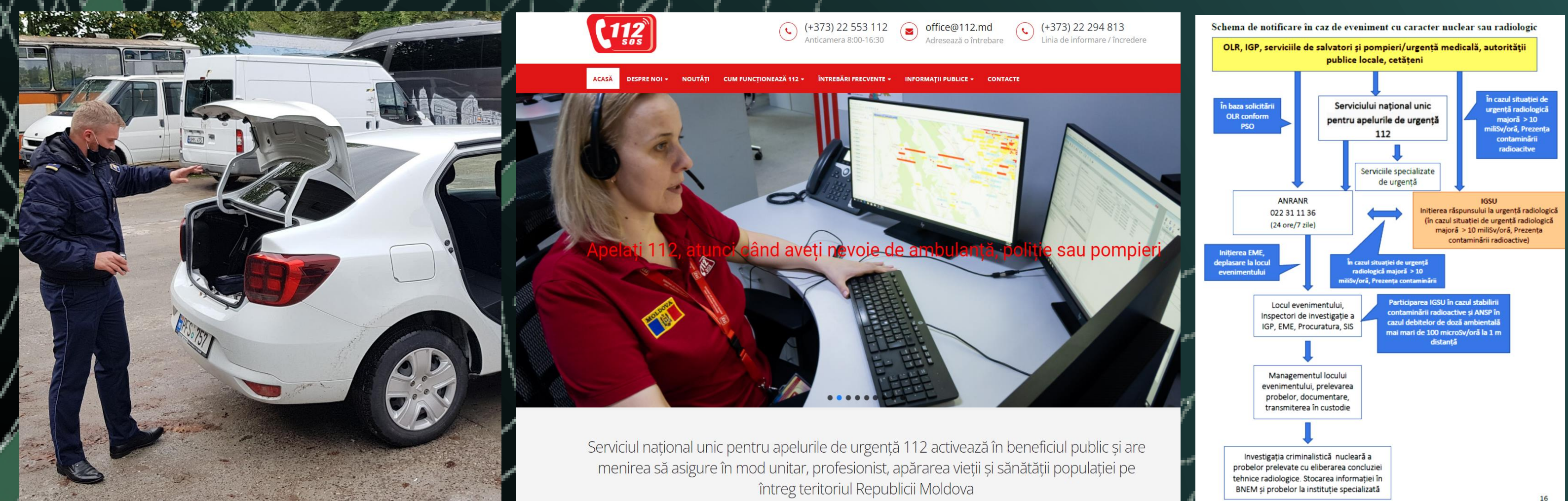
At the moment NARNRA is promoting to the Government through the Ministry of Environment a draft of regulation (Law) based on IAEA GSR-part. 3 or Euratom Directive No 59/2013, by reason that Radiological Safety Regulation (actually non-binding NFRP-2000) in base of IAEA BSS-115 was issued in 2000 and now the regulation are overcome and not in force (lot of inaccuracies and confusing interpretations).

The most important step in strengthening the regulatory framework in the field of nuclear security is the approval by the Government of the Regulation about First respond plan in case of nuclear or radiological events connected to radioactive (nuclear) material or orphaned sources (15 July 2020, No 506).

The Mobile Expert Support Team (MEST) procedures (SOP) in case response to FLO request was approved by the NARNRA.

The NARNRA MEST is ready to response 7/24

on Hot-line communication for national FLO (+373 22 31 11 36) or **112 - National Emergency Call Center.**



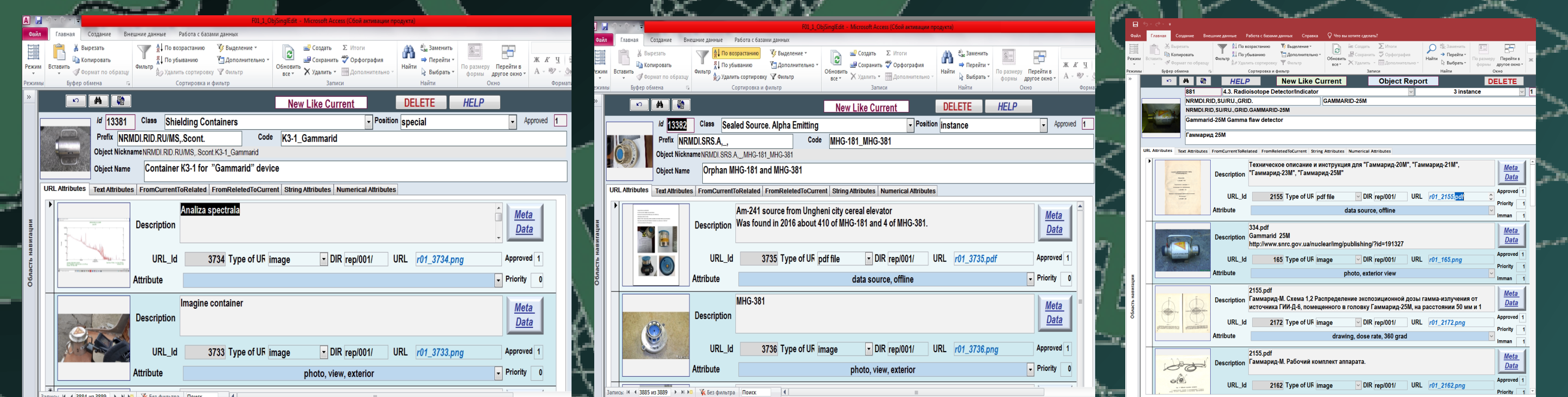
The MEST is convened by the ANRANR director based on the operative request of the responsible person from the relevant institutions (Customs Service, Border Police, Intelligence and Security Service, General Inspectorate of Police, other public authorities) in order to provide assistance to first line officers if:

The presence of neutrons or radioactive contamination is confirmed; There are technical / organizational difficulties in assessing radiological risks.

MEST is predestined to respond to the incident but not to liquidate and urgently remediation of the consequences in case of a nuclear / radiological accident.

Since 2014, the nuclear forensic capacity was created and which is under continuous development process.

The NARNRA is a part of the STCU project and ITWG and has participated in several CMX exercises in nuclear forensics and cooperates with EUSECTRA European Commission Joint Research Center and other Nuclear Research Centers abroad and established since 2020 a **National Forensics Library.**



A special compartment is also the securing actions (removing) of the radioactive sources from the existing facilities (removed spent radioactive sources in eastern part of the Republic of Moldova (Transnistria region).



In February 2020 was decommissioned and removed from the site (for final storage) the Irradiator "RHM-Gamma 20" type with 36 radioactive sources (type GIC-7-1 Co-60) from Institute of Plant Genetics and Physiology. Initial activity of radioactive sources over 5 000 Ci (1988).

Total number of radioactive sources removed from different facilities since 2011 – about 3490 including Transnistria region of republic of Moldova (more 2300 items Co-60; Cs-137; Am-241; Pu-239, Sr(Y)-90 and Ra-226).