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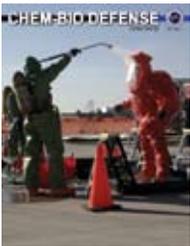


Joint Sensitive Equipment Decontamination Experimentation

47th Civil Support Team
Completes Training

Exclusive Interview With
Mr. Walter Hollis

Terrorists Threats Against
Information Systems



Cover photo by Tonya Maust, Camber Corporation. The Tucson Fire Department demonstrates First Responder Personnel Decontamination at Davis-Monthan Air Force Base/Aerospace Maintenance and Regeneration Center (AMARC).



Back cover photo by Tonya Maust, Camber Corporation. The Tucson Fire Department demonstrates civilian decontamination at Davis-Monthan Air Force Base/Aerospace Maintenance and Regeneration Center (AMARC).



Soldiers from 1st Battalion, 41st Infantry Regiment, 3rd Brigade, 1st Armored Division, scan the landing zone for possible hostile forces in northern Baghdad. The troops are on their way to refurbish an outdoor playground at an Iraqi public school. Photo by Tech. Sgt. Russell Cooley IV. (Aug 30, 2005).

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Col. Camille Nichols
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From the Joint Program Executive Officer



Brigadier General Stephen V. Reeves
Joint Program Executive Officer
for Chemical and Biological Defense

communications infrastructure.

To provide both communications and communications interoperability with local and state first responders, the National Guard had the Unified Command Suite, developed by Joint Project Manager Guardian, part of the Joint Program Executive Office for Chemical and Biological Defense. Ultimately, 14 Unified Command Suites and 10 Transportable Communications Package units were deployed, becoming the communications lifeline for many county and parish governments and military command posts. In many cases, these systems were the only reliable long-haul communications to areas completely devoid of electrical power and telephone service, and provided the unique capability to adapt to the existing local communications systems and bridge the gap between local, state and federal communications systems. You can read the story of the Unified Command Suites in this issue of the Chem-Bio Quarterly.

As a joint program office, our systems are developed "joint" by design, not as an afterthought. Joint systems development also means joint services test and evaluation. In two articles in this issue you will read about how we manage risk through test and evaluation. First you'll hear from the Joint Test and Evaluation Executive, Mr. Walt Hollis, and his thoughts on evaluating joint systems. In a second article, we look at how the United States Navy's Operational Test and Evaluation Force uses a multi-service test team to evaluate the Joint Biological Point Detection System onboard the USS *The Sullivan*.

This month we also welcome Mr. Jean D. Reed as the new Special Assistant, Chemical and Biological Defense and Chemical Demilitarization Programs. Mr. Reed comes to the program with a wealth of experience both in the U.S. Army and as a House Armed Services Committee Professional staff member.

Brigadier General Stephen V. Reeves
 Joint Program Executive Officer
 for Chemical and Biological Defense

Hurricane Katrina was an unprecedented natural catastrophe requiring a response by virtually every government agency from the local to the federal level. The military's capabilities were especially needed during the initial response, saving many lives and providing vital support throughout the affected areas.

In vast areas that had lost virtually all infrastructure, the National Guard's Civil Support Teams played an especially important role in identifying hazardous areas and in providing vital communications links among the local, state and federal agencies. The hurricane and subsequent flooding brought down nearly 1,500 cellular telephone towers, nearly 1,600 telephone switching centers, and left three million telephone customers without service nearly completely eliminating the

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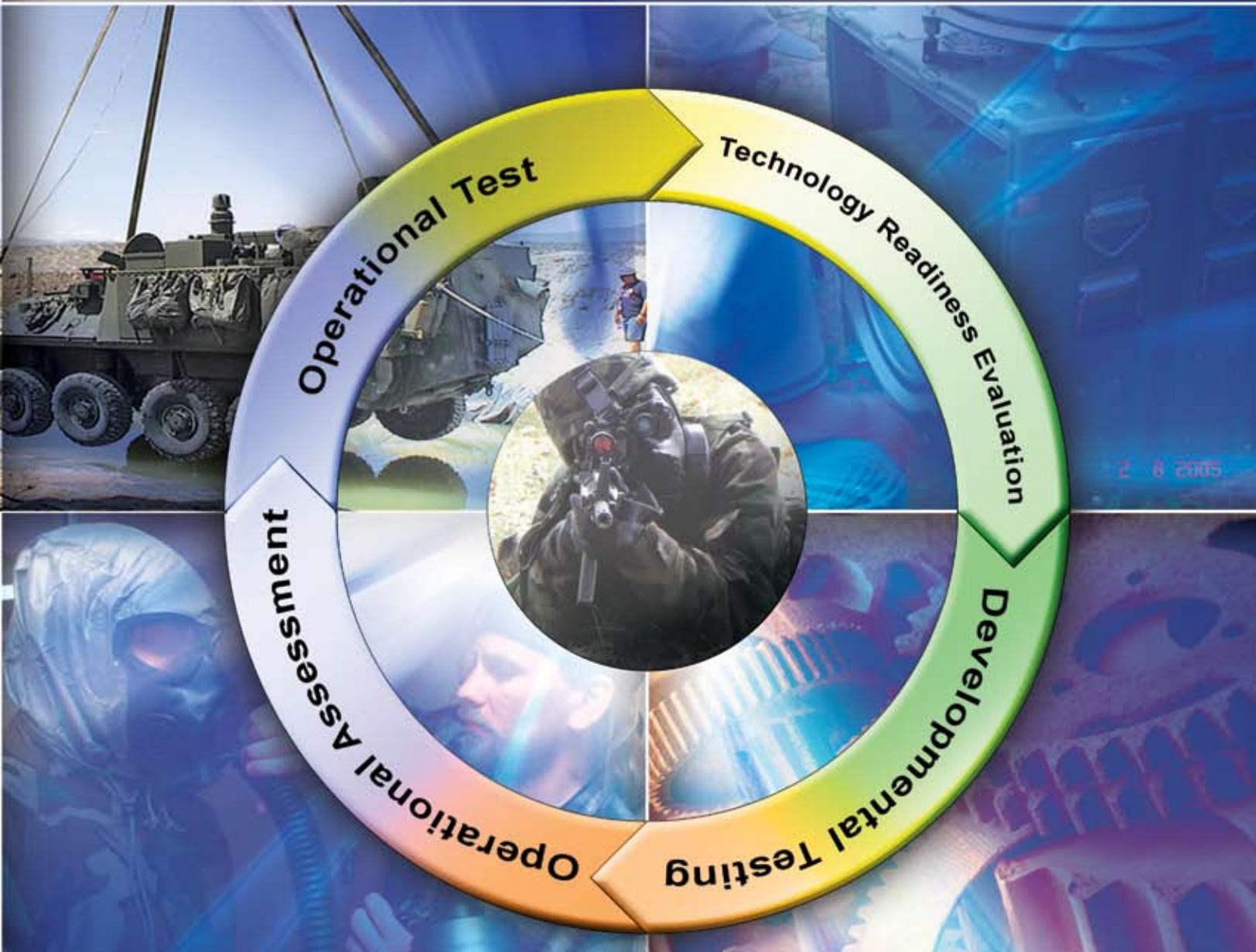
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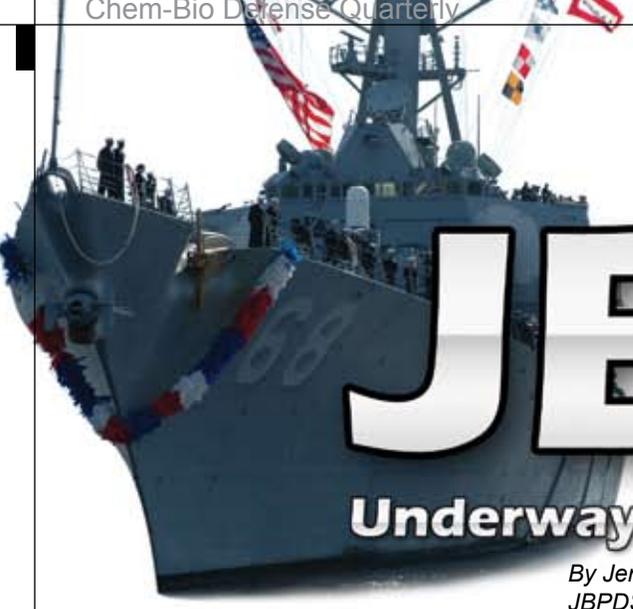
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Test and Evaluation

The primary purpose of Test and Evaluation (T&E) is to provide essential information to decision-makers. As the Army shifts to increasingly complex integrated systems, testing programs must evolve to provide assessments that are relevant, timely and cost effective measures of effectiveness, suitability and survivability. Historically, T&E has struggled to translate collected information about systems into meaningful terms for decision-makers – answering the operational “so what” question. Can the system under evaluation assist the unit in performing its assigned mission?



Test and Evaluation is an integral part of the systems engineering process that assists in identifying levels of performance and aiding developers in correcting deficiencies throughout the life cycle of a system. Test and Evaluation assists materiel developers in managing risk by identifying those areas of vulnerability. Test and Evaluation results are important in making key decisions in the acquisition process, especially the decision to proceed from development to production. Good T&E is invaluable in helping decision makers in identifying ineffective or unreliable systems before they are produced. Test and Evaluation starts early in the acquisition process to ensure the best possible capabilities are provided to our warfighters.



JBPDS

Underway with USS THE SULLIVANS

By Jennifer Thermos, JPM-BDS, Deputy Team Leader,
JBPDS & Mike Quarles Integrated Logistic Support Lead

The four Service operational test agencies have established a multi-Service test team to conduct Multi-Service Operational Testing and Evaluation (MOT&E) of the Joint Biological Point Detection System (JBPDS), a biological sensor that provides automatic detection and identification of airborne biological agents at very low levels, triggers local and remote warning systems, and communicates threat information over standard communication systems. Phase IV of MOT&E was dedicated to operational testing of the JBPDS XM98 onboard USS *The Sullivans* (DDG 68) from October 2003 to January 2004. The Arleigh Burke-class destroyer is moored at Naval Station Mayport, FL and is part of the USS *John F. Kennedy* (CV-67) battle group.

