ARMS CONTROL

Emergency responders should be immunized against anthrax

March 8, 2010

Emergency responders arrived at Sen. Tom Daschle's Capitol Hill office on October 15, 2001 suited in personal protective equipment (PPE). One of Daschle's staffers had opened an anthrax-laced letter, yet another in a string of bioterrorist attacks that tormented the U.S. psyche in the immediate aftermath of 9/11. Nasal swabs taken of those first responders as they exited the building revealed that some had been exposed to anthrax, despite their PPEs and the miniscule amount of spores contained in that letter.

Thus, the question was raised: How can first responders provide necessary medical treatment following an anthrax attack while preserving their own health and safety?

Last Friday at the annual EMS Today Conference in Baltimore, Dr. Thomas Waytes added to the continuing discussion, addressing an audience of EMS personnel on what specific medical countermeasures are available for protecting emergency responders against anthrax bioterrorism. Waytes is a vice president at Emergent BioSolutions, manufacturer of BioThrax, the only currently licensed anthrax vaccine in the U.S.

"In a lot of circles, anthrax is called the poor man's nuclear bomb," says Waytes. According to Waytes, merely 6.5 kilograms of anthrax spores, if appropriately distributed, would have the kill potential of a small nuclear bomb, a sobering reality for EMS personnel and first responders to confront, especially considering the relatively easy availability of anthrax.

Because it's a "naturally-occurring disease," says Waytes, anthrax can be found from natural sources throughout the world; indeed, areas of Africa and the Middle East have outbreaks of anthrax on a regular basis. Anthrax spores are easy to grow, cheap to produce, well suited for aerosol delivery, completely tasteless and colorless, and resistant to the environment, which means they can last for decades. According to Congress's bipartisan Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, the U.S. now has a gap in its anthrax preparedness, compounded by the fact that anthrax can be genetically modified to be antibiotic-resistant.

"You can't absolutely count on the fact that . . . anthrax is going to be susceptible to the common antibiotics," says Waytes.

Of greatest concern to EMS personnel and the general American public is inhalational anthrax, caused by breathing in anthrax spores. According to Waytes, even with aggressive medical treatment, the mortality range can reach upwards of 90 percent. In the 2001 attacks, of the 22 cases of anthrax confirmed, 11 were inhalational, with five of those cases being fatal.

For EMS on the scene, PPEs aren't always enough to prevent inhalation. And while anthrax itself isn't contagious, spores residing on clothing or skin can be passed to EMS workers who come into physical contact with carriers.

"The most effective way to protect people against anthrax is to immunize people pre-exposure," says Waytes.

The military has been immunizing service men and women since 1998, and the Department of Health and Human Services (HHS) has a biodefense strategy predicated on the possibility of two major metropolitan areas getting hit with anthrax. They estimate that up to 25 million people would be exposed to anthrax; their goal, then, is to build up a national stockpile of 75 million doses of anthrax vaccine (three per person). But HHS has not distributed the vaccine widely to emergency responders, says Waytes.

But with unused doses of already purchased

anthrax vaccine sitting in the Strategic National Stockpile and reaching their expiry date (the vaccine has a four-year shelf life), Waytes thinks the time is right to take some of these expiring doses and make them available free to EMS personnel.

"You shouldn't routinely say that all emergency responders should be immunized, but there are groups that may find themselves at increased risk of exposure," says Waytes. "These are the people that should be identified. Give them the benefit of pre-exposure immunization."

Such people include environmental sampling and hazmat teams, as well as EMS and fire rescue personnel. At Michigan State University, members of their campus security that have to respond to white powders are immunized with the vaccine. According to Waytes, it's the first university that has pre-protected emergency personnel on their university police team.

Ultimately, for Waytes, the key to providing effective emergency response to an anthrax attack while keeping EMS personnel safe is to anticipate another attack.

"We need to understand that certain people in certain occupations may be at increased risk for exposure," says Waytes. "Identify those people at higher risk and offer them pre-exposure immunization."

http://www.bioprepwatch.com/news/212257

US anti-WMD troops join military drills in S Korea

March 11, 2010

U.S. troops who would be tasked with eliminating North Korea's weapons of mass destruction in the event of armed conflict are participating in military drills with South Korea, the top U.S. commander in the country said Thursday.

"They are here for this exercise and if we ever went to war, they would naturally come also," Army Gen. Walter Sharp told reporters at Yongsan Garrison, the main U.S. military headquarters in central Seoul.

Sharp said that the troops are carrying out daily exercises with South Korean troops to practice locating, securing and eliminating the North's weapons of mass destruction.

The North, believed to have enough weaponized plutonium for at least a half-dozen bombs, quit international disarmament-for-aid negotiations and conducted a second nuclear test last year, drawing tightened U.N. sanctions.

Pyongyang also has been developing a long-range missile designed to strike the U.S., and has stockpiled between 2,500 and 5,000 tons of chemical agents and is believed to be capable of producing biological weapons, according to South Korea's Defense Ministry.

"What we are training for is all the threats that North Korea can throw at us," Sharp said.

Sharp's comments came as the North has been escalating its rhetoric against the U.S. and South Korea over their annual military drills that began Monday.

About 18,000 American soldiers and an undisclosed number of South Korean troops are taking part in the war games, dubbed Key Resolve and Foal Eagle, according to U.S. and South Korean militaries. Some involve computer simulation.

Pyongyang, which says they are a rehearsal for attack, warns it will bolster its nuclear capability and put its troops on high alert in response to the drills.

The U.S. says they are purely defensive and that it has no intention of invading the North.

"We have done these exercises before," State Department spokesman P.J. Crowley told reporters Wednesday. "These should not be a surprise to North Korea."

Sharp said the 28,500 U.S. troops stationed in the South are prepared to deal with any contingency in North Korea, but called for a diplomatic solution to end North Korea's nuclear programs and urged Pyongyang to rejoin stalled six-nation talks.

Also Thursday, South Korea's prime minister said North Korea must "listen to" international concerns over its atomic program and quickly return to negotiations.

"North Korea's development of nuclear weapons is seriously undermining international non-nuclear proliferation regimes as well as posing a threat" to the region, Prime Minister Chung Un-chan told a Seoul forum.

The North has demanded a lifting of the sanctions and peace talks with the U.S. on formally ending the 1950-53 Korean War before it returns to the talks.

The U.S. and South Korea have responded that the North must first return to the negotiating table and make progress on denuclearization. The talks involve China, Japan, the two Koreas, Russia and the United States.

Separately, former U.S. Secretary of State Henry Kissinger said at a lecture in Seoul that he supports sanctions not for the purpose of causing what he called "chaos," but rather to provide the country "a way out, into negotiations."

