ALBANIA

CHALLENGES IN APPLYING SAFETY AND SECURITY MEASURES IN NORM ALARMS ASSESSMENT IN SEA PORTS AND LAND BORDER POINTS IN ALBANIA.

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Where and what is Albania?

- Albania is a country in southern Europe, located in the western part of the Balkan Peninsula. The capital city is Tirana.
- Albania has a long history. Previously part of the Byzantine and later the Ottoman empires, Albania gained independence in 1912. Change of regime from Communism to Democracy in December 1990.
- With an area of 28,748 km² the country is a just a bit smaller than Belgium or the U.S. state of Maryland.
- Tirana, the capital of Albania has a lot of things in common with other European capitals – except one. It's one of the only capitals without a McDonalds (another is Vatican City).
- Albania has over 750,000 bunkers spread out across the land. They are hard to miss and can be a nice car game (Be the first to spot the bunker!).

Main Radioactive Sources Applications

- In Albania, the sources of ionizing radiation are used in various applications in medicine, industry, agriculture, research and teaching process.

- There are no nuclear facilities in Albania. Tiny amounts of nuclear materials are in use in some research institutes. The main problem to be resolved in this situation in relation to illicit trafficking and smuggling in nuclear materials is to detect any possible illegal (malicious, contaminated, radioactive wastes, out of regulatory control sources, etc) transits through Albanian territory and borders and to respond to them properly.

- The other kind of radioactive materials out of control of the Albanian regulatory body relates to metal scrap and radioactive sources having been used in various industrial and / or military ends and lost or dispersed during 1997, as well as in transit through Albania.

- With this in view, the work had to be focused to equipping with proper detecting instruments border check points and key internal customs houses.

Responsible Institutions for Nuclear Security and Radiation Safety

- The **Customs Service** serves as the lead enforcement agency at the border check points and is responsible for responding to all alarms and alarm adjudications.
- Customs is responsible for ensuring all necessary secondary inspections are conducted and informing appropriate response agencies when suspicious alarms/alerts are identified.
- In order to secure the border to prevent the unauthorized entrance - exit and transit of the radioactive sources in the Republic of Albania, the Albanian Customs Authorities have taken all the due measures to place the necessary devices for automatic and/or manual detection of the radioisotopes in border crossing points.
- The allocation of such devices makes possible the detection and/or identification of different radioisotopes and is realized in line with the establishment of functional response plans/ procedures prepared by the Customs Service in cooperation with **Radiation Protection Commission** and **Institute of Applied Nuclear Physics**.

Responsible Institutions for Nuclear Security and Radiation Safety

- **Article 3 of** Decision No. 638, date 7.9.2016 "**On Safe Radioactive Waste Management in the Republic of Albania"defines Responsible Institutions"**
- **a.** Radiation Protection Commission **(RPC)** as the Regulatory Body **defines the policies** related to the treatment of the radioactive waste and DSRS and also for the Transport of Radioactive Materials in Albania.
- **b.** The Radiation Protection Office (RPO) is established as the executive body of the RPC.
- **c.** Institute of Applied Nuclear Physics (IANP) is the institution **in charge for the processing of all radioactive waste and DSRS and for the Transport of Radioactive Materials in Albania.**

Albanian Nuclear Security and Rad Safety: Missions and Challenges

- Nuclear Security
  - Detect and interdict nuclear and other radioactive materials out of regulatory control
  - Operate and maintain RPM border systems
  - Challenge in assessing alarms and support for sustaining expensive radiation detection equipment
- Radiation Safety
  - Ensure compliance with transport regulations
  - Detect and control orphan sources, contaminated goods, radioactive waste, and products "enhanced" with NORM
  - Challenge is lack of equipment and resources

The Nuclear Security and Radiation Safety Interface

In response to difficulties with the operation of RPMs, assessment of alarms, training of personnel, and maintenance of equipment:

- Albania joined the Coordinated Research Project "J02005-Improved Assessment of Initial Alarms from Radiation Detection Instrument" in September 2016

- This Project is implemented from Institute of Applied Nuclear Physics in collaboration with the General Custom Directorate (GCD) and the Private Scanning Company "S2 Albania".

The Nuclear Security and Radiation Safety Interface

- Scientific Scope of the Project is to develop technical documents and tools that can be used by FLOs and expert organizations to enhance the ability to make high confidence assessments on whether or not nuclear and other radioactive material out of regulatory control is present when an initial alarm occurs.