Naval Surface Warfare Center (NSWC) Crane Division installed the XM98 JBPDS on the USS *The Sullivans* in October 2003. Following installation, NSWC Dahlgren Division conducted a three-week period of developmental testing (DT) to assess shipboard integration, JBPDS readiness for operational testing, and crew competency with operational tasks. DT also included an underway period from Mayport Naval Station to New York. During the underway, the system was subjected to pitch and roll, high seas and common shipboard interferents.

Once DT certification was complete, Commander, Operational Test and Evaluation Force (COMOPEVFOR) conducted the MOT&E over a 10-day period in January 2004. A total of 18 missions in over 200 operating hours were accumulated.

During the MOT&E, the JBPDS was challenged with aerial and ship-based

Bacillus subtilis var. niger disseminations during battle group exercises in the Atlantic Ocean. Dugway Proving Ground (DPG), in conjunction with Yuma Proving Ground (YPG), developed procedures especially for testing at sea. All testing occurred at night, which challenged the test team. Dugway Proving Ground (DPG) disseminated from the foc'sle of the ship using a Skil-blower and YPG disseminated from an O2A aircraft to simulate both at sea and in port threat profiles. A referee station was fashioned

using a small waterproof container. Five locations were set up around the ship to characterize the aerosol challenges. A small laboratory was set up in the forward decon on the ship and samples were processed on board to assess testings effectiveness. The DPG and YPG test team were required to develop unique test procedures and endure long hours on ship to support this important test.

The crew operated, maintained and monitored the JBPDS while underway. The crew kept a watchful eye on the



Dr. Douglas Anderson & Mr. Jeff Carpenter process referee samples collected during testing the previous night.

system using two remote monitoring stations or external control systems (ECS). An ECS was installed in Damage Control and in the Combat Information Center. The ship ran a training exercise to simulate a biological attack and had the entire crew practice a response to the attack. The JBPDS was alarmed and a sample was collected for further analysis. The crew followed procedures to evacuate samples to the forward sickbay for transport to the aircraft carrier, USS *Kennedy*. COMOPTEVFOR performed an analysis of the amount of time required to run the JBPDS. In their analysis, the operational evaluator determined that required tasks did not place any undue burden upon the crew. Moreover, the crew felt the JBPDS was easy to learn, maintain and operate. They were able to expertly remove and perform preventative maintenance checks and services on the equipment.

While testing at sea, the JBPDS operated 24 hours - a - day to assess the impacts of incidental interferences such as diesel exhaust. The JBPDS was exposed to two underway refueling events, a 50 caliber gun fire, small arms firing, undersea warfare operations, flight operations, close in aircraft carrier support, helicopter operations, engineering casualties (training), visit board search and



Photo by Jennifer Thermos



Photo by Jennifer Thermos

Damage Controlman, Petty Officer 3rd Class Sean Brown, labels a sample transport box containing the confirmatory sample generated by the JBPDS.

seizure, sea spray as well as pitch and roll for effects on detection and identification. The JBPDS continuously performed well during these activities with no loss of operation or increased false positive events.

The entire crew of the USS *The Sullivans* displayed professionalism, cooperation and dedication during the Navy test event. The ship's commanding officer, Cmdr. Richard Brown, ensured test participants and evaluators had ample time to train on the system, and access to areas of the ship that were in-play during the test.

The JBPDS shipboard variant demonstrated a high level of reliability, high probability of detection, low false positive rate and resistance to ship specific interferences. Prior to these tests, the JBPDS wasn't accepted for Navy-wide installation onboard ships. However, once the results were finalized, COMOPTEVFOR concluded the system should become a part of the Navy detection system and recommended limited introduction to the fleet via Low Rate Initial Production (LRIP). The USS *The Sullivans* returned from a five month deployment and had logged more than 2,000 JBPDS operating hours. At one point during the deployment, the system sampled the remnants of a hurricane as the encountered the storm.

The JBPDS Logistics Team met with the crew to discuss any comments or concerns with the JBPDS. The crew was

able to operate the JBPDS in a very busy underway schedule of daily events. The crew was very positive about the ease of system tasks associated with operating and monitoring the system. The crew performed preventative maintenance checks and repairs with no issues. Overall, the crew found the system was easy to run and maintain.

The Navy will introduce the XM98 on approximately 20 surface ships, including USS *Eisenhower* during LRIP. The installation on "Ike" was completed in late September 2005, and selected crewmembers received the required new equipment training (NET), an event that requires about four days and covers both operation and maintenance. This is the first installation of a biological sensor on board an aircraft carrier, and will provide an important opportunity to gauge the effectiveness of bio point detection in a challenging high-tempo, bio-rich environment.

The first two operating shipboard systems soon will be followed by others as NSWC Crane has developed ship installation plans for several other surface combatant and amphibious ship classes. It is expected that JBPDS will be added to the fleet over the next seven years and eventually will reach all surface ships having the need for biological point detection capability. 

Joint Sensitive Equipment Decontamination

By Elaine Wilson, Fort Sam Houston,
Public Affairs Office



Mr. Richard Decker and Brig. Gen. Reeves listen to Adam Judd, from Battelle, explain the working of their prototype.



Members from the 5th Engineering Battalion, FT for decontamination during the LOE.

Translating the warfighters' vision of Concepts of Operations (CONOPS) to an actual working system is a mandate and challenge faced by acquisition program managers.

The synchronization of the reality of the warfighters' environment, CONOPS and compatibilities issues must be discovered early in the acquisition lifecycle, to allow for efficient acquisition program execution. In June 2005, the Joint Project Manager for Decontamination (JPM Decon) and the Joint Combat Developer (JCD) culminated an eight month effort to resolve this mandate and challenge for Sensitive Equipment Decontamination (SED) through a Limited Objective Experiment (LOE). The SED LOE objective was to experiment with multiple SED technological concepts and draft operational concepts to collect data on best SED practices. The LOE findings will influence SED doctrine, CONOPS and hardware design for a complete and integrated solution across the battlespace.

The SED LOE, held at Tyndall Air Force Base from June 6-17, was the first experiment for a program under the JCD and the Joint Program Executive Office for Chemical Biological Defense (JPEO-CBD). The SED LOE signified a truly joint effort between JPM Decon, the JCD, the Test and Evaluation Coordination Office (TECO) and the Air Force Research Laboratory (AFRL). The AFRL facility at Tyndall Air Force Base was the designated location for the SED LOE and the

selected service organization which provided outstanding on site support throughout the experiment.

The LOE planning started in September 2004 based on a request from the JPEO-CBD, BG Reeves, during the Joint Service Sensitive Equipment Decon (JSSSED) In Process Review. BG Reeves' goal was to evaluate the sensitive equipment requirements and CONOPS before advancing the liquid based sensitive equipment program into System Development and Demonstration. The JSSSED team partnered with the newly formed JCD office, led by LTC Val Novikov. JCD, a part of the Joint Requirements Office, is responsible for all chemical and biological operational concept experiments. For the LOE, concept prototypes that leveraged precision cleaning technology of sonication in non-aqueous solvent were produced by Guild Associates and Battelle Memorial Institute under ongoing development contracts. The vendors worked closely with the JSSSED Team and Combat Developers to do concurrent design and engineering to prepare the prototypes for the LOE.

In January 2005, the LOE was expanded to include the evaluation of a vapor concept. The Joint Platform Interior Decontamination (JPID) program introduced the STERIS Inc's modified Vaporized Hydrogen Peroxide (mVHPTM) mock up system to the SED LOE to examine a vapor decontamination concept for sensitive equipment. JPM Decon added the Deco-fogger from OWR AG to evaluate a mist

Experimentation



Leonard Wood, MO, prepare the equipment

LOE participants applied Pre-Clean, a new sensitive equipment concept.

concept. The Deco-fogger is used by US Special Forces.

This expanded the LOE to evaluate three concepts: liquid, vapor and mist.

From May 9-12, 2005, the JCD led an SED tabletop exercise at the Air Force Civil Engineering Support Agency (AFCESA) located at Tyndall AFB that examined all services CONOPS through various operational scenarios and applied the results to finalize the live experiment parameters. This tabletop exercise was the perfect forum to provide insight into key concerns that needed to be addressed during the live experiment in June. From the results of the table top exercise, the live experiment specifically focused on issues such as the optimal placement of the machines along the decon line, the methods of delivering the equipment for decon, the overall logistics impact, and human factor constraints for each technology concept. The experiment would use actual and mock up prototypes of the technologies and members from the warfighter community as experiment participants.

At the live LOE exercise in June, nineteen members from the Army, Air Force, and Naval Reserves were present to provide actual warfighter interface and realism to the experiment. The participants persevered in full MOPP to conduct multiple SED operational scenario iterations under hot and humid conditions with the heat index reaching 109° F on one occasion. The warfighters' teamwork and dedication set the tone for the experiment and contributed to the tremendous

results that will certainly change how sensitive equipment decontamination will be conducted. They provided valuable feedback that is vital in determining how SED would fit into the traditional decontamination process.

A highlight during the LOE was a visit from Brig. Gen Reeves, Mr. Richard Decker the director of engineering for the Edgewood Chemical and Biological Center, and Col. Wallace of the Army Chemical School. They were shown the proceedings of the SED LOE live experiment and witnessed the operation of an Air Force Decon line. They were able to see first hand the three different concepts, the proposed employment of these concepts and some of the associated DOTMLPF challenges and issues. In review of the LOE, JPM Decon, Lt. Col. Dale Takenaka, stated that the LOE was a vital tool which uncovered and provided operational and conceptual insights associated with the wide ranging DOTMLPF spectrum. The results of the LOE combined with an on going trade space analysis and the evaluation of agent efficacy test data will be used to determine the path forward for providing the warfighter with a system which will provide the sensitive equipment decontamination capability. 

Note: Based on the useful results of the SED LOE, the JCD is currently in the planning phase for their next JPEO-CBD / JCD LOE.

EXCLUSIVE

First Test, now Evaluation

Hollis calls for push on the evaluation side of

By Stephen Gude, Chem-Bio Defense Magazine Assistant Editor

Mr. Walter W. Hollis, became the third Deputy Undersecretary of the Army (Operations Research) in December 1980, responsible for establishing policy guidance and monitoring Army operations research activities. He is also the Joint Chemical Biological Defense Program Test & Evaluation Executive. He initiates, conducts and reviews justification of Army requirements and programs. He commissions studies of interest to the Secretariat and serves as the primary point of contact and liaison for similar activities in the office of the Secretary of Defense and other military departments. Mr. Hollis received his Bachelor of Science degree in 1949 from Northeastern University in Boston. Following graduation, he taught in the Physics Department at Northeastern and engaged in graduate study at Boston University. In 1973, he graduated from the National War College, Washington, DC, and received a Master of Science in International Affairs from George Washington University.

