Ex-communist countries in Southeast Europe during the 70s and 80s have been working intensively on nuclear, chemical and biological weapons development programs, and some of them have even been producing chemical and biological weapons, while the other have attained it as a part of the Warsaw Pact as allies of the USSR. The latter, although they have not been developing their own WMD had their finest experts take part in WMD development in USSR institutes, laboratories and production facilities and have therefore acquired know-how.

It is a known fact that the secret police and security and intelligence service in those countries at the time recruited their informers, yes-men and operatives among criminals who were often accused of most serious crimes, as well as among officers and scientists who took part in top secret projects, such as WMD development projects.

Only after the wars on the territory of former Yugoslavia, it became known that chemical and biological agents were used in the form of CB terrorism, which was organized and performed jointly by those involved in organized crime and then secret services, with the help of persons involved in nuclear-chemical-biological weapons development programs.

In the last couple of years while processing mafia conflicts in ex-communist countries in Southeastern Europe fascinating information has been revealed that the people accused and often convicted because of organized crime in the past have also been members of secret police, intelligence services, special forces etc. and in closing the deals and their execution the criminals do not care about nationality and nation-state borders.

The authors will try to come up with answers whether organized crime on the territory of Southeastern Europe could get hold of WMD deriving from development programs from ex-communist countries and whether these weapons will be used in their mutual conflicts and conflicts with those in power in their own or other EU countries, or they can trade those weapons for profit and the authors will also try to give some of the answers why in such cases the established border control mechanisms are not efficient enough in order to prevent WMD proliferation and how to improve them.

Key words/Phrases: CRB terrorism, organized crime, members of secret police and secret services of ex-communist countries, border control, WMD non-proliferation politics

23. A LARGE INDUSTRIAL POLLUTION PROBLEM ON THE KYRGYZSTAN-UZBEKISTAN BORDER: SOVIET PRODUCTION OF MERCURY AND STIBIUM FOR THE SOVIET MILITARY

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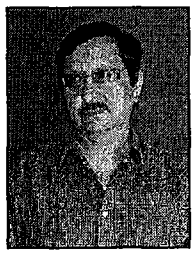
Soviet industry of mercury and stibium was located in South-East Fergana in Kyrgyzstan and Uzbekistan boarder.

Khaidarken combine produced high pure mercury (99.9997%) since 1940, it was the second source in the World (after Almadena, Spain). Maximal production was 790 t in 1990, after Transitional Shock about 300 tons a year. Tail was established in 1967. There is special tube 5500 m transporting pulp to tail. The pulp contains about 0,003 mg/liter mercury, 0,005 mg/liter arsenic, 21 mg/liter stibium, etc. Pulp is cleaned by aluminum sulfuric and mortar. After drying and compressing by itself the concentrations rises: mercury 90-250 mg/kg, arsenic 190-400, stibium 800-1700 mg/kg. Environment pollution problem contains three kinds: ground water infiltration; old tube corroding some places (leakins from chink of tube) - both mentioned lead to vegetables cumulating; combine work spreading mercury by air to settlement Khaidarken.

Kadamjay enterprise for stibium (mines, combine, purify plant, tails) began work in 1936. Most part of production used in soviet military. Maximal production was 17.000 t clearing ore in 1990, after USSR collapse 1-6 t/year. Tremendous tails and dams (total 150 mln t) remains non re-cultivated until now. The tails contain electrolysis wastage: sodium–sulfides, sulfites, sulfates; stibium; arsenic; cadmium; stibium; etc. Seven deposits (tail-damp really) established 1976, total square 76.1 thousands sq m, total volume 250 thousand cub m. The deposits over-filled, contents filtrating - little saline or lakes generated (one situated 50m near Uzbekistan boarder). River Shakhimardan flow to Uzbekistan (settlement Vuadil, Ferghana town). There are health damage indices in the areas.

