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Chem-Bio News

1. U.S. AND DOMINICAN REPUBLIC START RADIATION DETECTION OPERATIONS AT THE PORT OF CAUCEDO:

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2. CHEMISTRY HOBBYISTS FACE A LABYRINTH OF LOCAL AND STATE REGULATIONS:

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Chem-Demil News

1. NEWPORT: SAFELY DISPOSING OF SECONDARY WASTE: *"In Newport, Ind., workers at the Newport Chemical Agent Disposal Facility safely neutralized the stockpile of chemical agent VX that was stored at the Newport Chemical Depot for nearly 40 years."*

2. [NEWPORT CHEMICAL AGENT DISPOSAL FACILITY] NECDF TON CONTAINER LINE DECONTAMINATING EMPTY STEEL CONTAINERS: *"During chemical agent disposal operations at the Newport Chemical Agent Disposal Facility (NECDF), carbon steel containers, often referred to as ton containers or "TCs," containing chemical agent VX were moved from the depot's high-security storage area to the high-security disposal facility."*

CB Daily Report

Chem-Bio News

U.S. AND DOMINICAN REPUBLIC START RADIATION DETECTION OPERATIONS AT THE PORT OF CAUCEDO

US National Nuclear Security Administration News Release
November 13, 2008

"Today, the Department of Energy's National Nuclear Security Administration (NNSA) participated in the commissioning of Megaports radiation detection equipment at the port of Caucedo in the Dominican Republic. This specialized equipment, installed by NNSA in cooperation with the U.S. Embassy in Santo Domingo, Dominican Customs (the Dirección General de Aduanas) and DP World, detects the presence of dangerous nuclear and other radioactive materials and will help to secure cargo containers passing through the port."

"NNSA installed and tested the radiation detection equipment and the associated

communications system, as well as provided training activities on operations and maintenance with Dominican Customs and DP World. Dominican Customs is now successfully operating the radiation detection equipment. It is anticipated that this equipment will be able to scan virtually all containers passing through the Port of Caucedo, a large trans-shipment hub for the region. NNSA will continue to work with the Dominican Republic over the next several years to provide continued training and sustainability support."

The full article can be found at: <http://nnsa.energy.gov/news/2197.htm>

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CHEMISTRY HOBBYISTS FACE A LABYRINTH OF LOCAL AND STATE REGULATIONS

Chemical & Engineering News

November 10, 2008

"On Aug. 5, a police officer passing Deeb's home noticed smoke coming out of an air conditioner in the window and called the fire department. After putting out the flames, a fire fighter went to turn off the power in the basement. He didn't find the electrical circuit box there—it's in the garage. Instead, he found Deeb's basement laboratory.

By the end of the day, the home would become the site of a Tier 3 hazardous materials cleanup, visited by city code inspectors, the Massachusetts Department of Environmental Protection (DEP), the local board of health, the state bomb squad, and the Federal Bureau of Investigation.

Stories like Deeb's worry the small community of hobby chemists who operate small laboratories in their homes. Having a lab in the basement, garage, or backyard shed was once a rite of passage for scientifically minded kids and a common hobby for science-curious adults. Now, between the war on terror, the war on drugs, and the Consumer Product Safety Commission's (CPSC's) crackdown on homemade fireworks (C&EN, July 9, 2007, page 31), home science is increasingly coming under attack. Anyone who wants to pursue chemistry as a hobby these days has to navigate a maze of federal, state, and local laws or run the risk of having a hazmat team show up at their door.

According to reports in the Worcester Telegram & Gazette, authorities found more than 1,500 vials, jars, and bottles of chemicals in Deeb's basement and garage. A hazmat crew spent three days clearing out the materials they determined to be potentially hazardous, ultimately collecting and removing the various chemicals in 35 drums. Deeb has not been fined or cited for the lab, but he has received a \$17,000 bill for the cost of the cleanup."

"For chemists who just want to run a lab as a hobby, figuring out which laws and regulations apply to them can be a daunting task. "It's pretty easy to find federal-level regulations regarding storage, transport, and handling of hazardous materials," says Matthew Ernst, founder of the chemistry hobbyists' forum sciencemadness.org. "Most of those regulations wouldn't apply to hobbyists or even small businesses because they have threshold quantity exemptions."

The full article can be found at: <http://pubs.acs.org/cen/science/86/8645sci1.html>

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Chem-Demil News

NEWPORT: SAFELY DISPOSING OF SECONDARY WASTE

US Army Chemical Materials Agency News Release

November 2008

“The U.S. Army Chemical Materials Agency (CMA) is responsible for safely destroying the U.S. stockpile of chemical weapons and agents. In Newport, Ind., workers at the Newport Chemical Agent Disposal Facility safely neutralized the stockpile of chemical agent VX that was stored at the Newport Chemical Depot for nearly 40 years. An important part of the work accomplished at Newport is managing secondary waste that is generated through chemical agent storage and disposal processes in a safe manner and in compliance with all applicable laws.