Now that there has been time since the inception of the Chemical Biological Defense Program Implementation Plan, how successful do you think it has been?

I would consider it to be quite successful. We have established some procedures for moving ahead, people have been engaged to lead it in various positions, and I think it's off to a good start.

How long has that process taken?

About a year. I think considering the amount of time, progress has been unusually rapid for such a program. Obviously as time goes on, we will see how efficient the program is managed and run, and we'll know from that point where it will go.

Since your last interview with Chem-Bio Defense in 2003, have the important issues surrounding T&E changed? What do you believe are the differences?

No they really haven't. The important issue is obviously to do adequate testing of protective equipment, and to deliver to those who use it the best that we possibly can. That program is proceeding as we've planned it. Brig. Gen. Reeves has created a project manager to head up his end of the work, and that's a good start.

Does your interaction with your counterpart in the other services foster joint testing?

We try. Joint testing is certainly important in this arena, as it is in all, but perhaps it's more important in this arena, since there's only one place we do most of the testing. Having said that, keeping the jointness is a matter we have to keep paying attention to.

Is jointness better for testing than one service doing it on its own?

I would say in this case, certainly, jointness is better. Although each service has to use the equipment in different environments, I think looking at it in a joint way has its benefits, overall.

How are T&E approaches being developed to integrate T&E across all services?

Well, by nature the program has been decreed to be joint, so we don't have to do anything with the structure of the program in that fashion. Obviously, we have to get the teams put together that will represent each of the services at each of the tests and there will probably be different lead services at each of the tests and a team that will follow the activity in terms of writing reports, preparing plans, and testing. Dugway Proving Grounds (DPG) is the Chemical Biological MRT&E for all services and for the joint program. The actual chemical environment can be tested in the labs at DPG 5.

Do you foresee a need for another or a different test site?

There would be benefits to having another test site that is capable of doing the kind of testing that can be done at Dugway. It's not likely that we would be given an opportunity to put such a place together, so the thing to do is try to get those parts of the tests that can be done that don't require agent to be done in a variety of locations. The actually protective level in a chemical environment can be done at Dugway.

How do you see the future of T&E and how is T&E adapting to the evolving threats our joint forces face?

If we don't adapt, we'll be in considerable trouble, so that's got to be something we pay close attention to.

Are there any threats coming downstream that might test our testing, so to speak?

I can't put my finger on any at the moment. Certainly, there will be some things out there that will be difficult to test. Many common substances are used

industrially, and the problem with those is you don't know when you've got a threat and when it's just a matter of use of a particular compound in a proper way.

Are there instances in your experience where you've seen certain industrial chemicals hamper our testing?

Not that I'm aware of.

What has been your biggest accomplishment with T&E?

My biggest accomplishment has been to get the services to talk together, come together, work in this collaborative environment. We can afford to do only so much testing, and we need to do it as efficiently as we can. I think that's a good thing.

Has that helped as far as time-frames?

It would, although we haven't had that many tests under that regime, but it's certainly going to be more efficient than doing several different tests.

What has been your biggest challenge with T&E?

I think the biggest challenge in any of this has been writing test plans that are sufficiently stringent to establish the merits of the test within the limits of what is permissible with respect to the environment.

Do you think that, given how the environment is always a hot-button issue, will that affect testing any?

It certainly will affect the way we're able to do the testing. What other impacts there may be will emerge perhaps, but I don't see anything wrong now. To avoid future constraints which might impact our ability to test, it is extremely important that we design carefully tests and ensure they are done under strict control so there are no opportunities for those who would wish us not to be able to test to disrupt or prevent the process.

So in other words, meet the standards before they make the standards?

We have got to be purer than Lot's wife!

Photo by Steve Lusher

T&E

Are there any concluding thoughts you have regarding T&E?

Clearly, T&E is an important element of these programs. We perhaps put more attention on the test piece than we do on the evaluation piece because of the need to be so careful with the test. But it is also very important to understand what the implications of the test data are in terms of military operations and other potentially impactful areas. I think we need to push harder on the evaluations.

Are you satisfied with where we are on the evaluations?

I'm satisfied, but I'm not jumping for joy.

What do you feel we could be doing better?

We could be presenting the operational implications of what we learn in a more forceful way. The evaluators of course are a separate group of people from the testers. The testers do their thing; they get the data, but then the evaluators have got to provide a context for the users, and I think we could do a better job of that.

Is there any plan to bring evaluation up to where you think they need to be?

No particular plan. We'll try to raise the level of each one as they come through.

And that's each individual evaluator?

For each individual evaluator but more particularly the structure of the evaluation plan. 

Photo by Steve Lusher



Teaming and Lean Nets Savings

Story by Kim C. Russell, Public Affairs Officer, Steve Gude, Chem-Bio Defense Magazine Assistant Editor contributed to this article

Many professionals in the engineering field have heard of Dr. W. Edward Deming, affectionately known as the father of the Japanese post-World War II industrial revival and regarded by many as the leading quality guru in the United States before he died in 1993. Fewer have heard of Dr. Shigeo Shingo, the Japanese industrial engineer who distinguished himself as one of the world's leading experts in improving manufacturing processes.

Shingo's impact and influence in the manufacturing industry was recognized by Utah State University in 1988 with an award bearing his name, the Shingo Prize for manufacturing excellence. Late last year, engineers at Letterkenny Army Depot (LEAD) were named the U.S. Army's winner of the Shingo Prize. The prestigious award acknowledges organizations that have effectively and efficiently implemented a manufacturing process commonly called "Lean." Under Lean, the goal is to eliminate all non-value adding activities and introduce a way of thinking that results in serving the customer with high quality good, low production cost and short delivery times. One example is the Toyota Production System, which relies on "just in time" delivery of parts to manufacturing plants, eliminating the need for on-site storage.

Another example is the assembly process of the M31A2 Biological Integrated Detection Systems (BIDS). Letterkenny Army Depot engineers combined their Lean expertise with a study on the implementation of robotics to help optimize efficiencies and productivity to the external and internal machining processes of the BIDS shelter, said Kim Russell, Public Affairs Officer at LEAD. The unique BIDS shelter sits atop a Humvee and includes a self-contained generator, specialized heating, ventilation and air conditioning, as well as communication and networking equipment.

The LEAD analysis proved that the internal machining time would be cut by 50 percent with the installation of a robotic arm. The robotics also adds the benefit of increased accuracy and repeatability, Russell said. LEAD and Edgewood Chemical Bio-

logical Center (ECBC), Edgewood, MD, teamed up with Defense Supply Center Richmond, VA, to develop a specification and accomplish the contracting effort to procure the robotic turnkey system.

"The synergy between these two technologies produced results far beyond the capabilities of either technology alone," said Bill Conrad, LEAD BIDS project engineer. "Through Lean initiatives, LEAD has reduced overall life-cycle cost to the BIDS program by introducing technologies in a modernized infrastructure."

Because of Lean, the depot projects a large savings annually. Scottie Oliver, who supervises the BIDS program at LEAD, attributes the savings and enhanced efficiency to Lean manufacturing techniques, his employees' positive attitudes and robotics.

"The installation of the robotic arm to internally drill the holes in the shelters and the implementation of Lean on the line has a projected savings of \$530,000 annually. Instead of having nine employees producing seven and a half shelters monthly, there are five employees producing eight and a half shelters monthly."

Not all of the savings from the Lean process are demonstrated through the efficiency noted above – it can be counted financially as well. Some of the savings LEAD generated were returned during a ceremony Nov. 22, 2005, when Dr. John Gray, LEAD deputy commander, presented a ceremonial check of \$300,000 to Air Force Col. Daniel Berry, Joint Project Manager Biological Defense.

"Edgewood is pleased and impressed with the shelters returning from LEAD," Berry stated. "They are returned ahead of schedule and under cost. Dollars saved in this program will be turned right back to (Letterkenny) in additional work. I just returned from Korea and the Soldiers in the field who use our equipment want me to pass along their sincere thanks."

The Biological Identification Detection System is co-produced by LEAD and ECBC, and is the Army platform for the Joint Biological Point Detection System, a self-contained chemical and biological detection system. Letterkenny produced 74 shelters for ECBC in fiscal year 2005 and plans to produce 69 in fiscal year 2006.

Shingo died in 1990 but tended to gauge manufacturers' success at implementing his processes through time saved, rather than money, according to various websites about him but the achievement of the employees at LEAD is as clear as Shingo's words upon departing ??? consulting job: "Improvement involves never accepting the status quo. ..." 



Daniel Forbes operates the robotic arm to precision drill holes in the BIDS shelter.



Dr. John Gray, LEAD deputy commander, presented a ceremonial check of \$300,000 to Air Force Col. Daniel Berry, Joint Project Manager Biological Defense.

Introducing the SOFTWARE SUPPORT ACTIVITY

By Doug Hardy, JPEO-CBD SSA Manager

Officially chartered by Brig. Gen. Stephen Reeves, Joint Program Executive Officer for Chemical and Biological Defense (JPEO-CBD), on May 31, 2005, the Software Support Activity (SSA) is a user software support activity that spans and supports all JPEO-CBD Joint Program Managers (JPMs) and Directorates. The SSA vision is to be a comprehensive and cost-effective single point of contact for users (customers, developers and warfighters) to receive professional and timely assistance with all Information Technology (IT) related to Chemical, Biological, Radiological, and Nuclear (CBRN) Defense program standards, interoperability, and supportability needs. Ultimately, this vision would result in the creation of more efficient, common, and consistently superior interoperable and integrated CBRN systems for the warfighter.

The SSA is focused on IT programs and systems that transmit, receive, or store CBRN data and how those systems interoperate on networks. For the JPEO-CBD, the SSA brings into focus a sometimes blurred picture of new and emerging standards and policies from a variety of sources; including directives and instructions, that drive architectures, data management, and information assurance; such as, the Department of Defense (DoD) Architecture Framework (DoDAF) products, DoD Net-Centric Operations and Warfare Reference Model, and DoD Information Technology Security Certification and Accreditation Process (DITSCAP). The SSA also works with a variety of JPEO related organizations to assist JPMs in clarifying and further understanding requirements, providing insight into potential programs for science and technology transition and insertion, and better understanding of integration and test operations, especially in relation to modeling and simulation (M&S) and verification, validation, and

accreditation (VV&A) activities. The SSA vision of bringing into focus the IT environment for all JPEO-CBD JPMs and providing key performance capabilities for CBRN warfighters is reflected in Figure 1.

