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1999

**[H.A.S.C. No. 106-4]**

HEARINGS

ON

NATIONAL DEFENSE AUTHORIZATION ACT  
FOR FISCAL YEAR 2000—H.R. 1401

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON NATIONAL SECURITY  
HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTH CONGRESS

FIRST SESSION

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MILITARY RESEARCH AND DEVELOPMENT SUBCOMMITTEE  
ON

**TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**

HEARING HELD  
MARCH 11, 1999

MILITARY RESEARCH AND DEVELOPMENT SUBCOMMITTEE

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Robert Lautrup, *Professional Staff Member*  
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William Natter, *Professional Staff Member*  
Erica Striebel, *Staff Assistant*

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Thursday, March 11, 1999, Fiscal Year 2000 National Defense Authorization Act—Domestic Emergency  
Preparedness for Response to Threats of Terrorist Use of Weapons of Mass Destruction

## **APPENDIX:**

Thursday, March 11, 1999

**THURSDAY, MARCH 11, 1999**

### **FISCAL YEAR 2000 NATIONAL DEFENSE AUTHORIZATION ACT—DOMESTIC EMERGENCY PREPAREDNESS FOR RESPONSE TO THREATS OF TERRORIST USE OF WEAPONS OF MASS DESTRUCTION**

#### **STATEMENTS PRESENTED BY MEMBERS OF CONGRESS**

Weldon, Hon. Curt, a Representative from Pennsylvania, Chairman, Military Research and Development Subcommittee

Pickett, Hon. Owen, a Representative from Virginia, Ranking Member, Military Research and Development Subcommittee

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Boyd, David G., Director, Office of Science and Technology, National Institute of Justice, Department of Justice

Cragin, Mr. Charles L., Principal Deputy Assistant Secretary of Defense for Personnel and Readiness

Doesburg, Maj. Gen. John, Commander, U.S. Army Soldier and Biological Chemical Command

Dominguez, Mr. Raymond, Deputy Assistant Secretary of Defense (Forces & Resources), Office of the Assistant Secretary of Defense (Special Operations & Low Intensity Conflict)

Etter, Dr. Delores M., Deputy Under Secretary of Defense (Science & Technology)

Murch, Dr. Randall, Deputy Assistant Director, Federal Bureau of Investigation Laboratory

Raub, Dr. William F., Deputy Assistant Secretary for Science Policy and Science, Advisor to the Secretary of Health and Human Services, Department of Health and Human Services

Stoutland, Dr. Page, Director, Chemical and Biological Nonproliferation Program, Department of Energy

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## **APPENDIX**

### **PREPARED STATEMENTS:**

[The Prepared Statements can be viewed in the hard copy.]

Boyd, David G.

Cragin, Mr. Charles L.

Doesburg, Maj. Gen. John

Dominguez, Mr. Raymond

Etter, Dr. Delores M.  
Murch, Dr. Randall  
Raub, Dr. William F.  
Stoutland, Dr. Page  
Weldon, Hon. Curt

**DOCUMENTS SUBMITTED FOR THE RECORD:**

[The Documents submitted can be viewed in the hard copy.]

Summary of DHHS Anti-Bioterrorism Initiative for FY 2000

DHHS Operating Plan for Anti-Bioterrorism Initiative, Fiscal Year 1999

**QUESTIONS AND ANSWERS SUBMITTED FOR THE RECORD:**

[The Questions and Answers are pending.]

**FISCAL YEAR 2000 NATIONAL DEFENSE AUTHORIZATION ACT—DOMESTIC EMERGENCY  
PREPAREDNESS FOR RESPONSE TO THREATS OF TERRORIST USE OF WEAPONS OF MASS  
DESTRUCTION**

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House of Representatives,  
Committee on Armed Services,  
Military Research and Development Subcommittee,  
Washington, DC, Thursday, March 11, 1999.

The subcommittee met, pursuant to call, at 2:00 p.m. in room 2118, Rayburn House Office Building, Hon. Curt Weldon [chairman of the subcommittee] presiding.

**OPENING STATEMENT OF HON. CURT WELDON, A REPRESENTATIVE FROM PENNSYLVANIA,  
CHAIRMAN, MILITARY AND RESEARCH AND DEVELOPMENT SUBCOMMITTEE**

Mr. **WELDON**. The subcommittee will come to order.

Today the Subcommittee on Research and Development meets to receive testimony on our Nation's capacity to respond to the threat of domestic terrorism involving weapons of mass destruction. This is a fifth hearing that our subcommittee has convened since March of 1996 to address the threat posed to the U.S. and its citizens from terrorist use of nuclear, chemical or biological materials, and the need for improvements in the capacities of emergency first responders, and the overall capabilities of Federal, State and local emergency response agencies to respond to and mitigate the effect of such incidents.