Former U.N. nuclear chief Mohamed ElBaradei, however, told a forum earlier in the day that he believes sanctions will not work and called on the U.S. to engage North Korea and assure it regarding security.

http://www.salon.com/wires/world/2010/03/11/D9ECD3PO1_as_koreas_nuclear/index.html

DISARMAMENT

Iraq Faces Major Challenges in Destroying Its Legacy Chemical Weapons

March 4, 2010

Iraq joined the Chemical Weapons Convention in February 2009 and now faces major challenges destroying the chemical munitions it inherited from the Saddam Hussein regime.

Before the 1991 Persian Gulf War, Saddam Hussein's Iraq produced and stockpiled hundreds of tons of chemical weapons (CW), a small fraction of which still exist. After Iraq acceded to the Chemical Weapons Convention (CWC) on February 12, 2009, it was obligated to declare and destroy any surviving CW agents and munitions according to the detailed procedures set out in the treaty. Because some of Iraq's legacy chemical weapons were damaged by aerial bombing during the Gulf War and are extremely dangerous to handle, Baghdad will have great difficulty disposing of them. In addition, chemical munitions from the pre-1991 era will probably be recovered in the future and will have to be destroyed in a verifiable manner. How Iraq and the international community deal with these issues will have important implications for the CWC and the prospects for chemical disarmament in the Middle East.

Iraq's Chemical Weapons Activities

Before Iraq acceded to the CWC in early 2009, it had a long history of involvement in chemical warfare. The Saddam Hussein regime used mustard gas and the nerve agents tabun and sarin on a large scale during the Iran-Iraq War (1980-88) and the ensuing terror campaign against the Kurdish minority in northern Iraq, including the infamous chemical attack on the town of Halabja in March 1988 that killed some 5,000 civilians.

In late 1990, during the run-up to the 1991 Persian Gulf War, Iraq produced a large stockpile of chemical weapons at the Muthanna State Establishment, some 20 kilometers south of the city of Samarra, including aerial bombs, shells, artillery rockets, and Scud missile warheads filled with mustard and nerve agents. Chemical weapons were stockpiled at Muthanna in eight large cruciform bunkers—semi-underground structures resembling truncated pyramids that were built of reinforced concrete one meter thick and covered with a three-meter layer of sandy clay. Each bunker was about the size of a football field and had a main storage room with a capacity of about 10,800 cubic meters.

During the Gulf War, U.S. retaliatory threats deterred Saddam Hussein from using his

chemical arsenal, and Coalition aircraft bombed much of the Muthanna complex, shutting down Iraq's chemical weapons production. On February 8, 1991, an aerial bomb hit the roof of Bunker 13 at Muthanna. According to Iraqi declarations, this bunker stored 2,500 sarin-filled 122mm artillery rockets, which were partially damaged or destroyed in the bombardment. In addition, the bunker held about 200 metric tons of sodium and potassium cyanide salts (precursors for tabun production) and 75 kilograms of arsenic trichloride (a precursor for blister agent).

Post-Gulf War Chemical Disarmament

In the aftermath of Iraq's military defeat in the 1991 Gulf War, the cease-fire agreement—United Nations Security Council Resolution 687—required Iraq to eliminate its entire chemical weapons stockpile under the supervision of inspectors from a newly created UN disarmament agency, the United Nations Special Commission on Iraq (UNSCOM). Chemical munitions, bulk agent, and precursors stored throughout Iraq were consolidated at Muthanna and destroyed by incineration or neutralization. The destruction campaign, which lasted from June 1992 to June 1994, disposed of more than 38,000 filled and unfilled chemical munitions, 690 metric tons of bulk and weaponized CW agents, and over 3,000 metric tons of precursor chemicals.

Although the damaged Bunker 13 at Muthanna contained thousands of sarin-filled rockets, the presence of leaking munitions and unstable propellant and explosive charges made it too hazardous for UNSCOM inspectors to enter. Because the rockets could not be recovered safely, Iraq declared the munitions in Bunker 13 as "destroyed in the Gulf War" and they were not included in the inventory of chemical weapons eliminated under UNSCOM supervision.

Another nearby storage bunker at Muthanna, called Bunker 41, was in good condition, so UNSCOM used it to entomb contaminated materials left over from the CW destruction effort. These items included about 2,000 mustard-filled artillery shells that had been drained and burned to speed decomposition of the agent, and 605 one-ton mustard containers and other items that could not be thoroughly decontaminated. Because these items still bore traces of mustard, they posed a threat to human health if handled improperly. In 1994, Iraqi personnel working under UNSCOM supervision secured Bunkers 13 and 41 by sealing the entrances with massive barriers of brick, tar, and reinforced concrete more than 1.5 meters thick. They also used reinforced concrete to patch the hole in the roof of Bunker 13.

After the UNSCOM inspectors left Iraq in December 1998, the United States had no reliable sources of information on the ground. U.S. intelligence agencies assumed that in the absence of UN monitoring, Saddam Hussein would replenish his chemical arsenal. Iraqi opposition groups such as the Iraqi National Congress also provided misleading information that reinforced this belief. By late 2002, the CIA estimated that Iraq had acquired a stockpile of about 500 metric tons of chemical weapons, even though in early 2003 inspectors with the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC, the successor agency to UNSCOM) found only a few chemical artillery shells dating from the pre-1991 era.

The UNMOVIC inspectors were forced to leave the country in March 2003, shortly before the start of the Iraq War (Operation Iraqi Freedom). In the aftermath of the U.S.-led invasion and the overthrow of the Saddam Hussein regime, the CIA-led Iraq Survey Group (ISG) scoured Iraq for weapons of mass destruction, but found none. The ISG concluded that contrary to the pre-war intelligence estimates, the Iraq had unilaterally destroyed most of its undeclared CW stockpile after the 1991 Gulf War and had not resumed the production of chemical weapons.

Destroying the Chemical Weapons at Muthanna

On February 12, 2009, Iraq acceded to the Chemical Weapons Convention (CWC), a multilateral treaty banning the development, production, stockpiling, transfer, and use of chemical weapons. (To date, 188 countries have signed and ratified the CWC.) After joining the Convention, Iraq was obligated to declare within 30 days any legacy stocks of chemical weapons it

had inherited from the Saddam Hussein regime. On March 12, 2009, Iraq declared Bunkers 13 and 41 at Muthanna containing filled and unfilled chemical munitions and precursors, as well as five former chemical weapons production facilities, to the international body overseeing CWC implementation—the Organization for the Prohibition of Chemical Weapons (OPCW) in The Hague, the Netherlands.