To provide this assistance, the SSA is forming teams with expertise in several functional areas. Current efforts are concentrated on Architecture, Data Management, Information Assurance, Integration and Test (including Modeling and Simulation), Science and Technology, Standards and Policy, and Customer Support (Help Desk).

ARCHITECTURE

The Architecture team's primary focus is toward implementation of a standard DoDAF compliant Integrated Architecture in JPEO-CBD products. In July 2005, Brig. Gen. Reeves and Maj. Gen. Howard

Bromberg (JRO-CBRND) signed a Memorandum of Understanding (MOU) entitled "Stewardship of Department of Defense (DoD) Chemical, Biological, Radiological, and Nuclear (CBRN) Architecture Products." The purpose of the MOU is "to ensure that the components of the CBRN architecture are developed in a coordinated manner that will result

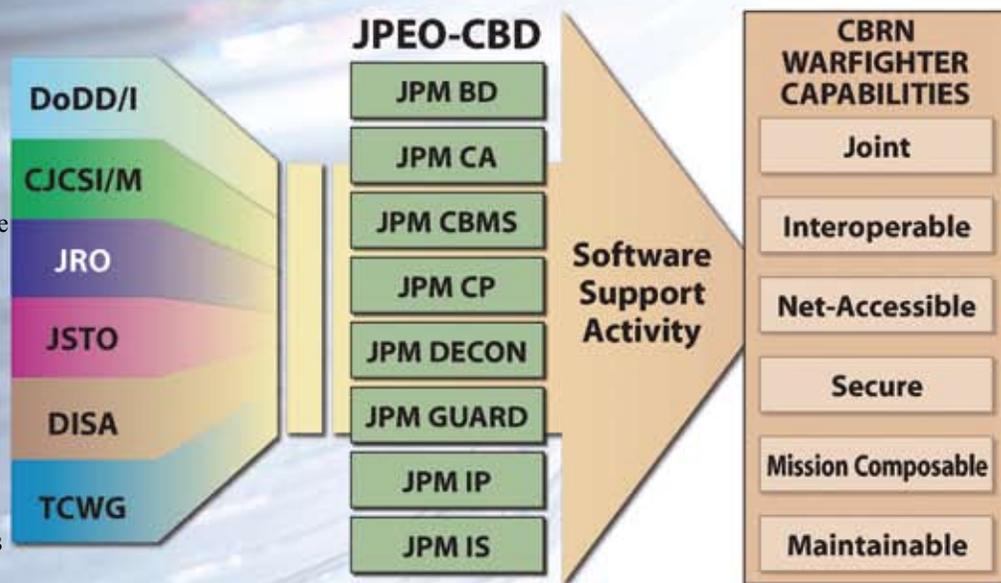


Figure 1. SSA Vision

in a fully integrated common CBRN data model and architecture for the CBRN Community of Interest (COI)." After the MOU was signed and in cooperation with the Joint Requirements Office (JRO) Shape Action Officer, the Architecture team formed a Joint CBRN Architecture Working Group that meets monthly (2nd Wednesday) and includes membership from all JPMs to discuss the various architectural issues and concerns among the programs.

As a result, Architecture products are being collected and posted to the JPEO-CBD Integrated Digital Environment (IDE) web site (jpeocbd.altess.army.mil). All programs with DoDAF products or

interest in DoDAF products or comments/feedback are encouraged to visit the site. Please contact the SSA CM Coordinator, Denise Milligan, at dmilli@spawar.navy.mil, 619-767-4191, or the SSA Architecture Lead, Dave Godso, at godso@spawar.navy.mil, 703-365-9662.

DATA MANAGEMENT

The Data Management team works closely with the architecture team in an effort to cultivate an enterprise-wide data management strategy that promotes interoperability and integration between programs thru the implementation of a common CBRN Data Model. The CBRN Data Model is registered with the DoD Extensible Markup Language (XML) Metadata Registry as the official Data Model for the CBRN COI Namespace. The Data Management team is actively involved in pursuing and understanding data interface and exchange requirements from a variety of COIs and the COI Forum. The Data Management Team will be hosting the Data Model Working Group (DMWG) Technical Review for version 1.3 of the CBRN Data Model from 10-12 January 2006 at the Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, Edgewood, MD. The DMWG will provide a broad forum to discuss the latest changes, the future changes for the next release, and recommend other changes and/or improvements to the Data Model. The DMWG has steadily grown, and the last DMWG in July 2005 included 80 attendees. It's not too soon to get your visit requests on file with the Security office. For information concerning this event, contact Bill Snee at wsnee@msiac.dmsi.mil or John MacCrossen at macroscen@spawar.navy.mil.

All programs are encouraged to visit the IDE to see the latest Data Model, including instructions on change requests to the Data Model, which can be made by downloading the form found on the IDE, or by contacting the SSA CM Coordinator. For questions regarding the CBRN Data Model, please contact the CBRN COI Namespace Manager, Dr. Tom Johnson, 831-656-3190 and/or the Deputy Namespace Manager, Bill Snee.

INFORMATION ASSURANCE (IA)

The IA team is providing direct support to several JPMs, with a dozen DITSCAP System Security Authorization Agreements (SSAAs) underway in various stages of completion. The IA team is actively involved in certification and accreditation, and in reviewing new and emerging IA requirements and policies (e.g., DOD Information Assurance Certification and Accreditation Program (DIACAP)) to determine impact to the IT programs and systems. For more information on IA, contact the SSA IA Lead, Guy Casciola, at casciola@spawar.navy.mil.

CUSTOMER SUPPORT (Help Desk)

The Customer Support team has been working to establish the necessary MOUs and business rules to support an initial Level 1 Chemical and Biological Defense (CBD) IT Help Desk capability. This effort has been aimed at two near term requirements to support JPM IS programs, Joint Warning and Reporting Network (JWARN) and Joint Effects Model (JEM) milestones. On 15 October, the SSA stood up this Level 1 CBD IT Help Desk, which provides a Level I Customer Support capability and is now taking calls. The plan is to evolve the MOUs and business rules, and promote this Level 1 capability as the CBD IT Help Desk that will provide 24/7 support to any number of IT programs once it is fully operational. For more information on the Help Desk, contact the SSA Help Desk Lead, Pat Lowe, at plowe@spawar.navy.mil.

INTEGRATION AND TEST (I&T)

The I&T team is working to develop consistent processes and guidance for program and model accreditation, data certification, and Independent Verification and Validation (IV&V) efforts and looking for opportunities for co-use of the assets and results associated with the many ongoing program test activities. In June 2005, an M&S VV&A Guidelines document generated by the I&T team was signed by the JPEO-CBD. The I&T team is also involved in evaluating M&S strategies for various programs (e.g., JPM Individual Protective Equipment (IPE)) and in the concept of establishing a JPEO-CBD M&S Center of Excellence. For more information regarding these efforts, contact the SSA I&T Lead, Jennifer Park, at jennifer.park@navy.mil.

SCIENCE AND TECHNOLOGY (S&T)

The S&T representative has recently joined the SSA team to study "transition-able" products with potential to join the already formidable array of technologies in use by the CBRN Defense programs and systems. These include such proposals as a CBRN-Medical Pilot proposal that looks at future interoperability between the CBRN and Medical COIs and a Sensor-on-a-Chip Pilot to look at interoperability moved to smaller, in-the-field devices to provide the next generation capability. In coordination with Joint Science and Technology Office (JSTO)/ Defense Threat Reduction Agency (DTRA), these are just two of several pilots and proposed pilots for evaluation and potential insertion into programs. For more information regarding these efforts, contact the SSA S&T Lead, LorRaine Duffy, at lorraine.duffy@navy.mil.

STANDARDS AND POLICY (S&P)

The S&P representative is working to support all of the other areas in understanding and clarifying DoD standards, directives, instructions, and policies. This includes staying abreast of the Army Strategic Software Improvement Program to alert all other areas of opportunities for training and improving processes for acquiring and architecting software systems. A similar initiative is underway to better understand System Engineering plans and processes that may affect the JPEO-CBD. For more information regarding these efforts, contact the SSA S&P Lead, Dan Reuben, at dreuben@spawar.navy.mil.

Shortly after being chartered, the SSA began a series of "Roadshows" to introduce itself to the JPEO-CBD community. The initial round of roadshows concluded in October 2005 and included visits to all JPM and JRO activities. The SSA plans to conduct 2006 follow-on visits based on the information obtained during the initial roadshows.

As the SSA moves forward in 2006, it will pursue objectives that align JPEO-CBD IT products with common architectures and data representation, methodologies that promote interoperability and integration for programs and systems across the enterprise, and further support sustainability and maintenance for the product lifecycle. It will also promote technology insertion and/or re-use from the civilian sector and other communities for mutual benefit of the users and customers of JPEO-CBD products. The SSA seeks to leverage the benefit of pre-existing solutions wherever possible, including standardized language/syntax, data, information assurance, integrated architectures, modeling and simulation, and testing. 

47TH CIVIL SUPPORT COMPLETES

Story and photos by 2nd Lt. Andy Thaggard,
Mississippi Army National Guard

Mississippi now has a unique and potent tool to protect the homeland in the face of weapons of mass destruction (WMD). The 47th Civil Support Team (CST), Mississippi National Guard, wrapped up training recently and awaits final certification by the Secretary of Defense to the United States Congress.

“They are the tip of the spear anytime America needs to respond to a threat,” said Maj. Gen. Harold A. Cross, the Adjutant General of Mississippi. “They will be the lead, with training and technology to meet any need that arises.”

The CST plays a vital role in the national strategy for homeland security by being the first military responder to any potential WMD threats anywhere in Mississippi. Their mission is simple enough: assist local authorities in dealing with chemical, biological, radioactive, nuclear and high explosive threats.

“Our charter is to respond to any type of terrorist event in the state,” said Lt. Col. Gordon Ditto, the 47th CST commander. “Normally we would interact with and assist police or fire departments, local hazardous material (HAZMAT) teams, or other first responders that have run into an incident that exceeds their capabilities.”

