1. OVERVIEW OF THE US STRATEGIC NATIONAL STOCKPILE

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The CBMTS community last received an overview of the United States Strategic National Stockpile in Dubrovnik during the Spring of 2001. The events that occurred later that year and the ensuing response have resulted in a dramatic expansion of both the scope and complexity of the Strategic National Stockpile. These changes are seen not only in the scope of the Materiel holdings which have grown by several orders of magnitude, but in the increasingly complex operational designs which can rapidly bring the materiel to bear in a clinically relevant timeframe.

Mr. Adams, Deputy Director of the program from the time of its 1999 inception, will provide a detailed overview of the current program highlighting many of the changes and evolutions which have occurred during the past 8 years.

Key Words/Phrases: Phrases: Medical Response, Medical Countermeasures, Stockpiling.

Mr. Adams has served as Deputy Director of the U.S. Strategic National Stockpile Program located within HHS’s Centers for Disease Control and Prevention (CDC) from the time of its inception in 1999. As such, he has been intimately involved with the development and evolution of the national doctrine for response to public health crisis and directly engaged with state and local authorities in the planning and implementation of the civilian medical response to large scale public health emergencies. In addition to programmatic leadership, Mr. Adams has led deployment teams and managed large scale emergency responses.

2. MOBILE GAMMA SPECTROMETRY WITH REMOTE DATA ANALYSIS

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There are several devices on the market designed for the detection and identification of a radiation source. The widely used approach for this is to use sensitive scintillation or semiconductor detectors together with software algorithms to get the alarms on-site in real time. The devices may be used in covert operations during major public events such as in international sports events or at political meetings. The screening and surveys are prone to false alarms due to the variability of the natural radiation or to legal radiation sources such as patients who have received radioisotope treatment recently.

The correct interpretation of the spectrometric signal is a task of a nuclear specialist; every instrument user is not expected to have such knowledge, and therefore, there is a substantial risk to misinterpret the result given by the instrument. The consequences of a false alarm can be dramatic, and therefore, from the operational point of view correct alarm handling is a key capability.

Environics Oy has commercialized the measurement and an analysis concept developed by STUK (Radiation and Nuclear Safety Authority in Finland). This concept includes high performance spectrometric analysis, local and remote data analysis, including wireless online connection to expert systems and expert support allowing multi-user-single-expert (MUSE) operations.

Osmo Anttalainen received MSc (EE) from Lappeenranta University of Technology 1992. He worked for Honeywell Automation in the area of optical sensor systems from 1991 to 1994. Between 1994 and 2000 he worked for Environics Oy mainly in the area of software, algorithms and space electronics development. Between 2000 and 2002 he managed the institute for electronics design in Lappeenranta University of Technology. Since 2002 he has worked in his existing position, V.P. Technology in Environics Oy, contributing development of Ion Mobility Spectrometers and other sensor technologies used in Environics Oy.

3. COVERING SOURCES OF TOXIC VAPORS WITH FOAM

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In a case of chemical terrorism, first responders might well be confronted with a liquid source of toxic vapor which keeps spreading out its hazardous contents. With foam as an efficient and simple means, such a source could be covered up in seconds and the spread of vapors mitigated drastically.

Once covered, the source could then wait for a longer time to be removed carefully and professionally by a decontamination team.

In order to find foams useful for covering up toxic vapor sources, a large set of measurements has been performed in order to answer the following questions:
- Which foams could be used for this purpose?
- How thick should the foam cover be?
- For how long would such a foam cover be effective?
- Could the practical application of foam cause a spread of the toxic chemical?