Chemical Facility Vulnerability Assessment Project

C.D. Jaeger
Security Systems and Technology Center
Sandia National Laboratories
PO Box 5800, MS 0759
Albuquerque, NM 87185, USA
Phone: (505) 844-4986
e-mail: cdjaege@sandia.gov

ABSTRACT

Sandia National Laboratories, under the direction of the Office of Science and Technology, National Institute of Justice, is conducting the Chemical Facility Vulnerability Assessment (CFVA) project. The primary objective of this project is to develop, test and validate a vulnerability assessment methodology (VAM) for determining the security of chemical facilities against terrorist or criminal attacks. The project also included a report to the Department of Justice for Congress that in addition to describing the VAM also addressed general observations related to security practices, threats and risks at chemical facilities and chemical transport. The report also addressed the public release of information collected from the VAM and provided recommendations concerning the possible disclosure of VAM information.

In the development of the VAM Sandia leveraged the experience gained from the use and development of VAs in other areas and the input from the chemical industry and Federal agencies. The VAM is a systematic, risk-based approach where risk is a function of the severity of consequences of an undesired event, the likelihood of adversary attack, and the likelihood of adversary success in causing the undesired event. For the purpose of the VAM analyses Risk is a function $S$, $L_A$, and $L_{AS}$, where $S$ is the severity of consequence of an event, $L_A$ is the likelihood of adversary attack and $L_{AS}$ likelihood of adversary success in causing a catastrophic event. The VAM consists of 12 basic steps. It involves an initial screening step which helps to prioritize facilities for further analysis. Other steps help to determine the components of the risk equation and ultimately the risk. The VAM process involves looking at the covered chemicals and processes at a chemical facility. It helps chemical facilities to focus their attention on the most critical areas. The VAM is not a quantitative analysis but, rather, compares relative security risks. If the risks are deemed unacceptable, recommendations can be developed for measures to reduce the risks.

The presentation will briefly discuss the CFVA project and report to Congress as well as the VAM process.

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for United States Department of Energy under Contract DE-AC-04-94AL85000.