With a combination of military and off-the-shelf civilian technologies, the CST brings the tools that normally only large cities like New York, Los Angeles or the District of Columbia can afford. They can quickly identify any threat (presumptive identification of biological agents for the technically inclined) by processing samples in their analytical lab system,

essentially a truck packed with all the bio/chem testing gizmos a microbiology enthusiast would ever want.

Team members can talk on the radio to any agency, from the local volunteer fire department to the FBI. If needed, they can even bridge the different systems so everyone can talk together; just as they did immediately after Hurricane Katrina, providing coordination and communication links to all levels of government (including a presidential visit). If the threat requires additional

research, they just use the secure satellite system to reach back through the Defense Threat Reduction Agency and ask the experts at the Centers for Disease Control & Prevention for assistance, or any other



Members of the 47th Civil Support Team conduct decontamination procedures after assessing a threat in the Mississippi Coliseum during a recent training event.

Sgt. Anthony Ross, left, of Jackson and Sgt. Christopher Petermann, of Pearl, test their radios before suiting up.

TEAM TRAINING

18 federal and military agencies that are readily available.

Should things go bad and something goes boom, the local incident commander will have current, locally generated plume modeling data to help him decide what part and how much of the surrounding community may need to evacuate. All of these capabilities and more (such as advising local hospitals on decontamination/treatment plans) will soon be available to every first-responder agency in the state.

Until the certification process is complete, the team will be reaching out to local and state agencies to explain and demonstrate exactly the CST's capabilities and limitations, said Ditto.

This may happen by conducting realistic training exercises throughout the state that

are similar to the recent evaluation. The scenario could play like this: blue-collar comedian Ron "Tater Salad" White will be playing the Carthage Coliseum. Security calls in the local fire department HAZMAT team to examine a suspicious backpack after several of the security guys get sick. The HAZMAT team calls for help and the 47th CST arrives within hours. The CST conducts multiple entries into the contaminated area and samples the source,



Maj. Steve McCraney, of Clinton, secures chemical agent alarm cables during an exercise of the 47th Civil Support Team.

finding an assortment of bombs along the way.

While conducting decontamination operations, the team identifies a nerve agent for the local fire chief as well as the tasks necessary to neutralize the agent and clean up the coliseum. Using data gathered by the CST, law enforcement agencies find the terrorist with a craving for tater soup.

Despite the oversimplification, the scenario is very similar to training events that take place throughout the country every week. During the 47th CST's evaluation, 15 complex tasks were measured. The team achieved over 90 percent on each event, the military equivalent to acing the test.

The 47th is only one of few National Guard units with no potential for going overseas. By law, their mission is within the boundaries of the United States and her territories. Composed of 22 full-time Mississippi Army and Air Guardsman, with 14 different military specialties, each is cross-trained to know at least one other job. The team, stationed in Crystal Springs while their new home in Flowood is being

refurbished, is ready to roll at a moments notice. All equipment can be airlifted by plane or helicopter. They can operate for up to 48 hours before requiring additional supplies, and can be reconstituted and ready to go out again in a very short time. Not a typical Guard unit, these Soldiers and Airman pride themselves on being on the front lines of the War on Terror. Capt. Thomas Mallard, the survey team leader, is a self-described science and Army geek. An Army chemical officer with the Special Forces, he has served two tours in Afghanistan. He left the Army to serve in the Mississippi National Guard.

"We consider ourselves a forward deployed operational unit. It is dangerous, but I love this," said Mallard, a Brandon resident. "When the war on terror slows down overseas, we'll still be here on front lines." 

For more information on the 47th Civil Support Team, contact Lt. Col. Gordon Ditto at gordon.ditto@ms.ngb.army.mil



By Guy Casciola, JPEO-CBD SSA Information Assurance Lead

The threat of Chemical, Biological, Radiological and Nuclear (CBRN) by terrorists or rebellious entities is increasing each day. The U.S Government has undertaken several efforts to minimize these attacks by developing Information Technology (IT) systems/networks that can predict where the fallout is and take the appropriate action to protect warfighter's lives. But wait!!!! These IT systems/networks are meant to protect the warfighters, but how do you protect the systems/networks from the terrorists? The answer is easy, by applying Information Assurance (IA) techniques to all of your systems/networks following Department of Defense directives/regulations/instructions.

Let's face it, IA is the proverbial thorn in the side. Many still resist IA to one degree or another, despite the IA programs and mandates already established. Some people believe the process is an overkill or isn't necessary at all. Others believe it's just a drill that generates a lot of paperwork that sits on a shelf and collects dust. In some respects, and in some cases, the critics are right; the process could be viewed overkill. But is it necessary? Absolutely!!! Waiting until an incident occurs before taking action is too late and too costly, because lives are at risk. Anyone who takes the time and effort to create all the necessary documentation without acting on the problems identified, is wasting time and is defeating the purpose.

So why do we need all this security? The Certification

and Accreditation (C&A) process is needed to ensure that each and every Information System is being protected against the four impact areas; denial of service, unauthorized disclosure, modification, or destruction. What is needed to protect the IT system/networks against these impact areas is the proper implementation of security safeguards in each system/network and the surrounding environment in which the system/network resides. What comes out of the C&A process is what is known as the System Security Authorization Agreement (SSAA) cur-

rently based on the DoD Information Technology Security Certification and Accreditation Process (DITSCAP). If the SSAA documentation proves that the Information System is fully protected, no matter what impact area might occur, the requirement should be satisfied. The following is a brief explanation of these impact areas:

- When the system/network is vulnerable to attacks, the entire system/network could be brought down, thereby, rendering the system/network unavailable so if an attack were to occur, the system/network would not be available to function. This could result in the death of many warfighters. This is known as denial of service in which action or actions that result in the inability of a system/network or any essential part to perform its designated mission, either by loss or degradation of operational capability.
- When the system/network is not properly secured, this could enable unauthorized individuals, (either by accidental or intentional means), the ability to access the information, thereby, allowing sensitive information to be compromised. Therefore, unauthorized disclosure occurs when exposure of information to individuals not authorized

to receive the information, takes place.

- A malicious attack, such as a virus or worm to the software or information, could cause the system's/network's ability to function improperly.

erly, which also endangers the warfighters lives. This is considered modification that exists when software/information is altered by changing or adding to its representation, (integrity is rendered questionable).

- When an attack totally destroys the system/network, then there is no system/network to warn warfighters of possible CBRN attacks. This of course is destruction that exists when any asset is declared 100% economically non-repairable or non-recoverable.

“Anyone who takes the time and effort to create all the necessary documentation without acting on the problems identified, is wasting time and is defeating the purpose.”

Each Joint Project Manager (JPM) has unique IA problems such as; classification levels, wireless connections, cross-domain situations, etc. Because of the uniqueness, not every situation is covered in an instruction. Some might take the stance that, if their specific situation requires some type of security measure not covered in an instruction, they don't have to document it. This is not the case. Where instructions are lacking for guidance, best practices should be implemented. In other words, if you really believe some security protection should be employed, then it probably should be. It is better to be safe than sorry. It is up to all JPMs to ensure that the integrity for all Information Systems is maintained, and whatever it takes to accomplish this should be completed. All systems must go through the C&A process before being accredited and deployed for operational use. If not, then per DoD mandates, these systems/networks are in violation and vulnerable to exploitation.

Because environments and equipment are always changing, review of the threats and safeguards is an ongoing effort. Remember, going through the C&A process the first time is much harder than maintaining it. The process should be reviewed for re-accreditation at least every three years or when major changes to a system or environment have occurred such as:

- Addition or replacement of a major component or a significant part of a major system.
- A change in classification level of information processed.
- A significant change to the operating system or executive software.
- A breach of security, violation of system integrity, or any unusual situation that appears to invalidate the accreditation.
- A significant change to the physical environment where the system resides.
- A significant change to the threats.
- A significant change to the availability of safeguards.

- A significant change to the user population.
- The passage of three years since the effective date of the existing accreditation.

So, what can you do to accomplish all these regulations? About a year ago the Joint Program Executive Officer for Chemical & Biological Defense (JPEO-CBD) Software Support Activity (SSA) IA team was established to assist all the JPMs by providing C&A support. This team of specialized personnel can ensure your systems/networks are appropriately locked down in order to eliminate or minimize the impact of threats that can cause denial of service, unauthorized disclosure, modification, or destruction to information system resources.

The SSA IA team members provide a resource of technical expertise in satisfying the requirements of the current DoD IA

regulations. Our experience with CBRN unique operating environments and security requirements enables us to help you achieve the DoD mandate of operating each Information System at an acceptable level of risk through the C&A process. Our



The SSA Information Assurance Team. Right to left: Guy Casciola (Team Lead), John Howard, Blake Lomprey, Catrina Brott, Colin Fera. Not pictured: Pat Guerin, Cale Dansbee, Chris Beckham.

IA team members have a proven record and reputation of performing each step of the current C&A process leading to accreditation of your Information System. So, you need not look any further than the SSA IA team to provide quality and professional IA services. 

For information regarding these SSA IA services, please contact the JPM-IS/SSA Security Manager, Guy Casciola, at casciola@spawar.navy.mil.

CBRN INTEGRATED ARCHITECTURE - BRINGING THE PIECES TOGETHER

By David W. Godso, JPEO-CBD SSA Chief Software Architect

An Introduction to Architecture

The Department of Defense (DoD) defines “Architecture” as “the structure of components, their relationships, and the principles and guidelines governing their design and evolution over time.” As DoD drives all capabilities toward Net-Centric Operations and Warfare (NCOW), architectures provide a critical mechanism for:

- Understanding operational concepts and their relationship to capabilities, technologies, systems, and standards (Figure 1).
- Anticipating changes in operational concepts or changes in automated capabilities.
- Acquiring both materiel and non-materiel assets.
- Developing a roadmap that takes us from where we are to where we want to be.

An architecture description is defined to be an integrated architecture when products and their constituent architecture

data elements are developed such that elements defined in one view are the same (i.e., same names, definitions, and values) as elements referenced in another view. Integrated architectures with Doctrine, Organization, Training, Materiel, Leadership & education, Personnel, and Facilities (DOTMLPF) information provide important tools to facilitate coordination between requirements document developers, planners, programmers, budgeters, system acquirers and developers, and interoperability enforcers. These architectures:

- Clarify roles, boundaries, and interfaces between components of large System of Systems (SoSs).
- Influence participants in requirements generation, acquisition, resource allocation, interoperability enforcement, and waiver processes.
- Are the primary tools for enterprise level systems integration.

