



Testimony
Before the Committee on Armed Services
Subcommittee on Terrorism, Unconventional
Threats and Capabilities
United States House of Representatives

CDC's Public Health Role in the
Chemical Demilitarization Program

Statement of

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For Release on Delivery
Expected at 2:00PM
Tuesday, April 6, 2005

Mr. Chairman and members of the Subcommittee, I am, Tom Sinks, Acting Director, at the Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health and the Agency for Toxic Substances and Disease Registry. I would like to thank the Subcommittee for inviting me here today to discuss the Centers for Disease Control and Prevention's (CDC) legislatively mandated public health oversight role in the chemical demilitarization program of the Department of Defense (DOD). I would like also to thank the subcommittee for its interest in ensuring the safe destruction and disposal of our Nation's chemical weapons stockpile.

My testimony will focus on two general topics: (1) CDC's mandated role in overseeing DOD's plans for destroying the Nation's stockpile of chemical weapons, and (2) CDC's recently released report for Congress reviewing the U.S. Army proposal for off-site treatment and disposal of caustic VX hydrolysate from the Newport Chemical Agent Disposal Facility.

CDC's Overall Chemical Demilitarization Mission

The U.S. Department of Defense is mandated by Public Laws 91-121, 91-441, and 99-145 (50 U.S.C. 1512 and 1521) to obtain review and oversight from the U.S. Department of Health and Human Services of its plans for destroying the nation's stockpile of chemical weapons, including any plans to transport or dispose of lethal chemical or biological warfare agents. This responsibility was

delegated to CDC from the Office of the Surgeon General in 1981. CDC's primary focus has been on preventing potential problems that could adversely affect the health of disposal site workers and the surrounding communities. CDC's chemical demilitarization mission statement is *"To protect public health and safety by providing oversight and guidance to the U.S. Army's chemical warfare material demilitarization program through reviewing, advising, and making recommendations on the Army's plans to destroy stockpile and non-stockpile chemical weapons."* The CDC is required to provide recommendations to the Secretary of Defense for precautionary measures to protect the public health and safety.

CDC and other oversight organizations have worked with the Army and achieved several notable successes that have resulted in reducing the threat of chemical weapons. Successes include the complete destruction of the chemical weapon stockpile and site remediation at Johnson Atoll in the Pacific Ocean, and the safe elimination of the sarin stockpile at Tooele, Utah and the sarin-filled rockets at Anniston, Alabama. Moreover, recently, the Army celebrated the elimination of the mustard stockpile at Aberdeen, Maryland. Lessons learned from it have been incorporated at Newport, Indiana.

CDC begins its oversight function for the disposal of chemical warfare agents by reviewing the Army's proposed destruction technology. CDC focuses on the prevention of agent incidents by evaluating engineering controls such as air

monitoring, containment and abatement, emergency response plans, medical provisions and other procedural and administrative controls. CDC examines facility design provisions and operating procedures to protect the workforce and surrounding communities. During operations at chemical weapons destruction facilities, CDC conducts periodic on-site reviews for the purpose of ensuring safety. Because air monitoring is a critical element in detecting any possible release of chemical agents, CDC regularly examines air monitoring procedures and strategies, including the number and placement of air monitors as well as the quality of the data from these systems.

In undertaking our oversight responsibilities at destruction sites, CDC is currently addressing several key issues. First CDC is working with the Army to implement revised airborne exposure limits of chemical warfare agents for workers and the general population. In response to a request from the Army, CDC updated these limits to ensure that workers and the public are protected from exposure to a harmful concentration of agent. Second, CDC strives to ensure worker and public safety are adequately addressed during the start-up of disposal facilities. Third, CDC is working closely with the Army to improve air monitoring methods and technology to improve detection performance and response times, and to meet the airborne exposure limits. Finally, we are faced with the task of examining unique problems impacting human health associated with non-incineration technologies such as the technology at Newport, Indiana and those proposed for Pueblo, Colorado and Bluegrass, Kentucky. CDC is committed to

providing the same rigorous reviews of these sites and the technologies involved as it has for the incineration sites and their technology.

CDC's Activities at the Newport Chemical Agent Disposal Facility

During 2004 and 2005, many of CDC's activities in its chemical demilitarization program have focused on the Newport Chemical Agent Disposal Facility in Indiana, because; 1) the planned process is a relatively new technology; 2) the project management has declared the Newport site ready to begin, and 3) the Army has scheduled operations to begin soon. The proposed process at Newport will use sodium hydroxide to destroy the chemical agent VX via a process referred to as chemical hydrolysis, followed by secondary transportation to and treatment and disposal of the resulting waste stream at an off-site facility in Deepwater, New Jersey. CDC has devoted significant resources to evaluating the safety of the chemical hydrolysis of VX at the Newport site. The two basic concerns with this first phase are 1) ensuring that the waste byproduct of hydrolyzed VX, known as caustic VX hydrolysate, does not contain any detectable level of VX; and 2) ensuring that the facility can operate in a manner that ensures both worker and public safety.

CDC has reviewed the proposed process and observed selected integrated operations demonstrations to assess the facility and staff's readiness for actual

agent operations on-site at the Newport facility. Due to the complex nature of the processing issues, CDC acted as co-lead, along with an Army representative, of a *Tiger Team* focusing on medical and worker safety. This team produced five major action items, all of which have been addressed effectively by the Newport facility. CDC continues to work closely with the Army and the Newport team to oversee operational demonstrations, review new team findings, and finalize resolutions to CDC concerns.