- In 2017 and 2019, IANP also joined CRPs to address equipment performance and sustainability problems.

- Recognition that nuisance alarms (from innocent NORM) and real alarms from possible radiation safety issue cargos are crossing the borders. Not security issue but safety!

Memorandum of Understanding between GCD & IANP

- Memorandum of Undertanding no.419 dated 14.01.2009 between General Custom Directorate and IANP with the aim "For detecting and combating of illicit trafficking on radioactive materials" where the following ways of collaboration are reflected:

  - Cooperation when radioactive materials beyond prescribed norms are determined;

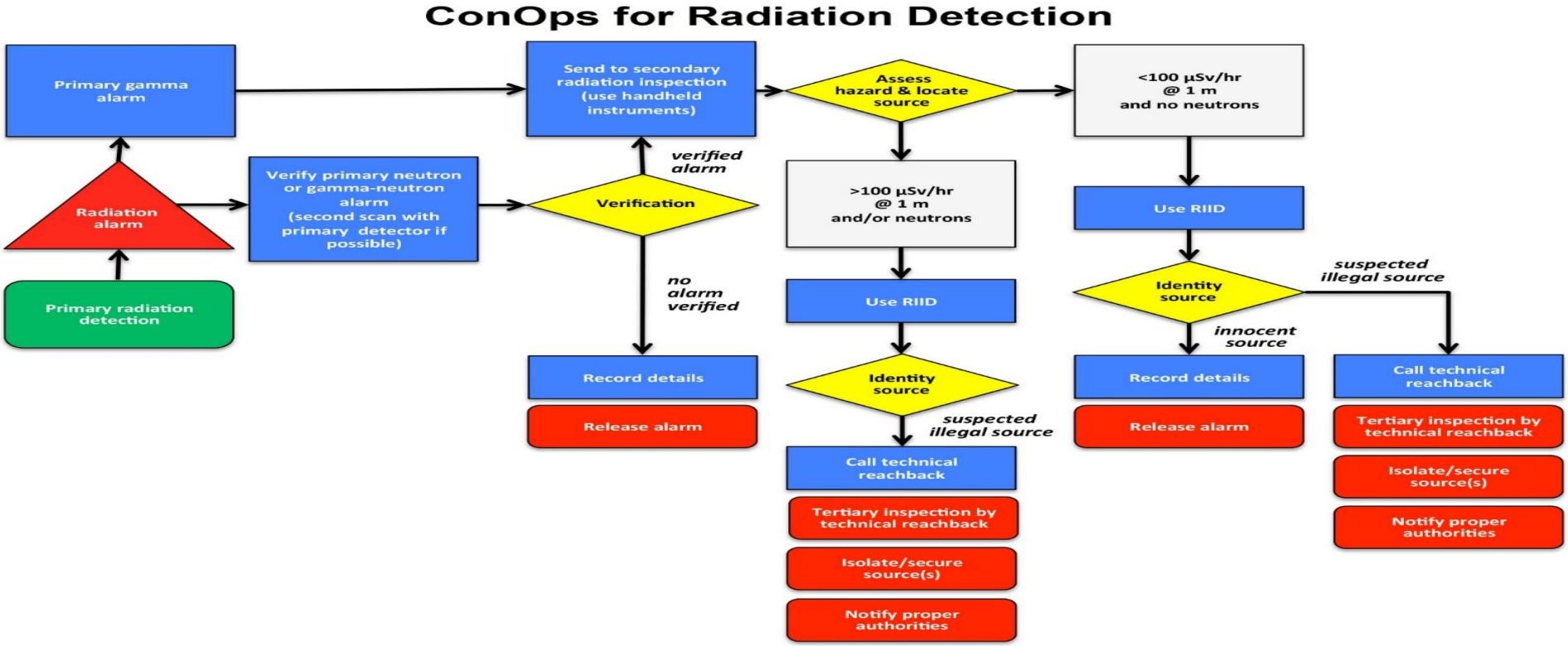
  - Technical assistance for operation of radiation detection equipment and interdictions (such as RIDs identify Special Nuclear Material, neutron radiation is detected, suspicious alarms, unusual high levels of radiation).

  - The continuous training of Front Line Officers to improve the effectiveness and efficiency of alarm assessments and actions taken.