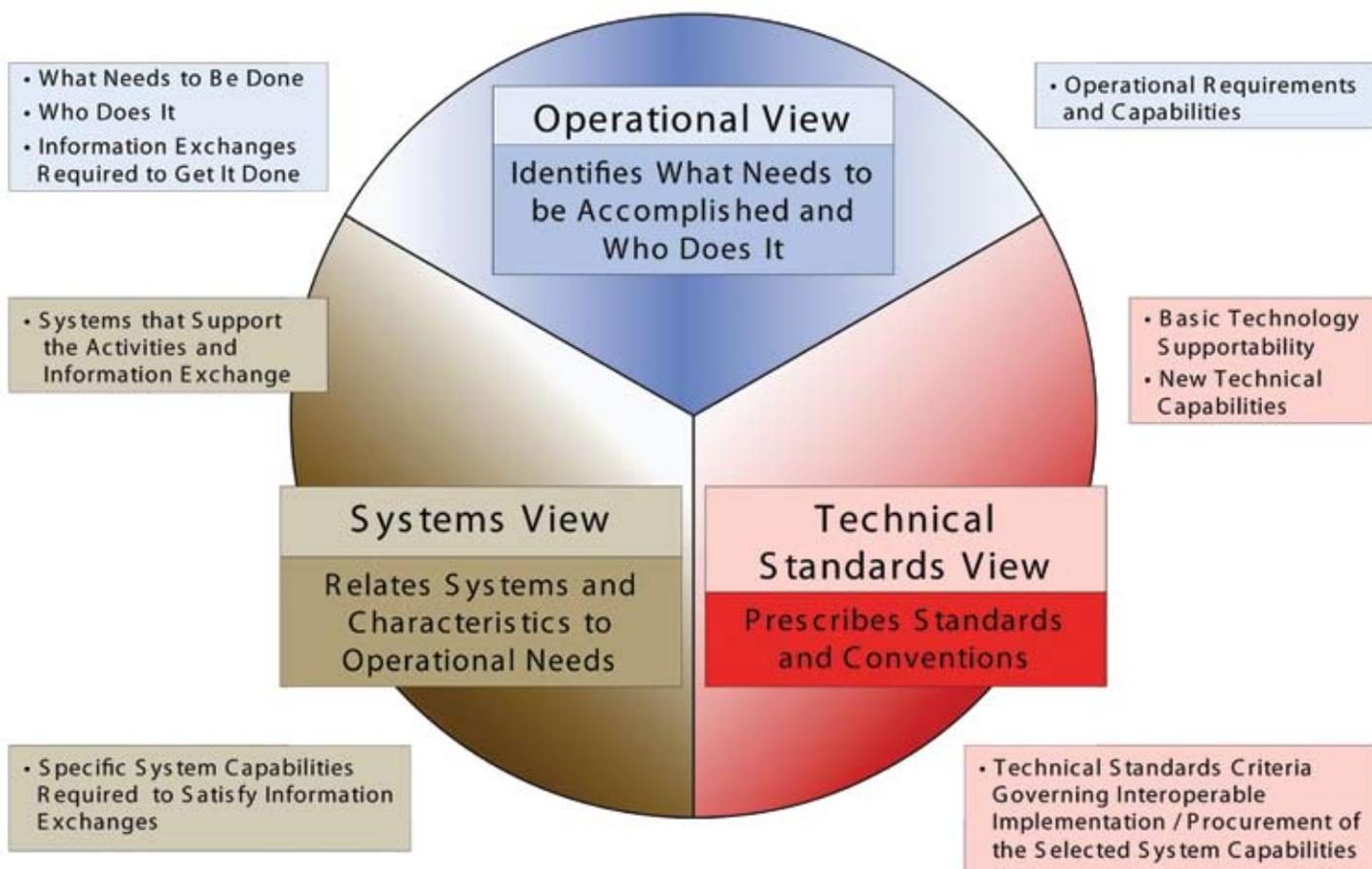


Figure 1 – Relationships between Architectural Views

The SSA Architecture Team

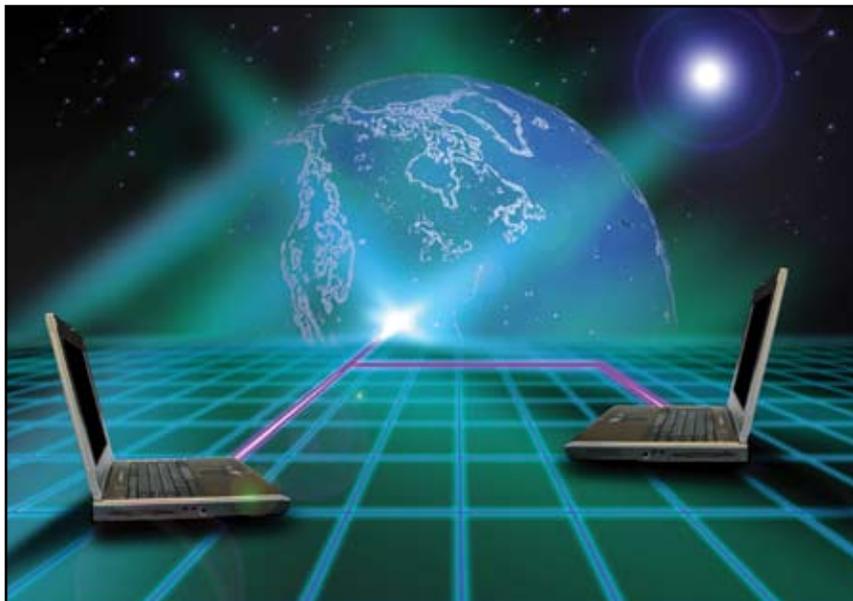
The SSA Architecture Team looks across the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) Programs of Record for common systems and software engineering themes. The overarching goal is to facilitate reuse and align programs to net-centric Service Oriented Architectures and implementations based on the DoD's Data Strategy. The SSA Architecture Team serves as the JPEO-CBD Software Integrated Product Team (IPT), reporting directly to the JPEO-CBD Chief Systems Engineer (CSE), having Chief Software Architect (CSA) responsibilities across JPEO-CBD.

The JPEO-CBD SSA Architecture Team is chartered to:

1. Develop, validate, and implement a technical Command, Control, Communications, Computers, and Intelligence (C4I) architecture in support of the operational requirement developed by the Joint Requirements Office (JRO) DoD Architecture Framework (DoDAF) compliant Integrated Architecture.
2. Maintain and shape the Integrated Architecture to address new technology, changing assumptions, and emerging requirements, including transition and mapping to the Global Information Grid (GIG) 2.0 and the NCOW Reference Model (RM).
3. Maintain common frameworks that support and specify integrated individual, family or system of systems, including applicable operating systems, programming languages, tools, and core components as applicable.

The SSA Architecture Team has three fundamental operating principles:

1. Provide support to programs requiring expertise in systems and software engineering as it relates to meeting program milestones.
2. Provide strategic technical expertise in terms of specification development, technology evaluation, and identification of common services and standards such that all "information technology" across the Chemical Biological Defense Program (CBDP) can be reused so CBDP programs can focus resources on CBDP-specific problems.
3. Understand the pieces that currently exist, how they relate, where we need to go to achieve the net-centric vision, and provide recommendations to senior leadership to move the Enterprise in DoD's intended "DoD as a net-centric enterprise" direction.



Integrated, dependable, safe, small, net-centric wireless CBRN capabilities and situational awareness for our warfighters.

SSA Architecture Team Activities

Stewardship of Architecture and Data Products Creating a Memorandum of Understanding (MOU) Among Stakeholders.

Our initial challenge was to distill tremendous amounts of DoD policy and instructions related to capabilities (CJCSI 3170.01

Series) and architecture development (DoDAF) into something CBRN stakeholders could easily understand and employ. We needed a definitive way to understand who was responsible and accountable for what products. We wanted a process for architecture product creation and evolution that yielded CBRN Warfighter Capabilities that reflect how we must fight in the 21st century.

In an effort to codify the responsibilities in architecture and data product development, the SSA, in conjunction with the JRO-Chemical,

Biological, Radiological, and Nuclear Defense (JRO-CBRND) Architecture Team, created a key MOU between JRO-CBRND and JPEO-CBD. The MOU, "Stewardship of Department of Defense (DoD) Chemical, Biological, Radiological, and Nuclear (CBRN) Architecture Products," was signed by Brig. Gen. Stephen Reeves, JPEO-CBD and Maj. Gen. Howard Bromberg, Director, JRO-CBRND.

This MOU ensures that the components of the CBRN architecture are developed in a coordinated manner resulting in an integrated CBRN data model and architecture for the CBRN Community of Interest (COI). The architecture encompasses DoD-wide CBRN processes and all architecture and data products produced as part of the requirements and acquisition processes for CBRND Programs of Record by the JRO-CBRND and JPEO-CBD. It is critical that we provide:

- Seamless linkage of the DoD CBRN architecture products and data.
- Relationships between and overarching responsibilities of the organizations of stewardship of the architecture products
- Architecture and data products that use the same language with the same meaning to minimize duplication of effort and information conflicts.

IMPLEMENTING THE MOU

Configuration Management Plan

The MOU outlines responsibility for DoD-wide baseline releases of each Program of Record's architecture and data products. Furthermore, it specifies the establishment of a Joint CBRN (JCBRN) Configuration Management Plan (CMP), to manage change across products.

Configuration Management (CM)



The JCBRN CMP is in draft and has been reviewed by the Services. In addition, Architecture and Data repositories have been created on the JPEO-CBD Integrated Digital Environment (IDE) that contain latest releases of baselined CBRN Architecture and Data products (contact Mrs. Denise Milligan –dmilli@spawar.navy.mil, for more information).

Configuration Management of Common Reusable Product Lines is Key!

Working Groups

Two technical working groups have been established in the areas of Data and Architecture, which consist of participants from the JRO-CBRND and JPEO-CBD JPMs.

Data – For some time now, the Joint Program Manager Information Systems (JPM IS) Data Team has been releasing CBRN Data Model, CBRN Extensible Markup Language (XML) Schema, and CBRN Style Guide products and holding working group meetings to vet updates. Traditionally, these meetings have been focused on JPM IS Programs of Record. However, with the establishment of the SSA, the SSA Data Management functional area now coordinates Data Model release and reviews across the CBDP, via a JCBRN Data Working Group (DWG). The meetings occur in conjunction with Data product releases (contact Dr. Tom Johnson, JPM IS Data Acquisition Program Manager (APM) and SSA Data Management Lead - thjohnso@nps.edu, for more information).