Will not be presented



Dr. Igor B. Hadjamberdiev, Professor Medical Academy of Kyrgyzstan, Senior Executor of Project on Uranium Tails Are and Health. Voluntary work: Coordinator of e-network of Central Asia. Research work in the fields: tails/warehouses (uranium, cyanide, obsolete pesticides); danger epidemic; and human diseases concerning mentioned; natural disasters mapping. He was a coordinator of several granted research in mentioned fields supported by funds (ISAR, McArthurs, HIVOS, Int Sci Teckh Fund) in 1996-2005.

24. SEA-DUMPED CW MUNITIONS – THE EUROPEAN COMPONENT

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The purpose of this contribution is to outline the European magnitude of sea-dumped CW munitions. Hereby the paper attempts to provide an overview on historical dumping activities, both for conventional and chemical munitions. The potential dangers which might result from these dumping activities are discussed in brief. Among others the differences in deep sea dumping and dumping in shallow waters are evaluated.
Further, the presentation will outline and discuss the different technology steps: (a) identification, (b) recovery, (c) transportation and (d) destruction (on- or off-shore), necessary for possible cleaning of dumping sites. Thereafter an evaluation of the different technologies available/applied is performed, in particular on the destruction part. Hereby the already practised experience is displayed.
Based upon existing treaty regimes an actual judgment of possible application of treaty provisions for demanding cleaning up operations is discussed. The question if treaty obligations can be used to force cleaning operations is debated.
A possible match of the technology package available with the scope/magnitude of the munitions dumping problem is discussed. Hereby the gaps between the size of the problem and the most suitable technologies for recovery and destruction are illustrated. The resulting answers should be regarded as possible technical guidelines for future development activities as well existing limitations to solve the problems.
The papers will result in some general guidelines for future prospect on the issues of dumped munitions, in particular chemical munitions under the European context.

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25. OPERATIONALISING UN SECURITY COUNCIL RESOLUTION 1540: AN OVERVIEW OF SELECT PRACTICAL ACTIVITIES IN THE CHEMICAL AND BIOLOGICAL WEAPON-RELATED AREAS

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The UN member states are continuing to take measures to inter alia establish and effectively implement controls to prevent the proliferation of nuclear, biological and chemical weapons and their means of delivery in accordance with United Nations Security Council Resolution 1540 (2004). The resolution also encourages enhanced international cooperation on such efforts, including by working through the *1540 Committee.* Most analyses on the implementation of the resolution have focused on nuclear issues. This presentation provides an overview of select practical activities in the chemical and biological weapon-related areas, including chemical product classification and identification, biosafety and biosecurity practices and criminal prosecutions for unauthorised chemical transfers.

Key Words/phrases: Biological Weapon, Biosafety, Biosecurity, Chemical Product Classification and Identification, Chemical Weapon, Transfer Controls, United Nations Security Council Resolution 1540, prosecution.

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26. IMMUNOGENICITY OF BIOPHARMACEUTICALS AND BIOSIMILARS IN RELATION TO STORAGE, HANDLING AND STABILITY

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Therapeutic proteins or biopharmaceuticals provide effective treatment for many diseases and medical conditions, and vaccines, immunoglobulins and monoclonal antibodies are critical biodefense biopharmaceticals which constitute an indispensable part of biodefense stockpiles. The manufacturing process for biopharmaceuticals and their generic forms which are called biosimilars is far more complex than for low molecular weight drugs and generics. Any minor change made at any stage may have a critical effect on the clinical efficacy and safety. Potential immunogenicity is the key issue for biopharmaceuticals and biosimilars and may have serious clinical consequences ranging from allergy and anaphylaxis, as well as loss of efficacy of the product. Immunogenicity may be influenced by factors related to manufacturing process, formulation, aggregate formation, contaminants and impurities, and also by the factors related to the storage and handling. Stability is particularly important with larger protein molecules, because their *in vivo* effects often depend on their three-dimensional structure. Proteins usually aggregate from partially unfolded molecules and aggregates can enhance immunogenicity. Although product formulations are developed to maximize and maintain the fraction of the protein molecules present in the native state, significant amounts of aggregates can form, especially over pharmaceutically relevant time scales and under stress conditions. Exposure to air–liquid and solid–liquid interfaces, light, temperature fluctuations or minor impurities can induce aggregation. Such exposure can occur during