Because of the hazardous conditions in Bunker 13, UNSCOM inspectors were unable to make an accurate inventory of its contents before sealing the entrances in 1994. As a result, no record exists of the exact number or status of the sarin-filled rockets remaining in the bunker. According to the UNMOVIC final report in 2007, the rockets "may be both filled and unfilled, armed or unarmed, in good condition or deteriorated." In the worst-case scenario, the munitions could contain as much as 15,000 liters of sarin. Although it is likely that the nerve agent has degraded substantially after nearly two decades of storage under suboptimal conditions, UNMOVIC cautioned that "the levels of degradation of the sarin fill in the rockets cannot be determined without exploring the bunker and taking samples from intact warheads." If the sarin remains highly toxic and many of the rockets are still intact, they could pose a proliferation risk.

Even if the sarin inside the rockets in Bunker 13 has degraded to the point that it has no military value and is little more than hazardous waste, the CWC still requires that all such materials be destroyed. Following Iraq's submission of its initial CW declaration in March 2009, the OPCW Technical Secretariat processed and analyzed the data. In April, Iraq submitted a general plan for destroying the CW materials stored in the two declared bunkers at Muthanna, as well as dismantling its former chemical weapons production facilities.

Because Baghdad acceded to the CWC more than ten years after the treaty entered into force in 1997, Iraq is not subject to the April 29, 2012 deadline for completing destruction of its chemical weapons that applies to the other member-states that are still eliminating their stockpiles (Libya, Russia, and the United States). Instead, under paragraph 8 of Article IV of the CWC, Iraq must destroy its chemical weapons "as soon as possible," with the order of destruction and procedures for stringent verification to be determined by the OPCW Executive Council. In April 2009, OPCW Director-General Rogelio Pfirter observed, "Undoubtedly, history and the unique complexities that we can envision for the implementation of Articles IV and V of the Convention [dealing, respectively, with the destruction of chemical weapons and former production facilities] make the Iraqi accession to the Convention a special case, and one that might provide unique implementation challenges."

In another statement on November 30, 2009, Director-General Pfirter noted that "exceptional safety considerations" had impeded Iraq's ability to comply in a timely fashion with the obligation in Article III of the CWC to declare its chemical weapons stockpile. On December 1, 2009, on the margins of the annual Conference of the States Parties in The Hague, representatives from Iraq, the United States, and the Technical Secretariat met to review the "possible enhancement of Iraq's declarations" concerning the status of the chemical munitions at Muthanna. The three sides agreed that additional information was needed to clarify the situation, including ground photographs, aerial imagery, documents, and findings from the UNSCOM and UNMOVIC inspections in Iraq. A follow-up meeting took place in The Hague on January 13-14, 2010, and efforts to clarify the Iraqi CW declaration continue. It now appears likely that Iraq will amend its declaration to list only the contents of Bunker 13, given the fact that Bunker 41 contains no filled munitions or bulk agent. The OPCW Technical Secretariat is also consulting with the Iraqi authorities about how to conduct an initial inspection to verify the declaration.

Iraq has asked the United States to provide technical and financial assistance in eliminating the CW materials stored at Muthanna. Because the conditions inside Bunker 13 remain extremely hazardous, however, Iraq and the OPCW Technical Secretariat have not yet decided how to proceed. One possible approach would be to drill holes in the bunker and use sensors to detect the presence of leaking chemical munitions. It would then be necessary to unseal the entrances,

use robots and/or bomb-disposal teams in full protective gear to recover the sarin-filled rockets, and destroy the weapons by incineration or chemical neutralization—a difficult, dangerous, and expensive process. Reportedly, a preliminary estimate of the cost to evaluate and inventory the bunkers (not including destruction) is $500 million, including providing security for the workforce and assessing and managing the danger from unexploded ordnance and agent leaks. Accordingly, the cost of the operation is a major concern.

A second option under consideration would be to entomb Bunker 13 in a concrete "sarcophagus" that would render it permanently inaccessible, as was done with the highly radioactive nuclear reactor at Chernobyl. However, the CWC's prohibition on "land burial" in paragraph 13 of Part IV(A) of the Verification Annex creates a potential obstacle to this approach. Some experts also argue that failing to recover and destroy the sarin-filled rockets would be inconsistent with the basic obligation in the CWC to eliminate all chemical weapons in an irreversible manner, and would therefore set a bad precedent.

Destruction of Recovered Chemical Munitions

Iraq's CW destruction efforts face an additional challenge that is likely to persist for some time. Between the end of major combat operations in Iraq on May 1, 2003, and Iraq's accession to the CWC on February 12, 2009, U.S. and British occupation forces recovered hundreds of chemical munitions containing degraded mustard or sarin, all dating from the Iran-Iraq War of the 1980s or the 1991 Persian Gulf War.

According to the ISG final report, published in September 2004, "Beginning in May 2004, ISG recovered a series of chemical weapons from Coalition military units and other sources. A total of 53 munitions have been recovered, all of which appear to have been part of pre-1991 Gulf War stocks based on their physical condition and residual components. The most interesting discovery has been a 152mm binary Sarin artillery projectile—containing a 40 percent concentration of Sarin—which insurgents attempted to use as an Improvised Explosive Device (IED). The existence of this binary weapon not only raises questions about the number of viable chemical weapons remaining in Iraq and [sic] raises the possibility that a larger number of binary, long-lasting chemical weapons still exist."

On June 21, 2006, at the request of the House Permanent Select Committee on Intelligence, Director of National Intelligence John D. Negroponte declassified the "key points" from a U.S. Army National Ground Intelligence Center report on the recovery of chemical munitions in Iraq:

- *Since 2003 Coalition forces havee ecoveredapproximately 500 weapons munitions which contain degraded mustard or sarin nerve agent.*

- *Despite many efforts to locate and destroy Iraq's pre-Gulf War chemical munitions, filled and unfilled pre-Gulf War chemical munitions are assessed to still exist.*

- *Pre-Gulf War Iraqi chemical weapons could be sold on the black market. Use of these weapons by terrorists or insurgent groups would have implications for Coalition forces in Iraq. The possibility of use outside Iraq cannot be ruled out.*

- *The most likely munitions remaining are sarin and mustard-filled projectiles.*

- *The purity of the agent inside the munitions depends on many factors, including the manufacturing process, potential additives, and environmental storage conditions. While agents degrade over time, chemical warfare agents remain hazardous and potentially lethal.*

- *It has been reported in open press that insurgents and Iraqi groups desire to acquire and use chemical weapons.*

At the time the Iraqi chemical munitions were recovered, Iraq was under military occupation by the United States and the United Kingdom,

which were parties to the CWC. Accordingly, both countries were subject to paragraph 1(a)(i) of Article III of the Convention, which provides that a state party must declare to the OPCW Technical Secretariat all chemical weapons "located in any place under its jurisdiction and control." In addition, according to paragraph 1 of Article IV, the CWC's requirements for verifiable destruction apply to "all chemical weapons owned or possessed by a State Party, or that are located in any place under its jurisdiction and control." Finally, paragraph 9 of Article IV states, "Any chemical weapons discovered by a State Party after the initial declaration of chemical weapons shall be reported, secured and destroyed in accordance with Part IV(A) of the Verification Annex."