Architecture – The JRO-CBRND Architecture Team and the JPEO-CBD SSA Architecture Team have stood up a JCBRN Architecture Working Group (AWG). The JCBRN AWG discusses requirements, systems, and technical issues which span more than one Program of Record, and subsequently resolves issues and makes enterprise recommendations to senior leadership. The meeting is scheduled on the second Wednesday of every month at 10:00 Pacific (contact Mr. David W. Godso – godso@spawar.navy.mil, for more information).

All JRO and JPEO-CBD JPM technical representatives are

encouraged to provide key technical participants for the JCBRN DWG and AWG.

SSA ARCHITECTURE TEAM FUTURE INITIATIVES

Some of the initiatives on our horizon:

- Develop and distribute “Net-Ready” contracts language and specifications that any program in the CBDP containing a software, network, or data component can reuse for building systems that are “net-ready” and “plug-in” to the CBRN Information Systems backbone.
- Work with the SSA Data Management Team, JPM IS, JPM Contamination Avoidance (CA), JPM Bio-Detection (BD), JPM Guardian, and JPM Chemical Biological Medical Systems (CBMS) on defining standard sensor data formats and protocols.
- Establish a sensor data repository that will contain configuration controlled sensor interface specifications for all of the sensors in use across the CBDP.
- Actively track the Net-Centric Operations Warfare (NCOW) Reference Model (RM), and the Joint Command and Control (JC2), Net-Centric Enterprise Services (NCES), Global Command and Control System
- Joint (GCCS-J), and Joint Tactical Common Operational Picture (COP) Workstation (JTCW) programs to continually assess their maturity and update our migration strategy accordingly.
- Support the Army Software Blocking (ASWB) process with respect to ensuring that we have the points of contact and expertise necessary to support our programs in preparing for and executing the insertion of JPEO-CBD programs into the ASWB. Similarly support and participate in analogous other-Service processes, such as the Federation of Systems (FedOS) for the United States Marine Corps (USMC).
- Stay abreast of current and new initiatives across the JPEO-CBD JPMs by attending key JPM conferences and JRO Integrated Concept Team (ICT) meetings.

SUMMARY

Aligning CBRN programs on technical themes, sharing common services, and creating a consistent enterprise migration strategy are highly dependent on teamwork, and specifically:

- Active participation from the projects and other stakeholders.
- Willingness to look beyond an individual project’s needs.
- Requirements and policy which provides incentives for stakeholders to share and reuse and penalties for redevelopment or reinvention.

The SSA looks forward to providing future articles to discuss ongoing implementation of the principles and goals of fully interoperable, net-centric CBRN capabilities for the Warfighter. For any questions or suggestions, please contact David W. Godso at godso@spawar.navy.mil. 

THE USAF CIVIL ENGINEER READINESS FLIGHT

By Senior Master Sgt. David, Lemire – Chief, Civil Engineer Readiness Flight

The United States Air Force's Civil Engineer Readiness Flight is one of the many Al Dhafra units working tirelessly on 24/7 shifts, preemptively protecting the Installation from unseen, but no less lethal, threats. The Readiness Flight, divided up into the three elements of Plans and Operations, Logistics, and Training, takes on a three-fold mission at all times to ensure that the base is prepared to operate under any circumstances, to include major accidents, natural disasters and the ever-present chemical,



Senior Airman Jonathan Raschke checks the power control box of the CBRNE detection device after a simulated alarm during training.

biological, radiological and nuclear threat. Leading the Readiness Flight are the Flight Chief, Senior Master Sgt. David J. Lemire, and the Flight Superintendent, Master Sgt. Gregory McWhorter. SMSgt Lemire, a veteran of both the US Army as a Chemical Operations Specialist and a Combat Engineer and the Air Force's Readiness career field, and Master Sgt. McWhorter, a former Air Force Pararescue jumper with years of Readiness experience and multiple deployments, work many long days and nights to ensure every angle is taken care of in their shop.

As with any Air Force operation, the Readiness Flight operates around very strategic and specific planning for everything from a hurricane to an aircraft mishap to a terrorist attack. In the Readiness Plans and Operations element, all disaster preparedness plans are written, reviewed, and implemented, with everything overseen by Staff Sgt. Charles King, a veteran of tours in Baghdad, Saudi Arabia, and a previous tour here in the UAE, among others. Every time a plan is revised, Staff Sgt. King thoroughly combs the revisions for flaws, makes changes, and implements the results. Whether it's an NBC detection plan or a Full Spectrum Threat Response doctrine, Staff Sgt. King and the Plans and Operations element formulate the best ways to protect our Al Dhafra Airmen for continued mission continuation and success.

However, no plan could be implemented without the appropriate supplies. Staff Sgt. Stephanie Werner, NCOIC of the Logistics element, is always on cue to provide equipments, whether it's for the installation's Full Spectrum Threat Response (FSTR) Representatives to implement the Bunker Plan for their units, or for the Readiness Flight to respond to a potential biological agent's dissemination. Working with Staff Sgt. Werner are Senior Airman John Raschke and Airman 1st Class Michael Hardy, all responsible

for mission-ready gear ranging from first-aid kits and litters to chemical and radiation detectors such as an M22 or an ADM-300.

Finally, the Readiness Flight is also responsible for training the installation's Airmen on many functions. This is where the Training elements fits into the equation. Providing formal training courses on items such Disaster Control Group Orientation, Unit Control Center Orientation, FSTR Representative Orientation, and others, the Training element, made up of Tech. Sgt Brian Breech and Airman 1st Class Cory Worden, always stands ready to provide input and answer any questions.

Despite individual element missions, the Readiness Flight also carries a distinct mission that each Flight members is responsible for. The Portal Shield Biological Agent Detection system, helmed by base contractors, but overseen by the Readiness Flight, is an integral system of equipment that provides preemptive warning of a biological agent's presence, in turn providing ample time to prepare the base to defend itself against the unseen, unheard, but very lethal, threat. Should be Portal Shield sound off, the Readiness Flight stands ready to respond, donning the appropriate gear, up to and including their MCU2-AP protective masks, and head out to the equipment to get a closer look, take a sample, and analyze the results. This is no small feat in 115 degree heat!

Although there is no glamour or fame in their work, the Readiness Flight is, and will always be, there for the protection of the installation and for emergency response whenever needed. 



Airman 1st Class Cory Worden puts on a second layer of gloves while getting into his Tyvek protective suit during training.



Hurricane Katrina

Weapons of Mass Destruction Civil Support Systems

*By Lt. Col. Jay Smith,
Product Manager WMD, CSS*

One of the emerging success stories from the Hurricane Katrina disaster response is the performance of the Unified Command System (UCS) fielded by the Product Manager for Weapons of Mass Destruction Civil Support Systems (PM WMD-CSS). The UCS, and its developmental teammate, the Transportable Communications Package (TCP), were initially deployed by the National Guard's Civil Support Teams (CSTs) to provide emergency "reach back" communications for the local civilian incident commanders in the disaster area. Ultimately 14 UCS and 10 TCP systems became the communications lifeline for many county and parish governments and deploying military command posts, providing the only reliable long-distance radio and satellite links to an area completely devoid of electrical power and telephone service.

Before Katrina came roaring ashore from the Gulf of Mexico, the CSTs from Louisiana, Mississippi and Alabama were alerted and rushed to initial locations shortly after the storm's landfall. Additional CST personnel and equipment from 11 other states deployed to the area as the extent of the storm's damage became known. The UCS from the Louisiana was deployed to the upper ramp of the New Orleans Superdome parking lot, and played a key role in requesting help for the flooded city. Unified Command

System and TCP teams arriving from other states were immediately engaged by local county and state authorities and by various military task force headquarters. These CST communicators helped pass timely and accurate reports between authorities and agencies that were struggling to mount a response amidst desperate conditions and often-conflicting pieces of information. They soon found themselves operating 24 - hours - a - day in extreme heat and humidity. The UCS and TCP systems' performance was found to be robust and highly reliable, and its ability to relocate rapidly allowed teams to flex their locations as conditions warranted.

The UCS is a rapidly deployable, truck-mounted communications suite. It is capable of providing KU-band satellite, long-range High Frequency, mid-range Very High Frequency, and shorter range Ultra-High Frequency radio communications on both civil and military bands. It can also function as a radio repeater and relay, and cross-link communications between types of radio signals. The UCS operators are all highly trained in various forms of radio communications, and they often found themselves improvising links they had hardly imagined previously, such as connecting airborne UHF helicopter communications to ground VHF Search and Rescue team radios to ensure coordinated searches of flooded neighborhoods.

Mission: The Analytical Laboratory Systems (ALS) provides the capability to the Civil Support Teams to conduct presumptive analysis of unknown or potential agents at an incident site and transmit that information electronically via the UCS in support of the First Responder Incident Commander.

Mission: The Unified Command Suite (UCS) provides the reachback communications for connectivity with higher authority and technical support agencies, allowing CST commanders the ability to assess the incident scene, advise response, and facilitate access to DoD information in support to the First Responder Incident Commander.

