

COMBATING ILLICIT TRAFFICKING OF NUCLEAR MATERIAL AND OTHER RADIOACTIVE SOURCES IN REPUBLIC OF BULGARIA

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Abstract

The turbulent history of the Republic of Bulgaria is proof of its importance for the commercial and military interests of the nations that have conquered and exploited the country through the ages. It is clear that it is the connecting node of two continents, Europe and Asia. It is a natural stop in the movement of goods for transcontinental commercial purposes as well as a natural resting place for the movement of armies during the ancient and medieval times.

The geopolitical situation that currently exists in Republic of Bulgaria may form condition for illicit trafficking. This paper gives a short description of the efforts of the Government of Bulgaria to combat the illicit trafficking of nuclear material and other radioactive sources.

I. INTRODUCTION

The general principle in the legal instruments in the field is providing security of radioactive materials and public safety of radiation sources. All acting legislative acts are based on European and other International Conventions and Treaties on use of atomic energy and on the commitment that in Bulgaria the atomic energy should be used only for peaceful purposes. The co-operation with the other countries in that field would be under the terms of the Treaty on Non-proliferation of Nuclear Weapons.

The legal instruments regulating the regime of registration, handling, storing, use and disposition of radioactive materials are as follows:

- The Treaty on Non-proliferation of Nuclear Weapons;
- The Vienna Convention on Civil Liability for Nuclear Damage;
- The Act on Use of Atomic Energy for Peaceful Purposes /1985/;
- The Regulation for Implementation of the Act on Use of Atomic Energy for Peaceful Purposes /1986/;
- The Rules for Gathering, Keeping, Processing, Storage and Disposition of Radioactive Waste on the Territory of the Republic of Bulgaria.

The Act on Use of Atomic Energy for Peaceful Purposes /AUAEPP/ has been passed in 1985. It regulates the use, the right of property, the management of use, the government control, the civil liability for nuclear damage and the administrative and criminal responsibility of the persons in charge of management and using of atomic energy. The last amendments to the act took place in 1995 and concerned the right of property, control and accounting of radioactive

materials. Now only the special nuclear materials are exclusive property of the state, while the other ionizing radiation sources may be property of legal and physical persons too. These new provisions to the act have caused passing a new section V in the **Criminal Code**, concerning higher criminal responsibility of the persons in charge of handling and control of such materials.

The Committee on the Use of Atomic Energy for Peaceful Purposes (CUAEPP) co-ordinates government policies in the field of use of atomic energy.

The Inspectorate on Safe Use of Atomic Energy within the CUAEPP provides government supervision and control on safe use of atomic energy in interaction with the other authorized specialized controlling agencies.

In 1998 has been established the *Standing Commission for Co-ordination, Information Exchange in the Field of Proliferation*. The members of this commission are officers from the National Service for Combating Organized Crime (NSCOC), the National Security Service, the Border Police and the General Department of Customs, the Ministry of Economics and the Committee on the Use of Atomic Energy for Peaceful Purposes (CUAEPP).

II. COUNTERING ILLICIT TRAFFICKING OF NUCLEAR MATERIAL AND OTHER RADIATION SOURCES EXPERIENCE AND TRENDS

The *Ministry of Interior (MoI)* is authorized to provide control on radioactive materials on the sites, where they are used and stored and in the time of their transportation. As the illicit trafficking of nuclear materials is a great concern of our government and the MoI, in the early 90's a special operative and investigative section has been set up within the *National Service for Combating Organized Crime*, which deals with non-proliferation of nuclear materials.

We consider any case of diversion of radioactive materials as a possibility for single state or terrorist groups or organizations to ignore the international convention for non-proliferation of radioactive materials. In addition the radioactive materials in combination with the conventional explosive substances may be used to create a panic or to cause radioactive contamination in residence areas or water sources and in this way poses a threat to the public health and the environment.

These factors determine the high degree of public threat of all kinds of nuclear crimes and that is why the domestic and the international communities are aware of them.

The Republic of Bulgaria is mostly a transit country for the alleged illegal trafficking of nuclear and radioactive materials. That is why the law enforcement authorities are trying to be active partners of the competent international and national authorities in the concerned countries.

The analysis of the criminal acts involving radiation sources and radioactive materials in Bulgaria for the period 1992-2000 has outlined the following factors, which have caused the rise of this specific new type of crime.