What is secondary waste?

Secondary waste is any waste associated with conducting chemical agent storage or neutralization. Secondary waste includes items such as laboratory waste; personal protective equipment; cleaning materials; equipment parts from maintenance and repair activities such as gaskets, hoses and charcoal filters and decontamination solution. This waste is designated like other industrial waste as either hazardous or non-hazardous. Waste designation is determined either by laboratory analysis or by where and how the material was used. An example of hazardous waste is equipment parts that have come into contact with liquid materials in the agent neutralization process system. An example of non-hazardous waste is the decontaminated empty steel containers previously used for agent storage.

Safe treatment and proper management of secondary waste

The Newport team works closely with numerous external independent and government agencies, such as the U.S. Environmental Protection Agency, U.S. Department of Transportation (DOT), the U.S. Centers for Disease Control and Prevention and the Indiana Department of Environmental Management (IDEM), to ensure the project adheres to the strict and closely regulated standards for treatment and disposal of its secondary waste. In addition, all agent-related depot operations were performed in a manner that produced the least amount of waste materials possible. Ensuring that waste management practices are conducted efficiently is a vital part of Newport operations.

Secondary waste generated by operations at Newport were identified and closely-regulated

through the depot's operating and hazardous waste storage permit issued by IDEM. Storage conditions, time limits, handling and final disposal of all waste are detailed in these permits.

Handling, treating and disposing of secondary waste

A number of secondary waste items are treated on site at Newport. Some secondary waste is transported to permitted treatment, storage and disposal facilities for further treatment and final disposal. The specific treatment and disposal method selected for secondary waste is based upon decades of research and experience.

Historically, off-site treatment and disposal has been a method used safely by CMA to treat and dispose of secondary waste. This method was recommended by the National Research Council.

Secondary waste that is shipped off site for treatment and/or disposal will be transported and disposed of safely in accordance with federal and state hazardous waste transport and treatment regulations and guidelines. Commercial disposal facilities used by CMA have proven track records for safely and effectively working together to store, transport, treat and dispose of secondary waste while protecting the public and the environment. Only DOT-approved routes will be used for transport. As detailed in the Hazardous Materials Shipments report published by the Office of Hazardous Materials Safety, more than 99.99 percent of all hazardous waste shipments in the United States occur without incident or accident. Trucks used to transport the secondary waste meet stringent DOT requirements and are operated by experienced and licensed hazardous waste transport operators.

The Newport team is committed to using safe and efficient processes to handle, treat, transport and dispose of secondary waste—safe for the workers, the public and the environment. Newport: safely disposing of secondary waste (continued)
Environmental compliance specialist performs weekly inspections on secondary waste containers.

The full article can be found at: <http://www.cma.army.mil/fndocumentviewer.aspx?docid=003675883>

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[NEWPORT CHEMICAL AGENT DISPOSAL FACILITY] NECDF TON CONTAINER LINE DECONTAMINATING EMPTY STEEL CONTAINERS

US Army Chemical Materials Agency News Release
November 2008

“During chemical agent disposal operations at the Newport Chemical Agent Disposal Facility (NECDF), carbon steel containers, often referred to as ton containers or “TCs,” containing chemical agent VX were moved from the depot's highsecurity storage area to the high-security disposal facility. Operators used a chemical agent transfer system (CHATS) to drain the liquid agent VX from the TCs and then transferred the agent to holding tanks. The agent

is then transferred from the holding tanks to neutralization vessels where it was neutralized by thorough mixing with heated sodium hydroxide and water.

While in the glove box, the empty containers underwent initial decontamination. Highly trained operators triple rinsed the container with hot sodium hydroxide and water. Following this rinse cycle, hot air was circulated through the interior of the container to evaporate any remaining water. Before leaving the glove box, the interior of the container was examined with an instrument called a "borescope" to ensure the container was clean and dry. The exterior of the container was monitored to ensure there was no remaining contamination prior to removal from the CHATS.

The empty steel containers were decontaminated while the liquid agent was neutralized. The final process involved placing the steel container inside a metal (steel) chamber. The temperature of the chamber in which the TC was placed was increased using a process known as induction heating, which used electrical coils to increase the temperature. Induction heating is a proven process that has been used by the metal industry to heat metal for more than 40 years.

Through heat radiating from the surrounding steel chamber, the temperature of the container was raised to more than 1000• F and maintained for at least 15 minutes. This process ensured that the container, which weighs about 1,500 pounds empty, was completely decontaminated. The container was then allowed to air cool, and once this process was completed, the container was transported from the depot to a commercial recycling center. Coils surrounding the steel chamber in which the containers were placed were heated. This raised the temperature of the containers with radiant heat. The empty steel containers were triple rinsed with hot sodium hydroxide and water through the glove box."

The full article can be found at: <http://www.cma.army.mil/fndocumentviewer.aspx?docid=003675023>

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