These provisions of the CWC suggest that during the period after the 2003 invasion and the overthrow of Saddam Hussein when the United States and the United Kingdom controlled the territory of Iraq, they were legally obligated to declare any recovered chemical munitions to the OPCW Technical Secretariat and ensure that the weapons were stored and destroyed in a manner that could be verified by the international inspectorate. Yet because of the deteriorating security situation that prevailed during the early years of the military occupation of Iraq, Washington and London decided to conceal the recovery of hundreds of pre-1991 chemical munitions in order to protect their own troops and Iraqi civilians from the possible theft and use of such weapons by terrorists or insurgents. The recovered chemical munitions were then secretly destroyed.

Not until April 2009, in response to Iraq's accession to the CWC two months earlier, did the United States and the United Kingdom provide information to the OPCW Technical Secretariat about the *ad hoc* recovery and destruction of chemical weapons by U.S. and British occupation forces in Iraq from 2003 to 2008. In early September 2009, teams from the Technical Secretariat's Verification Division, including the Chemical Demilitarization Branch, visited Washington and London to review documents related to the recovery and destruction operations. In both cases, the Technical Secretariat's teams concluded that the documents appeared consistent with the information provided by the two governments in April 2009.

Other CWC member states were troubled by the implications for the Convention of the unilateral destruction of chemical weapons in Iraq by U.S. and British forces. During a meeting of the Executive Council in October 2009, South Africa's permanent representative to the OPCW, Ambassador Peter Goosen, speaking on behalf of the African Group of CWC member states, called for the development of guidelines for "the security and destruction of chemical weapons that come into the possession and/or control of a State Party or States Parties in situations not foreseen by the Convention, including conflict situations." Although Goosen did not mention Iraq by name, his statement clearly referred to the *ad hoc* destruction of Iraqi chemical munitions during the occupation. In Goosen's view, destroying such weapons "without the engagement of the Convention and its provisions" threatened to undermine the CWC.

To address this situation, South Africa urged that the Executive Council establish a working group, open to all interested CWC member states, to develop a set of guidelines for declaring and destroying chemical weapons in cases where foreign military forces recover chemical munitions from an area under their control. On October 16, 2009, the Executive Council duly approved the creation of a working group for this purpose, chaired by Michael Hurley of Ireland, and encouraged the participating states to complete their work as soon as possible. The new working group will focus on developing guidelines to deal with similar circumstances in the future, rather than rehashing the details of the Iraq occupation.

Given the way chemical weapons were stored in Iraq—often unmarked and combined with conventional ordnance—it is quite likely that pre-1991 chemical munitions left over from the Iran-Iraq War and the Gulf War will continue to be discovered for years to come. According to the ISG final report, "An Iraqi source indicated that when weapons were forward-deployed in anticipation of a conflict, the CW weapons often became mixed in with the regular munitions, and were never accounted for again. Another source stated that several hundred munitions

moved forward for the Gulf war, and never used, were never recovered by retreating Iraqi troops. A thorough post-[Operation Iraqi Freedom] search of forward depots turned up nothing—if the weapons were indeed left behind, they were looted over the 12 years between the wars."

Now that Iraq is back in control of its own territory, the United States wants the Iraqi government to deal with any future chemical weapons finds on its own. (The United Kingdom ended its six-year occupation of southern Iraq in June 2009, and the United States plans to pull out its combat troops by the end of 2011.) Given the likelihood that additional pre-1991 chemical munitions will be recovered in Iraq, the U.S. military is currently training Iraqi Army soldiers to identify, recover, render harmless, transport, and safely destroy chemical weapons. Because Iraq is now a party to the CWC, any chemical munitions recovered in the future will have to be disposed of under international verification, in a manner fully consistent with the provisions of the Convention.

Because Iraq acceded to the CWC more than 10 years after its entry into force, Baghdad is subject to Article IV, paragraph 8, which states that procedures for the "stringent verification" of chemical weapons destruction "shall be determined by the Executive Council." How the Iraqi government and the OPCW decide to eliminate Iraq's legacy chemical weapons—both those stored at Muthanna and any munitions that may be recovered elsewhere—will have broader implications for the region. Three Middle Eastern countries suspected of possessing chemical arms have yet to join the CWC: Israel has signed but not ratified the treaty, while Egypt and Syria have neither signed nor ratified. Destroying Iraq's remaining chemical weapons in a credible manner would bolster the chemical disarmament regime and set a positive example for the region. Conversely, a failure by Iraq to implement the Convention effectively could weaken the regime and reduce pressures on the remaining hold-out states to join.

http://cns.miis.edu/stories/100304_iraq_cw_legacy.htm

Army achieves major program milestone

April 19, 2010

Non-Stockpile mission destroys largest inventory of recovered chemical warfare materiel to date.

Today, the U.S. Army Chemical Materials Agency (CMA) announced that it completed its mission to destroy all non-stockpile materiel declared when the United States entered into the Chemical Weapons Convention (CWC), an international treaty mandating the destruction of our Nation's chemical warfare.

This milestone also marks the destruction of the largest inventory of recovered chemical warfare materiel (RCWM) to date - more than 1,200 munitions - with a stellar safety record.

CMA's U.S. Army Non-Stockpile Chemical Materiel Project (NSCMP) began operations at the Pine Bluff Explosive Destruction System (PBEDS), located at Pine Bluff Arsenal (PBA), Ark., in June 2006 to destroy items, such as 4.2-inch mortars and German Traktor rockets captured during World War II. PBEDS completed destruction operations on April 14.

"The Army's Non-Stockpile Chemical Materiel Project is the Nation's best equipped organization to provide safe, successful destruction of such a diverse inventory of recovered chemical munitions," said Carmen Spencer, Deputy Assistant Secretary of the Army for Elimination of Chemical Weapons. "This accomplishment exemplifies the excellent work we have come to expect from this dedicated group."