The Army's proposal for shipment of the resulting caustic VX hydrolysate waste generated at the Newport site to the Dupont facility in New Jersey where it would be treated and disposed of has generated public concern. In conformity with public laws delineating CDC's involvement in chemical demilitarization, CDC's role generally ends when the waste no longer contains any detectable level of chemical weapons agent, at which time the responsibility for the waste falls under existing transportation and environmental disposal regulations overseen by other government agencies.

In March of 2004, CDC received a Congressional request to review the DuPont treatability plan. DuPont's report describing its treatment plans was organized into four major components, 1) a toxicology assessment, 2) a transportation review, 3) a report on the treatability of the waste and 4) an ecological impact assessment on the Delaware River estuary. While CDC had some internal experience in the first three areas, we also utilized outside experts to assist in

reviewing the various aspects of the DuPont report. CDC reviewed the toxicology assessment with assistance of the Division of Toxicology in the Agency for Toxic Substances and Disease Registry; the DuPont transportation plan with assistance of Department of Transportation; and the treatability analysis with assistance of Carmagen Engineering, a consulting firm. Since CDC does not have expertise in ecologic risk assessment, the U.S. Environmental Protection Agency (EPA) was requested to review the ecologic risks associated with disposal of effluent in the Delaware River.

Many of the items in the DuPont studies required documentation from both the Army and DuPont. The Army and DuPont provided several thousand pages of studies and background information for the CDC team's review. To ensure its technical accuracy, the entire report was peer reviewed by subject matter experts outside the government, and revised by CDC, as appropriate based on peer reviewer comments. DOD reviewed the revised draft with peer reviewer comments for technical accuracy in December of 2004. CDC's response to DOD comments, include an external peer review of the EPA portion of the CDC report. CDC responses and resolutions of the DOD comments were peer reviewed for accuracy and technical content. CDC finalized the observations and recommendations and incorporated them into the report for Congress.

CDC's review of the Army proposal for off-site treatment and disposal of hydrolysate from Newport describes four critical issues. The first is potential

health hazards associated with waste produced at the Newport facility. Caustic VX hydrolysate is highly corrosive and requires appropriate personal protective equipment during handling and transportation. While this is a concern, the hydrolysate is consistent with other caustic products and can be dealt with by proper training and ensuring that responders understand the proper equipment for an emergency response.

CDC believes that the Newport facility can begin effectively destroying approximately half of the VX stockpile. As a result of chemical stabilizers added to the VX to maintain its potency, CDC is concerned about the effectiveness of the current neutralization technology to destroy the other (approximately) half of the stockpile. These stabilizers have been shown to interfere with both the destruction process and chemical analysis. This initially will require smaller portions of VX being treated per batch than was originally designed (8% versus 32%); which, unfortunately, increases both the processing time and the volume of hydrolysate (waste) that is generated. Moreover, for one type of stabilizer, which is found at various levels in the remainder of the VX stockpile, the Army has not yet presented a destruction process to CDC. We understand that the Army is conducting additional testing to see if it can resolve these issues.

The third issue involves the potential risks associated with transporting the hydrolysate from Newport to the DuPont facility in New Jersey, due primarily to its corrosive properties. CDC agrees with the Department of Transportation

assessment that the hydrolysate waste can be safely transported utilizing precautions and equipment similar to other caustic materials currently being conveyed on our highways.

The final issue is the potential ecologic impact associated with disposal of DuPont-treated waste into the Delaware River. CDC's question to the EPA stated, "From an ecological standpoint, is the disposal of material as presented in the DuPont Chambers ecological risk assessment acceptable?" The EPA's response was, "Based on our review of the information provided and the amount of outstanding issues that need to be addressed, EPA's position is that DuPont has not demonstrated that the disposal of material as presented in the ecological risk assessment is acceptable." Because EPA found the assessments were not acceptable, CDC cannot recommend proceeding with the disposal plan until EPA's concerns are adequately addressed.

In October 2004, CDC received a second Congressional request to review a revised Army/DuPont plan for further phosphonate reduction at DuPont. CDC received the Army/DuPont report on phosphonate treatability in March 2005. It is too early to determine if this new study will provide the additional information needed to address the EPA's concerns.

Going forward, CDC will diligently continue the evaluation of existing chemical demilitarization facilities for safety, monitoring and medical programs and work

with the Army in evaluating the path forward for the Pueblo, Colorado and Bluegrass, Kentucky programs in addition to the Newport, Indiana process.

Although I have pointed out a number of challenges currently associated with the Army's proposal for off-site treatment and disposal of waste from the Newport, Indiana facility, I must again emphasize that CDC has had a long and successful working relationship with the Army's Chemical Materials Agency. As stated in the beginning of my testimony, the successful completion of the agent destruction mission at Johnson Atoll, the safe elimination of the sarin stockpile at Tooele, Utah, the mustard stockpile at Aberdeen, Maryland, and the sarin-filled rockets at Anniston, Alabama are all representative of the true accomplishments that have been achieved in reducing the threat of chemical weapons. CDC looks forward to contributing to continued safe progress in this vital program.

Mr. Chairman and members of the subcommittee, this concludes my testimony. I would be happy to answer any questions and respond to any requests for additional information.