In fact, this subcommittee has considered as its highest priority three emerging threats, the first being missile defense, missile proliferation; the second being cyberterrorism, and we had a significant hearing on this, our fourth in this area, last week; and the threat we see imposed by weapons of mass destruction and the use of those weapons in terrorist incidents. In fact, I take great pride that this subcommittee in a bipartisan way has increased funding over the President's request in each of the past four years. This is not a threat that just emerged with the President's speech in January of this year. We have been consistently concerned with this threat since March of 1996, when we first convened our subcommittee to receive testimony on what we saw as an emerging serious threat.

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Today the subcommittee will focus on the research and development programs that support the domestic emergency preparedness for response to the threat. We will hear witnesses from the Departments of Defense, Energy, Health and Human Services, Justice and the Federal Bureau of Investigation, who will discuss their agency's research and development programs that support the domestic emergency preparedness program.

In January 1999 the President announced that the budget request for fiscal year 2000 provides \$10 billion for government-wide efforts to combat terrorism and protect the Nation's critical infrastructures. Of the \$10 billion, \$8.6 billion is for combating terrorism, including weapons of mass destruction, and \$1.4 billion is for critical infrastructure protection. Of these amounts, \$1.385 billion is for domestic emergency preparedness activities and \$577 million is for research and development of technologies that deter, prevent or mitigate terrorist acts.

According to the report recently received from the Office of Management and Budget, the President's budget request provides a balanced approach to combating terrorism by continuing efforts aimed at conventional terrorist threats and enhancing efforts directed at newly emerging threats involving weapons of mass destruction, and represents an increase in government-wide funding for combating weapons of mass destruction, terrorism, of \$666 million from a total of \$719 million in fiscal 1998.

The Nation's domestic emergency preparedness program for response to terrorism involving weapons of mass destruction is complex and convoluted. Federal departments and agencies have overlapping responsibilities and programs, congressional committees have overlapping jurisdictions. This results in a confusing picture for State and local agencies and for the local emergency first responders who would be the first on the scene in responding to a terrorist incident or natural disaster.

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Similar consideration extended the research and development programs that support domestic emergency preparedness. To address these issues, the Congress in the National Defense Authorization Act for fiscal year 1999 required the President to increase the effectiveness of the domestic emergency preparedness program and to develop a more integrated program of Federal, State, and local levels.

The fiscal year '98 Omnibus Appropriation Act directed the Attorney General, in consultation with the Secretaries of Defense, State and Treasury and Directors of the FBI, Central Intelligence, to develop a 5-year interagency counterterrorism and technology plan that would serve as a baseline strategy for coordination of national policy and operational capabilities to combat terrorism in the United States and against American interests overseas.

It is hoped that the administration's response to this guidance will result in a more coherent and integrated domestic emergency preparedness program. To this end, the subcommittee is interested in today's hearing in gaining understanding of the plans and programs of the Department of Defense that support the Federal domestic emergency preparedness program, and how those plans and programs are coordinated and integrated with other participating Federal, State, and local agencies and within the DOD. As examples, we will focus on the DOD's research and development program and related research and development programs of the Departments of Energy, Health and Human Services and Justice and the Federal Bureau of Investigation.

One of my serious concerns over the past five years has been our focus at the Federal agency level and not involving those first responders, who are the first that will be there in any situation, whether it is terrorism or whether it is a natural incident. And we must understand that those first responders, all 1.2 million of them, represented by 32,000 departments, 85 percent of them are volunteers, have been handling incidents involving materials that we would oftentimes classify as serious materials such as chemical explosions, fires and explosions and hazard material

incidents on rail lines, and they have been handling these incidents for 200 years.

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We need to understand at the Federal level that oftentimes they understand what needs to be done, and rather than reinventing the wheel for them, we should be there to support their efforts in responding to local incidents at the local level. I think we are finally getting that message across, and I see we are finally getting the response that we should have gotten to support those 32,000 local departments.

I can say at the beginning of this hearing this will continue to be my thrust as long as I am in this Congress, and all the agencies know that, and that will constantly be a question that I ask: What are we doing to support the first responder? Because the first one on the scene will not be a member of the Marine Corps Chemical/Biological Incident Response Force (CBIRF) team, will not be a Federal Emergency Management Agency (FEMA) bureaucrat, will not be a member of the Guard or Reserve. The first responder will be a fire or EMS person or law enforcement person who has to make some very difficult decisions in the first 30 minutes, and we better never lose sight of that fact, and that will be my key thrust in this hearing and throughout my tenure as the chairman of this subcommittee and a Member of this Congress.

Today's hearing will be conducted as a series of panels. The first panel addresses the Department of Defense perspective, the intra and interagency process for coordinating weapons of mass destruction domestic preparedness, the DOD support program for domestic emergency preparedness and DOD research and development programs that support domestic emergency preparedness.