Munitions were assessed at PBA before treatment in NSCMP's Explosive Destruction System (EDS), a neutralization technology that provides safe, environmentally responsible treatment of RCWM. Developed as an alternative to open detonation, the transportable EDS provides on-site treatment and neutralization of RCWM and prevents the release of vapor, blast and munition fragments from the process. Operators confirm complete neutralization of the chemical agent by sampling liquid and air prior to opening the EDS.

"This milestone underscores our commitment to the CWC," said CMA Director Conrad Whyne. "This accomplishment could not have been possible without the commitment of all the workers, led by the Non-Stockpile Chemical Materiel Project, including Pine Bluff Arsenal, Pine Bluff Chemical Activity, Edgewood Chemical Biological Center, 20th Support Command, CBRNE Analytical and Remediation Activity-West, Sandia National Laboratory, Idaho National Laboratory, Science Applications International Corporation and supporting work forces. Their levels of technical expertise make it possible for us to fulfill our mission while protecting the public, workers and environment."

The NSCMP research and development team, faced with the unique and diverse inventory of recovered munitions at PBEDS, invented patent-protected processes and cutting-edge vessel enhancements.

"The PBEDS project presented many challenges, but we worked through all of them, achieving a significant milestone," said Laurence Gottschalk, Project Manager for Non-Stockpile Chemical Materiel. "Everyone involved should be proud of their contributions."

NSCMP engineers and chemists received a U.S. National Patent for developing a technology that improves the detoxification of lewisite, a World War II-era German arsenic-based compound. Before their work, the Army was challenged by disposal of lewisite and other arsenical compounds.

System enhancements included the Advanced Fragment Suppression System, which reduces the amount of solid waste generated by up to 80 percent, significantly cutting costs and supporting NSCMP's commitment to environmental stewardship.

http://www.globalsecurity.org/wmd/library/news/usa/2010/usa-100419-arnews01.htm

Depot's mustard stockpile inspected

Five inspectors from the Organization for the Prohibition of Chemical Weapons, based in the Netherlands, conducted an annual inspection last week of the mustard agent stockpile at the Pueblo Chemical Depot. Over four days, the inspectors took a physical inventory of every igloo at the depot. Inspectors represented South Korea, Spain, Romania and Russia, as well as the United States. Lisabeth Wachutka, depot treaty compliance officer, said afterward, 'This operation was a smooth and professional endeavor. All parties involved worked together to execute a highly successful inspection.

http://www.chieftain.com/news/local/article_d044e5ed-955a-56eb-bf03-080eacba1291.html

Chemical weapons destruction plant plans aired [Richmond, KY]

Two panels will meet Tuesday in Richmond, and an update on construction of a plant where chemical weapons will be destroyed is expected. The plant will destroy chemical weapons stored at Blue Grass Army Depot. The public will be able to comment during the meeting.

http://www.wave3.com/Global/story.asp?S=12107646

RECENT DEVELOPMENTS IN SCIENCE AND TECHNOLOGY

New Defenses Deployed Against Plant Diseases

April 23, 2010

An international team led by scientists at the Sainsbury Laboratory in Norwich,UK, have transferred broad spectrum resistance against some important plant diseases across different plant families. This breakthrough provides a new way to produce crops with sustainable resistance to economically important diseases.

Food insecurity is driving the search for ways to increase the amount of food we grow, whilst at the same time reducing unsustainable agricultural inputs. One way to do this is to increase the innate ability of crops to fight off disease-causing pathogens. Increased disease resistance would reduce yield losses as well as reduce the need for pesticide spraying.

Breeding programs for resistance generally rely on single resistance genes that recognise molecules specific to particular strain of pathogens. Hence this kind of resistance rarely confers broad-spectrum resistance and is often rapidly overcome by the pathogen evolving to avoid recognition by the plant.

However, plants have another defence system, based on pattern recognition receptors (PRRs). PRRs recognise molecules that are essential for pathogen survival. These molecules are less likely to mutate without harming the pathogen's survival, making resistance to them more durable in the field. These essential molecules are common to many different microbes, meaning that if a plant recognises and can defend itself against one of these molecular patterns, it is likely to be resistant against a broad range of other pathogens.

Very few of these PRRs have been identified to date. Dr Cyril Zipfel and his group at the Sainsbury Laboratory in Norwich, UK, took a Brassica-specific PRR that recognises bacteria, and transformed it into the Solanaceae plants *Nicotania benthaminia* and tomato.

"We hypothesised that adding new recognition receptors to the host arsenal could lead to enhanced resistance," said Dr Zipfel.

Under controlled laboratory conditions, they tested these transformed plants against a variety of different plant pathogens, and found drastically enhanced resistance against many different bacteria, including some of great importance to modern agriculture such as *Rastonia solanaceraum*, the causal agent of bacterial wilt and a select agent in the United States under the Agricultural Bioterrorism Protection Act of 2002.

"The strength of this resistance is because it has come from a different plant family, which the pathogen has not had any chance to adapt to. Through genetic modification, we can now transfer this resistance across plant species boundaries in a way traditional breeding cannot," said Dr Zipfel.

Published in the journal *Nature Biotechnology*, the finding, that plant recognition receptors can be successfully transferred from one plant family to another provides a new biotechnological solution to engineering disease resistance. The Zipfel group is currently extending this work to other crops including potato, apple, cassava and banana that all suffer from important bacterial diseases, particularly in the developing world.

"A guiding principle in plant pathology is that most plants tend to be resistant to most pathogens. Cyril's work indicates that transfer of genes that contribute to this basic innate immunity from one plant to another can enhance pathogen resistance," commented Professor Sophien Kamoun, Head of the Sainsbury Laboratory. "The implications for engineering crop plants with enhanced resistance to infectious diseases are very promising."

This research was funded by the Gatsby Charitable Foundation and the Two Blades Foundation, who have patented the technology on behalf of the inventors, and involved research groups from INRA/CNRS in France, the University of California, Berkeley and Wageningen University in the Netherlands.

http://www.sciencedaily.com/releases/2010/03/100314150912.htm

Defense Advanced Research Projects Agency Awards $4.395 Million to Fraunhofer CMB for H1N1 Vaccine Development

March 16, 2010

Fraunhofer USA Center for Molecular Biotechnology (CMB) announced today that it has received a $4.395 million award from the

Defense Advanced Research Projects Agency (DARPA) to develop a vaccine against H1N1 influenza virus using its plant-based production platform.

"Fraunhofer's work to help fight the spread of the H1N1 influenza virus is on the cutting edge of research and will impact the way we develop vaccines long-term"

This will be the third round of funding from DARPA and follows on CMB's successful optimization and feasibility studies completed in 2008 and a new, state-of-the-art cGMP pilot manufacturing facility completed at the end of 2009. This current funding will allow CMB's H1N1 vaccine candidate to progress to Phase 1 clinical trials, therefore validating the utility of the technology for manufacturing products for use in humans.