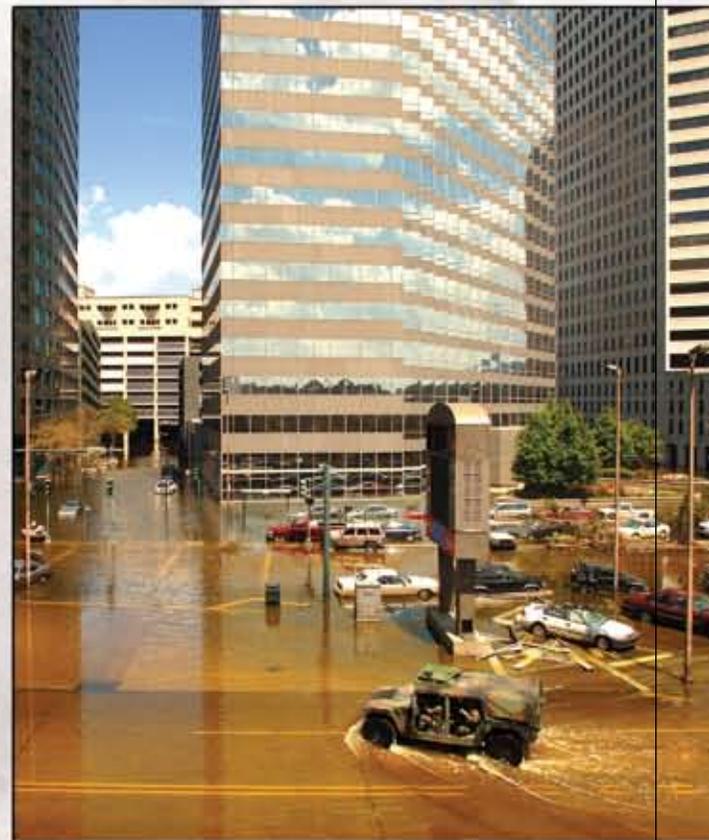


Additionally, the CSTs are equipped with Iridium satellite telephones, which proved invaluable to on-scene civil and military commanders who required long-range voice communications. The UCS-mounted KU band satellite communications provided high-speed Internet connections, which allowed local authorities to pass large reports to agencies responding from outside of the disaster area.

The UCS and TCP systems aren't the only pieces of WMD-CSS equipment being used in the disaster area. The Analytical Laboratory System (ALS), which is a rapidly deployable, truck-mounted laboratory designed to provide analysis of chemical and biological agents, is now being used to test floodwater run-off. The hurricane's surge flooded several industrial facilities in the region, releasing chemicals into the environment. Federal and state agencies will use the test data from the ALS to gauge the types and amounts of pollutants released, and to develop potential remediation plans.

The National Guard headquarters of each state and territory currently has, or is being fielded a Civil Support Team of 22 personnel, a UCS and an ALS, plus ancillary vehicles and equipment. The team's equipment, including the UCS and ALS, are amalgams of government and commercially developed technologies, combined to yield highly flexible, cutting-edge technical capabilities to local civil and military authorities in the event of man-made and natural disasters. The teams normally train and operate under the command of each governor, but are available to respond to a national crisis under federal authority if requested. By early 2006, a total of 55 CSTs will be deployed nationwide, providing a key component of America's homeland security and defense capabilities.

The PM WMD-CSS, of the Joint Program Manager Guardian team, is currently working to test and field upgrades to both the UCS and the ALS in the 2007 – 2008 timeframe.



Civil Support Team Chart →

Civil Support Teams

CST TEAM	Standup Date	Phase
1 ST Natick/Massachusetts	15 Aug 01	Phase 1
2 ND Scotia/New York	26 July 01	
3 RD Annville/Pennsylvania	29 Aug 01	
4 TH Dobbins ARB/Georgia	17 Oct 01	
5 TH Bartonville/Illinois	29 Aug 01	
6 TH Austin/Texas	15 Aug 01	
7 TH Ft Leonard/Missouri	14 Aug 01	
8 TH Aurora/Colorado	26 Jul 01	
9 TH Los Alamitos/California (South)	29 Aug 01	
10 TH Murray Tacoma/Washington	26 Jul 01	
Float		
64 TH Santa Fe/New Mexico	28 Jan 02	Phase 2
11 TH Augusta/ Maine	15 Jan 02	
43 RD Eastover/South Carolina	11 Jan 02	
62 ND Carville/Louisiana	17 Dec 01	
52 ND Columbus/Ohio	26 Feb 02	
91 ST Phoenix/Arizona	11 Jan 02	
55 TH St Paul/Minnesota	17 Dec 01	
101 ST Boise/Idaho	11 Jan 02	
34 TH Blackstone/Virginia	28 Jan 02	
71 ST Johnston/Iowa	28 Jan 02	
41 ST Louisville/Kentucky	11 Jan 02	Phase 3
61 ST N Little Rock/Arkansas	28 Jan 02	
44 TH Starke/Florida	28 Jan 02	
103 RD Ft Richardson/Alaska	12 Mar 02	
95 TH Hayward/California (North)	28 Jan 02	
63 RD Oklahoma City/Oklahoma	28 Jan 02	
93 RD Honolulu/Hawaii	30 Apr 02	
46 TH Topeka/Kansas	14 Mar 03	
51 ST Augusta/Michigan	05 Feb 03	
45 TH Smyrna/Tennessee	05 Feb 03	
35 TH St Albans/West Virginia	05 Feb 03	Phase 4
46 TH Montgomery/Alabama	06 Mar 03	
Trainer		

CST TEAM	Standup Date	Phase
13 TH Coventry/Rhode Island	16 Feb 05	Phase 4
14 TH Windsor Locks/Connecticut	22 Dec 04	
21 ST Fort Dix/New Jersey	28 Jan 05	
32 ND Pikesville/Maryland	9 Mar 05	
42 ND Raleigh/North Carolina	4 Feb 05	
47 TH Jackson/Mississippi	11 Mar 05	
53 RD Indianapolis/Indiana	3 Dec 04	
54 TH Madison/Wisconsin	2 Feb 05	
72 ND Lincoln/Nebraska	24 Feb 05	
85 TH Draper/Utah	22 Feb 05	
92 ND North Las Vegas/Nevada	17 Jan 05	Phase 5
102 ND Salem/Oregon	13 Jan 05	
Float		
32 ND Washington DC		
31 ST Smyrna / Delaware		
83 RD Helena / Montana		
81 ST Bismark/North Dakota		
12 TH Concord New Hampshire		
22 ND San Juan Puerto Rico		
82 ND Rapid City/ South Dakota		
23 RD St Croix/US Virgin Islands		
15 TH Colchester/Vermont		Phase 5
84 TH Cheyenne Wyoming		
94 TH Tamuning / Guam		
Float		



The Joint Program Executive Office for Chemical and Biological Defense Exhibit Booth



Acting quickly after the attacks on September 11, 2001, experts in the chemical and biological community set up observation and monitoring stations to ensure public safety from contaminants. Detection devices collected air samples at the 2001 Olympics and other high profile buildings and special events. Teams carrying Hand-Held-Assays responded to Anthrax scares in the mailrooms of Capitol Hill buildings.

The nation was interested in learning more about how the defense department was able to protect against a chemical or biological incident. One organization managing a great portion of those responsibilities is the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD).

Further achieving this mission is the exhibit static display. This structure provides a foundation for the Subject Matter Experts to give explanations and receive feedback and continues to educate the public on current and developing programs of the JPEO-CBD. The JPEO-CBD exhibits nationwide throughout the year in order to keep the public and industry informed on how the office provides the best technology and equipment to our warfighters. 



SOCOM

CHEMICAL, BIOLOGICAL,



By Stephen Gude, Assistant Editor, Chem-Bio Defense Magazine

The United States Special Operations Command, headquartered at MacDill Air Force Base, FL, hosted its annual Chemical, Biological, Radiological and Nuclear Conference and Exhibition December 6-8, 2005. Held at the Tampa Conference Center and sponsored by the National Defense Industrial Association (NDIA), more than 42 exhibitors from around the nation participated.

RADIOLOGICAL AND NUCLEAR CONFERENCE AND EXHIBITION

Special Operations Command sought to bring together members of the CBRN defense community to share information concerning ongoing and future efforts in order to gain a synergy and unity of Chemical, Biological, Radiological and Nuclear (CBRN) defense effort, according to the conference brochure. The brochure's introduction also included a discussion of planning together, developing smart and efficient strategies for providing the warfighter with the tools he or she needs to defeat the threat, and being prepared to make the tough decisions of what the CBRN community really needs versus what its people might like to have.

"This conference provided us a great opportunity to better understand both the unique requirements of Special Operations Command as well as leverage lessons learned by Special Operations from real-world experiences and apply those lessons for development of general purpose equipment and gear," said Brig. Gen. Stephen V. Reeves, the Joint Program Executive Officer for Chemical and Biological Defense (JPEO-CBD). The conference's objective, "Responding to the terrorist CBRN threat: preparation or panic," dominated the proceedings, and formed the basis for agenda topics and participant briefs. The theme, "what we need versus what we might like," dominated the purpose of the exhibitions, starting with the largest one, from the JPEO-CBD.

"For us, since our equipment is joint by design, we had an opportunity to further showcase the number of general purpose capabilities we've developed," said Brig. Gen. Reeves. "This conference gave us a chance to highlight to the Special Operations community a number of materiel and

gear we have already developed for them."

The conference agenda, synchronizing nationwide CBRN defense efforts in order to create a unity of effort in combating terrorist CBRN threats, was divided into four sections:

- Environment – Tight budgets, undefined threats and a lower sense of urgency by the public as more time passes from 9/11 and the anthrax attacks of 2002.
- Challenge – How does the CBRN defense community continue to fight terrorists who seek CBRN weapons, prepare for a potential CBRN attack, and simultaneously defend current and future CBRN defense programs from the budget axe?
- Two Alternatives – Continue to thwart terrorist CBRN efforts and institute expanded and effective defensive and consequence management plans or hope that the enemy will not get these weapons, and be willing to accept panic and casualties if they do.
- Conference goals – CBRN defensive preparations are difficult, manpower-intensive and expensive. Additionally, there is no overwhelming indication of a successful program other than no attack has occurred. While panic is free, the CBRN defense community owes the American public a better alternative.

The conference's agenda topics included briefs ranging

from CBRN threat updates to an overview of the JPEO-CBD by Brig. Gen. Reeves. Participants from all four armed services and industry professionals attended the briefs. 



'The Reason for Our Success is Our People'





On Friday, January 6, 2006, Maj. James K. Choung was promoted to the rank of Lt. Col., effective 1 January 2006. Brig. Gen. Stephen V. Reeves, Joint Program Executive Officer for Chemical and Biological Defense, presided over the ceremony. Witnessed by life long friends from previous military assignments, co-workers and family members, the highlight of the ceremony was when Lt. Col. Choung's two young daughters, Lizzie and Madeline, led the proceedings in the pledge of allegiance. The official remarks were as follows:

The President of the United States has reposed special trust and confidence in the patriotism, valor, fidelity and abilities of Major James K. Choung. In view of these qualities and his demonstrated potential for increased responsibility, he is, therefore promoted to Lieutenant Colonel, United States Army, effective 1 January 2006, by order of the Secretary of the Army, signed by Jeffrey Boyer, Lieutenant Colonel, General Staff, Chief, Promotions Branch.