In the first place, the decay of the USSR and the consequent economic stagnation in the former socialist countries in Central and East Europe have led to dismissing of a lot highly qualified scientists and specialists, employed before in nuclear, military, missile-aviation and

space industries and Research Centres, and Institutes. The criminal organizations have envisaged the great potential of these professionals and their likely incorporation in future illegal/criminal activities. Further the criminal organizations have demonstrated notable interest in high technologies, know-how, materials and equipment, involving radiation sources and radioactive materials, as necessary prerequisites for profitable eventual illegal/criminal production or transfer in the countries under embargo.

In the second place the inadequate legislative practice in force in the early 90's for the new social and economic situation in the country in transition and the legal nihilism, demonstrated by most of the people and the parties, dealing with radioactive materials.

In the third place the loose control over the entire process of keeping, storage and handling of such materials in the early 90's have favoured some unscrupulous elements to make use of illegal trafficking in nuclear and radioactive materials.

The criminals involved in illicit trafficking in nuclear and radioactive materials are in general foreign profiteers, operating in co-operation with Bulgarian nationals and companies. These materials are usually subject of smuggling and re-export in the Middle East countries and in the countries put under embargo.

The approaches and methods in detection and identification of smuggled radioactive materials applied in the operative practice include first of all, examination of the reliability of the source and the obtained information, the appearance, colour and other specifications of the substance; Special attention is drawn to the initial use of the offered substance, in which field it has been used (kind of application, type of used equipment), weight, inscriptions and symbols on packing (containers), certificate of chemical expertise etc. If it is possible, an information on the process and place of enrichment of the substance is collected.

The more common of the recorded cases involving radiation sources and radioactive materials in Bulgaria are as follows:

- In October, 1992 140 Plutonium radiation sources, "buttons", have been seized in hotel "Sheraton" in Sofia. The investigation has revealed total amount of 0.02 g Pu, which can be considered as a radioactive material, but it can not be used for military purposes. The substance had been placed there deliberately by an English news reporter for the need of a journalist investigation of a fiction channel for smuggling radioactive materials to an unknown Arabic country with the intent to discredit Bulgaria. The investigation has not confirmed such a channel.
- In February 1994 four capsules with Radium have been seized in Plovdiv. The measured radiation emission has been insignificant.
- In July 1994 2 containers with Uranium acetate and 2 containers with Mercury oxide have been seized. Both substances pose a threat to people, but they are not weapon-usable.
- In 1994, 1 metal container with 0.5 g Uranium oxide has been seized in Sofia. The expertise has confirmed the substance poses a threat to people, but it is not weapon-usable.
- In October 1994 four metal containers with an alloy of Aluminium, Manganese, Magnesium have been seized by Custom officers in a Turkish bus, but no radiation sources have been detected.

On the grounds of the available information the following conclusions can be done:

In the period until 1996 the demand on radiation sources and radioactive materials of various types and kinds for the purposes to be transferred to the countries under embargo has been considerably high. Most of them originated from Russia and Ukraine and have been smuggled to the Western Europe or Middle East countries, as the offered prices were too high and the demand at the domestic market was nearly absent. In the period 1996 - 1998 the numbers of recorded cases of detection or smuggling of radiation sources and radioactive materials has suddenly fallen. The available information on such cases has decreased too

In 1999 there was a case of transit trafficking of U-235 through the border cross control point in the city of Rousse. In addition 19 containers with Strontium and Americium of the type "Gamarid" have been stolen. They have been in possession, handled and stored by a company.

The analysis of the registered cases involving radioactive materials has displayed that in the most of cases some individuals and companies had tried to speculate and to realize fraudulent deals, offering and selling some times innocuous or false radioactive materials. The seized substances generally originated from civil facilities and are used in sensors, gauging and calibration appliances, and are not weapon-usable. There are no any registered cases of detecting or seizure of U-235, Pl-239 or any other weapon-usable radioactive element. Nevertheless some of the seized materials are emitting dangerous radiation for people and environment.

III. CONCLUSION

The geographical situation of Bulgaria at the crossroads between Europe and the Middle East has specified it as one of vulnerable transit countries for illicit trafficking of radiation sources and radioactive materials from Europe to Middle East countries. That is the reason to consider the crimes involving radioactive materials as posing a serious threat to the health and public security of people, and environment and to support any efforts to co-operate and integrate with all concerned international organizations and special enforcement forces in dealing with this serious threat.