According to Dr. Vidadi Yusibov, Executive Director of Fraunhofer USA CMB, "Over the past eight years, we have taken our plant-based transient expression system for recombinant protein production from concept, through technical innovations, process improvement, and scale up. While the production platform has been validated by extensive pre-clinical studies, we are looking forward to entering the clinical phase of development."

The need for alternative manufacturing platforms with rapid response capability became apparent in the past year with the emergence of the H1N1 influenza. DARPA's interest in developing advanced manufacturing technologies for vaccine production stems from the need to protect military personnel and civilian populations from infections agents.

When asked their opinions on this latest announcement from Fraunhofer CMB, members of Delaware's Congressional delegation made the following comments.

"Fraunhofer's work to help fight the spread of the H1N1 influenza virus is on the cutting edge of research and will impact the way we develop vaccines long-term," said Congressman Mike Castle. "Dr. Yusibov and his team are leaders in their field and we are lucky to have them here in Delaware."

"Receiving this competitive grant shows clearly that Fraunhofer is helping lead the way in creating vaccine technology that can protect us against dangerous threats such as bioterrorism and pandemic flu," said Sens. Thomas Carper (D-Del.) and Edward (Ted) Kaufman (D-Del.). "We are proud of the work being done at Fraunhofer and look forward to seeing all that they will accomplish with this additional support from the federal government."

About Fraunhofer USA Center for Molecular Biotechnology

Fraunhofer USA CMB, a division of Fraunhofer USA, Inc., is a not-for-profit research organization whose mission is to develop safe and effective vaccines targeting infectious diseases and autoimmune disorders. CMB's technology provides a safe, rapid and economical alternative for vaccine production. The Center conducts research in the area of plant biotechnology, utilizing new, cutting edge technologies to assist with the diagnosis, prevention and treatment of human and animal diseases. The Center houses individuals with expertise and excellence in plant virology, pathology, molecular biology, immunology, vaccinology, protein engineering, and biochemistry.

http://www.businesswire.com/portal/site/home/permalink/?ndmViewId=news_view&newsId=20100316005584&newsLang=en

DHS Tackles Next- Generation Bioterrorism Detector

March 1, 2010

A government biosecurity expert last week briefed lawmakers on the Department of Homeland Security's next-generation "lab-in-a-box" to detect, to identify, and to aid response to a biological terrorism attack.

Dr. Tara O'Toole, undersecretary at DHS Directorate of Science and Technology (S&T), described how the department has and will continue to leverage new technology to refine and improve its BioWatch programbefore a House subcommittee.

The program began in 2003 in response to the anthrax mailings of 2001. DHS initially deployed air samplers in a number of unspecified metropolitan areas to detect biological pathogens, including anthrax, smallpox, plague, and tularemia, according to a Federation of American Scientists' report from 2003.The number of urban areas covered now exceeds 30 and DHS wants to expand the program to approximately 20 more urban areas.

O'Toole testified that S&T has developed a possible next-generation detector to improve the BioWatch program that's currently being tested by the DHS Office of Health Affairs (OHA), which is responsible for the day-to-day management of the program. Currently, filters from the air samplers must be collected every 24 hours. The filters are then analyzed for pathogens at a local laboratory. This process, however, takes considerable time.

"With this sampler technology and deployment (known as Generation 2), as much as 36 hours may elapse between the collection of genetic material of interest and the availability of essential laboratory test results showing its presence," Dr.Bernard D. Goldstein, a University of Pittsburgh professor and chair of the Committee on Effectiveness of National Biosurveillance Systems, told the subcommittee. (The committee recently released a public summary of a report on BioWatch that it delivered to Congress.)

When a pathogen is detected, a BioWatch Actionable Result (BAR) is created. The laboratory then notifies local public health officials and they determine how to respond. A BAR, however, does not mean a bioterrorism release has occurred. O'Toole testified that numerous BARs have occurred since 2003 and have been deemed benign.

"In some BAR cases, BioWatch samples contained genetic material that was highly similar to that found in BioWatch target organisms, but which turned out to be from microbes that are present in the ambient environment but do not represent threats to human health."

Generation 3 technology, says O'Toole, will improve the program by creating a lab-in-a-box. "Gen 3 Bio Watch would be far more technologically sophisticated than the current BioWatch sensors," she told lawmakers, "with the ability to automatically collect outdoor air samples, perform molecular analysis of the samples and report the results electronically to provide near-real time reporting."

Pathogen detection rates could be reduced to 4 hours, O'Toole said.

Goldstein and his committee, however, remain skeptical of this next-generation technology. "Our review of the plans that DHS had developed for testing and evaluation for Generation 3 (as presented to us in spring 2009) revealed that technology goals for Generation 3 will be very difficult to achieve."

And even if Gen 3 detectors work as planned, they are only one layer to accurately identifying and aiding a response to a bioterrorism attack. One reason for this is logistics. The attack must occur in an area where the detectors are already deployed. Goldstein told lawmakers that while BioWatch could potentially alert local, state, and federal stakeholders of a release in a timely manner, he places more confidence in public and private health care systems to do bio-surveillance properly through information sharing.

"It is broader and more flexible than BioWatch, permitting detection of a wider range of infectious diseases and diseases resulting from source of exposure that BioWatch is not designed or deployed to detect," he said. Another hurdle Goldstein said DHS must confront is BioWatch's ability to not only identify threats but coordinate and communicate the technology's findings with state and local public health decision makers and first responders.

Testing on Gen 3 technologies will proceed as planned. Dr. Alex Garza, assistant secretary for health affairs and chief medical officer at

OHA, testified that the agency has agreed to test bioterrorism detection systems from two vendors. If either or both vendors pass the initial testing, DHS will begin a " four-city operational testing phase...in a variety of outdoor and indoor environments to ensure the systems operate properly before committing the government to a large-scale buy."

http://www.securitymanagement.com/news/dhs-tackles-next-generation-bioterrorism-detector-

NATIONAL AND INTERNATIONAL DEVELOPMENTS

British troops in Afghanistan may be facing a new threat

March 14,2010

British troops in Afghanistan may be facing a new threat after claims by Taliban commanders that home-made bombs are being loaded with anthrax.

So far there is no evidence of biological weapons being used by insurgents. But one of Britain's leading terrorism experts warned last night that Taliban extremists linked with Al Qaeda would have the technology to produce the deadly disease.