Types of Alarming Commodities Seen (No security issues but some may be safety related)

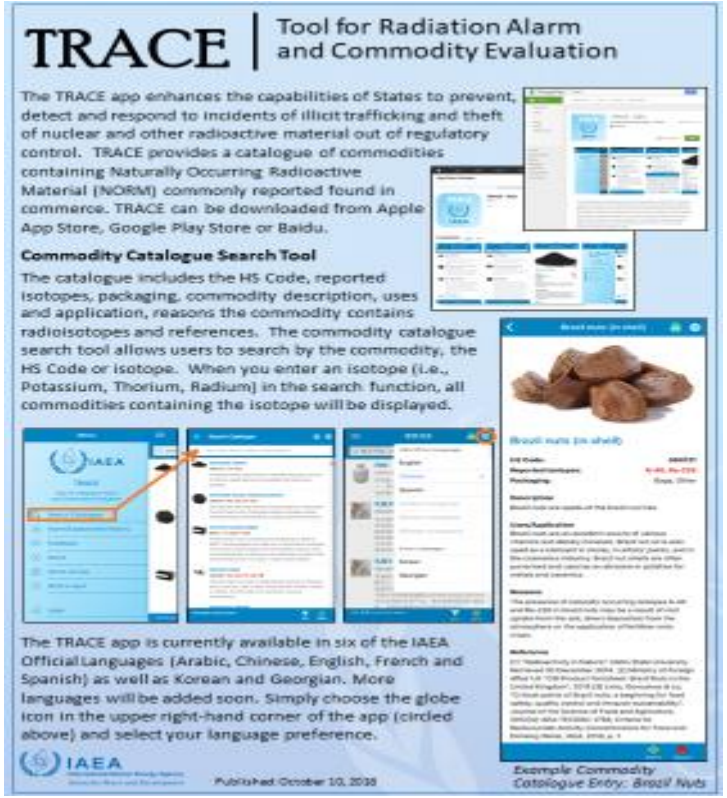
- Ceramic Tiles/Paving Tiles
- Building Bricks
- Roofing Tiles
- Fertilizer
- Medicinal Plants
- Carbonic Gas (CO2)
- **Iron Nickel Ore**
- White Portland Cement 52.5R (Bulk)/Portland Cement (Bulk and packed in 50 kg bags)
- Tobacco not stemmed/stripped/Cigarettes containing tobacco
- Coffee not roasted (decaffeinated)/Roasted coffee (excl. decaffeinated)
- Granite Slabs
- Ceramic Sanitary fixtures of porcelain
- Sandstone

Standard Operating Procedure (SOP)



TRACE as part of Standard Operating Procedure (SOP)

- **TRACE** is used by the FLO for the verification of the information taken from the primary inspection (both paperwork and the RPM information).
- **TRACE** has an Alarming Catalogue for different commodities.
- **TRACE** is used to get information on the Radioisotopes which should be present in different Alarming Commodities.
- **TRACE** is used as Source of information on the usage and package types of different NORM commodities.
- **TRACE** can facilitate passage of legitimate NORM commerce and not hold up for security.
- Used to identify cargos that should not alarm but NORM has been added to unsafe level, e.g., sanitary pad for women.



Radiation detection and isotope identification equipment – Security equipment is similar to safety equipment!

- **RIDs –**
  - ✓ Identifinder 2-FLIR
- **BRDs –**
  - ✓ BRD AT 6101C

- **PRDs –**
  - ✓ Minirad
  - ✓ Polimaster
  - ✓ RedEYE

Challenges and lessons learned:
The security-safety interface is important and should be explored more

Challenges

- When only considered for security purposes and that the vast majority of radiation alarms result from NORM and possible safety issues, difficult to operate and sustain nuclear security operations using RPMs.
- Training of constantly rotating front line officers with little/no radiation background is difficult.
- Lack of human and financial resources to cover RPMs and equipment maintenance issues.

Lessons Learned

- Through cooperation between safety and security agencies/organizations, better understanding and support for radiation detection systems can be achieved.
- Tools like **TRACE** can be used to reduce and improve training of FLOs.
- More information on NORM shipments and paperwork to include in TRACE and SOP needed.
- Participation in joint exercises, joint research projects, etc., increases understanding and cooperation by the parties involved.

ALBANIA

THANK YOU
FOR
YOUR ATTENTION !