An ITV camera crew filmed a bomb-making factory last week in caves at Tora Bora on the Afghan-Pakistan border. One bomb maker, identified as regional commander Mullah Doud, said: "We use anthrax so when a bomb explodes it produces a toxic cloud."

A drug user in Blackpool last week became the 10th person in Britain to die of anthrax-tainted heroin, thought to have been produced in Afghanistan. Professor Paul Wilkinson, of the Centre for Terrorism Studies at St Andrews University, said: "Anthrax is an effective weapon and producing it needs only basic levels of biology and chemistry.

"There are certainly extreme elements within the Taliban, those loyal to Al Qaeda, who would not think twice about this method. However, there is a wide chasm between producing anthrax and using it effectively in home-made bombs.

"Japan ese terrorists had intended to use anthrax on the Tokyo metro in 1995. They experimented with it extensively but in the end opted for the nerve agent sarin. This shows that it is not an easy substance to control."

Professor Wilkinson said the only safeguard against anthrax was anti-nuclear, biological and chemical warfare equipment.

Unlike in Iraq, where coalition soldiers regularly donned the suits, troops in Afghanistan do not wear them, though they are believed to have access to them if necessary.

Colonel Richard Kemp, former commander of British forces in Afghanistan, said: "It would not be unusual for extremist forces to use dirty bombs. In Iraq chlorine was the flavour of choice.

http://www.express.co.uk/posts/view/162872/Anthrax-threat-to-British-troops

Advanced Life Sciences' Restanza Effective Against Pathogen Representing Global Public Health And Bioterror Threat

April 22, 2010

Advanced Life Sciences Holdings, Inc. (OTC Bulletin Board: ADLS) announced positive results from an in vitro study assessing the efficacy of Restanza™ (cethromycin), its novel oral antibiotic, against 30 strains of Burkholderia pseudomallei, a serious, life-threatening bacterial pathogen. Restanza showed significant in vitro activity against clinical and environmental strains of B. pseudomallei as measured by minimal inhibitory concentration (MIC), the lowest concentration of an antimicrobial that will inhibit the visible growth of a microorganism after 24 hours of incubation. Restanza demonstrated

antibacterial activity with MIC values ranging from 0.5 - 8 ug/ml and MIC90 of 4 ug/ml. Most notably, Restanza also demonstrated positive activity against strains that were resistant to a commonly used antibiotic, azithromycin, for which MIC values were all greater than 64 ug/ml. In a separate study, Restanza also demonstrated in vitro activity against 30 strains of Burkholderia mallei with MIC values ranging from 0.06 - 1 ug/ml and MIC90 of 0.5 ug/ml, which are comparable to azithromycin.

"These impressive data provide additional validation of Restanza's broad spectrum of antibacterial activity as a countermeasure for biodefense and highlight its ability to address serious bacterial infections that today are becoming untreatable due to the increasing public health threat of bacterial resistance to currently marketed antibiotics, especially in emerging markets," said Michael T. Flavin, Ph.D., chairman and chief executive officer of Advanced Life Sciences. "When these data are added to the substantial body of evidence from previously published studies showing Restanza's demonstrated potent activity in multi-drug resistant pneumonia, tuberculosis, malaria, Lyme disease and sexually transmitted diseases, such as gonorrhea, our belief in Restanza's breakthrough therapeutic potential is significantly strengthened."

About Burkholderia pseudomallei and Burkholderia mallei

Burkholderia pseudomallei and Burkholderia mallei are Gram-negative, rod-shaped bacteria, and are the causative agents of the diseases melioidosis and glanders, respectively. These bacteria can be found in contaminated water, soil and on market produce. They cause deadly infectious diseases endemic to Southeast Asia and northern Australia, and which may occur in other tropical and subtropical regions. Transmission to humans and animals occurs through direct contact with the organism via ingestion, inhalation, or through open wounds and skin abrasions. Treatment of these diseases requires prolonged therapy with antibiotics. Few antibiotics are effective against these diseases, and there is currently no effective vaccine. The severe course of infection, high mortality, aerosol infectivity and worldwide presence of these pathogens have resulted in their inclusion as potential agents of biological warfare or bioterrorism, and are listed on the Centers for Disease Control list as Category B bioterrorism agents.

Restanza as a Biodefense Countermeasure

Advanced Life Sciences is developing Restanza as a broad spectrum medical countermeasure for biodefense to combat multiple high priority bioterror agents, such as Bacillus anthracis (anthrax), Fransicella tularensis (tularemia), Yersinia pestis (plague) and Burkholderia pseudomallei (melioidosis). FDA has designated Restanza as an orphan drug for the post-exposure prophylactic treatment of inhalation anthrax, plague and tularemia, but the FDA has not yet approved the drug for marketing in this or any other indication.

Restanza is being developed as a biodefense countermeasure by Advanced Life Sciences to fill the unmet need identified by the U.S. Government. In a report entitled "World at Risk: The Report of the Commission on the Prevention of WMD Proliferation and Terrorism," which was the result of a six-month study by the bipartisan Commission that Congress created pursuant to the recommendations of the 9/11 Commission, the Report states that a "potential gap in U.S. biological defenses is the threat of bioterrorist attacks with strains of anthrax that have been genetically modified to make them resistant to standard antibiotics. Given this potential threat, additional funding is needed for the National Institutes of Health and the private sector to develop new classes of antibiotics."

Advanced Life Sciences has received notice from the Biomedical Advanced Research and Development Authority (BARDA) of the U.S. Department of Health and Human Services that it has completed its initial technical evaluation of the Company's $15 million funding proposal for advanced development of Restanza as a biodefense countermeasure and identified it as a scientifically and technically sound proposal important to program goals and objectives that may require further development and

may be recommended for acceptance subject to funds availability. The Company was invited to submit additional information to allow BARDA to make a final determination on the appropriateness of the proposal to enter into contract negotiations.

About Advanced Life Sciences

Advanced Life Sciences is a biopharmaceutical company engaged in the discovery, development and commercialization of novel drugs in the therapeutic areas of infection, cancer and respiratory diseases.

Any statements contained in this presentation that relate to future plans, events or performance are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. These risks and uncertainties include, among others, those relating to technology and product development, market acceptance, government regulation and regulatory approval processes, intellectual property rights and litigation, dependence on collaborative relationships, ability to obtain financing, competitive products, industry trends and other risks identified in Advanced Life Sciences' filings with the Securities and Exchange Commission. Advanced Life Sciences undertakes no obligation to update or alter these forward-looking statements as a result of new information, future events or otherwise.

http://www.bradenton.com/2010/04/21/2222241/advanced-life-sciences-restanza.html

Teledyne receives DoD contract to aid nation's CBRN responders

March 8, 2010

Teledyne Brown Engineering, Inc., has been awarded a contract by the Department of Defense to aid the nation's front line performers in defense against chemical, biological, radiological, nuclear and explosive weapons of mass destruction.

The contract, awarded under a multiple award indefinite delivery/indefinite quantity contract, is to provide acquisition program and engineering support, research and technology, and program and integration support.

Nine other contract winners were announced along with Teledyne Brown, a subsidiary of Teledyne Technologies Incorporated, to provide as much as $485 million in support services over the next five years.

"Teledyne Brown is committed to applying its engineering and manufacturing expertise toward the DoD's effort to upgrade its chemical and biological defense equipment," Robert Mehrabian, chairman, president and chief executive officer of Teledyne Technologies, said. "Teledyne is here to support our warfighters on the battlefield and enhance homeland security."

Work for the contract will be primarily performed in Hunstville, Ala., and at Aberdeen Proving Ground, Md.

In the past, Teledyne Brown has provided the Department of Defense with chemical weapons disposal support for its Non-Stockpile Chemical Materiel Program, enhanced protection to the warfighters against improvised explosives, a new chemical and biological warfare agent decontamination system for sensitive electronics and avionics and a new biological detector test chamber.

http://www.bioprepwatch.com/news/212253-teledyne-receives-dod-contract-to-aid-nations-cbrn-responders

Durham anthrax building cleanup to cost $70,000

March 3, 2010

The remediation of the building where a Strafford County woman was exposed to anthrax spores will be costly.

The Waysmeet Center, which serves as the United Campus Ministry for UNH, is on the verge of signing a $70,000 remediation contract with CYN Environmental Services of

Stoughton, Mass., said the Rev. Larry Brickner-Wood, the ministry's chaplain and executive director.

The remediation will include soaking, with a bleach-like solution, five common-area rooms and a hallway that tested positive for low levels of anthrax.

In addition to the remediation cost, many items will be lost in the process, including art, furniture, books, a piano and other musical instruments. Brickner-Wood estimated the loss of those items at about $10,000-$15,000.

"The art work will be the toughest to lose," he said. "It's original art from students and artists, and many are dear students to us and talented artists."

He said the piano also would be tough to lose. It was donated five years ago and before then, the ministry had worked for more than six years to secure one.

The ministry also has a $20,000 bill hanging over its head for the first round of testing in the building in December.

Despite the cost, Brickner-Wood said the ministry is upbeat as the woman who contracted gastrointestinal anthrax there continues to improve. He said the eight students who live in the building and the many students who use it also are looking forward to its reopening.

"The things we're losing are just things," he said. "People will donate furniture, and they'll donate other things. The important thing is being back inside the building."

Brickner-Wood said the remediation should take two weeks, and barring any unforeseen circumstances, the ministry could be reopened by the end of the month.

State officials have said the woman likely contracted the gastrointestinal anthrax by swallowing anthrax spores from an African drum during a Dec. 4 drum circle event at the center.

The type of building cleaning planned for the center also was done after similar anthrax cases in Connecticut and New York.

http://www.allbusiness.com/humanities-social-science/visual-performing-arts/14037827-1.html

Experts Find Flaws In Planning For Md. Army Biolab

March 4, 2010

The Army failed to fully analyze the risk of public exposure to deadly pathogens from a biodefense laboratory building under construction at Fort Detrick, a National Academy of Sciences panel said Thursday.

But the committee said stringent safety procedures will protect workers and the public when the new U.S. Army Medical Institute of Infectious Diseases opens in 2014 at the Army installation 50 miles northwest of Washington.

The security measures will be tougher than those at the existing institute, the military's flagship biodefense center, where safety precautions already meet or exceed accepted standards, the committee's report said.

The strength of the operational safety measures outweighed weaknesses in the project's flawed environmental impact statement, panel chairman Charles N. Haas, a professor of environmental engineering at Drexel University, said at a briefing. So rather than recommending a rewrite of the environmental statement, which could have halted the $680 million project, the experts urged the Army to improve its risk assessment for such projects in the future.

Project critic Robert Kozak of the Fort Detrick Watchdog Group called the decision

"unconscionable" and said his group would consider suing the Army to force revisions in the environmental statement.

"We'd have to find the money to do it, but that is the next step," he said.

Beth Willis of Frederick Citizens for Bio-lab Safety said construction probably can't be stopped even though questions about hazards remain.

"We need to have the risks addressed and mitigated very transparently," she said.

The 800-acre installation that includes the new labs is surrounded by homes and businesses within the city limits of Frederick, a community of 59,000 about 50 miles from both Washington and Baltimore.

Fort Detrick commander Maj. Gen. James K. Gilman said in a statement that safety is the post's highest priority. He acknowledged a need for improved community outreach, a key recommendation of the panel's report, to better explain the institute's mission and its "relentless focus" on safety.

Workers broke ground for the new labs in August, about 2 1/2 years after federal regulators approved the environmental statement. The $680 million project will replace crowded facilities built in the 1960s.

The panel found numerous flaws in the risk assessment. One involved the effects of a worst-case scenario in which the Ebola virus and bacteria that cause Q fever, a potentially deadly flulike disease, are released from an exhaust stack. The Army said such an event would cause insignificant concentrations on the ground nearby and pose no threat to the community. But the review panel said data supporting that conclusion were "lacking, missing, or not transparent" in the environmental statement. The committee's own calculations "indicated the potential for significantly higher exposure."

Also, the environmental impact statement didn't adequately document or characterize individual risk of exposure or infection, the panel found.

The environmental statement also failed to consider potential exposures to those at Fort Detrick, as opposed to the community outside the gates, the report says. And it says the statement didn't address how the spread of a pathogen would be affected by population size and density.

Another scenario not considered was the threat of an insider with malicious intent, such as Bruce Ivins, an institute scientist whom the FBI concluded was the lone perpetrator of the 2001 anthrax mailings that killed five people and sickened 17 others. Ivins killed himself in July 2008.

Ivins did not emerge publicly as a suspect until just after his death, more than a year after federal regulators approved the final environmental statement for the new labs. He is not mentioned specifically in the panel's report.

The panel also faulted the Army for not considering other locations for the new labs, although Congress mandated they be built at Fort Detrick as part of a larger biodefense campus.

The safety review was sought by U.S. Sen. Barbara Mikulski, D-Md., at the request of Frederick County and citizens who alleged shortcomings in risk assessment.

http://wjz.com/local/panel.lab.regs.2.1537179.html

Compiled by: Wg. Cdr. Ajey Lele, Dr. Monalisa Joshi and Gunjan Singh.