The second panel will discuss the research and development programs of the Department of Energy, the Department of Health and Human services, the Department of Justice, and the Federal Bureau of Investigation that support the domestic emergency preparedness program. We will then invite all the witnesses back to the table for questions and answers.

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We are pleased to have as our witnesses for the first panel Mr. Charlie Cragin, Principal Deputy Under Secretary of Defense for Personnel and Readiness; Dr. Delores M. Etter, Deputy Under Secretary of Defense for Science and Technology; Mr. Raymond Dominguez, Deputy Assistant Secretary of Defense for Forces and Resources from the Office of Assistant Secretary of Defense, Special Operations and Low-Intensity Conflict. Boy, that is a real title. I hope you don't have to put that on your name tag on a regular basis. General John Doesburg, Commander, U.S. Army Soldier and Biological Chemical Command. Gentlemen and lady, we welcome you. We look forward to your testimony today.

Before we begin, I want to recognize my distinguished ranking member and good friend from the State of Virginia, and a tireless advocate and leader on these issues, Owen Pickett, for his opening statement.

[The prepared statement of Hon. Curt Weldon can be found in the Appendix.]

#### STATEMENT OF HON. OWEN PICKETT, A REPRESENTATIVE FROM VIRGINIA, RANKING MEMBER, MILITARY RESEARCH AND DEVELOPMENT SUBCOMMITTEE

Mr. **PICKETT**. Thank you, Mr. Chairman, for scheduling this important and timely hearing, and I join you in welcoming our panelists here today. Today's hearing is about a most pressing topic. With terrorist groups publicly threatening American citizens and numerous indications of weapons proliferation around the world, it is extremely

important for our Nation to mount an effective deterrence and response capability. When it comes to a matter involving such high potential consequences, we can never be too careful.

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Initiating a robust research and development program to deal with chemical, biological and nuclear terrorist threats is certainly a necessary approach for ensuring the safety and well-being of Americans, both at home and abroad. While we are not here to debate the administration's policies associated with the effort to date to combat terrorism, I look forward to a review of research and development programs that offer promise to improve our Nation's response effectiveness.

I am most interested in the work currently under development at Defense Advanced Research Projects Agency (DARPA), as well as coordinated interagency research under the direction of both the Technical Support Working Group and the Counterterror Technical Support Program. I am pleased that the administration's budget request includes a substantial increase for these program areas.

I remain most concerned, however, about the apparent shortfalls in our ability to deal with the potential use of biological agents. I am familiar with the few promising anti-bio programs that are in their infancy, and would urge that they receive an added emphasis for fast development and fielding.

Again, Mr. Chairman, I thank you for holding this hearing and look forward to our witnesses' testimony.

Mr. **WELDON**. Thank you, Mr. Pickett.

In the spirit of the way we conduct these hearings, I will invite my colleagues to ask questions as we go along. Your statements will be entered in the record as they are. We would encourage you to say whatever comments you want. If you want to read parts of your statements, that is fine also, but we want this to be as informal as possible so members can ask questions as they see issues arise that they are concerned about. So I would just encourage you to be as candid and fluent as you would like to be.

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With that, it is great to have you back, Charlie. We appreciate all of your good efforts and leadership. Thank you.

#### STATEMENT OF CHARLES L. CRAGIN, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND READINESS

Mr. **CRAIGIN**. Thank you, Mr. Chairman. It is a great pleasure to rejoin you again. If my recollection is correct, our last opportunity was in Indianapolis.

Mr. **WELDON**. It was.

Mr. **CRAIGIN**. And I understand I will be joining some of your fire fighter colleagues on the 21st of April, and we look forward to that discussion as well.

Mr. **WELDON**. You are always accessible.

Mr. Cragin is referring to a hearing that we held, a field hearing, last year at the largest conference of emergency responders in the country in Indianapolis, Indiana. There are usually 17,000 who attend that hearing, and Mr. Cragin

was kind enough to come out, as did others, to give their input directly as to what they thought were their priorities.

More important than attending, you responded to many of their concerns, which I deeply appreciate.

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Mr. **CRAGIN**. Thank you very much, Mr. Chairman, and members of the committee. We are pleased on behalf of the Department of Defense, my colleagues, to have this opportunity to report to you on the activities of the department in providing support to our Nation's first responders, the 1.2 million men and women who place themselves on the front lines of America on a daily basis.

My colleagues will shortly discuss in detail the department's WMD research and development efforts and how those efforts are being tailored to give first responders the technology and equipment they need. But let me try in this brief opening statement to summarize the department's overall approach to preparedness with respect to weapons of mass destruction.

Since President Clinton signed Presidential Decision Directive 62 last May, significant advances have taken place in regard to our efforts to support local and State authorities. PDD-62, also known as the Combating Terrorism Directive, highlighted the growing threat of unconventional attacks against the United States. It detailed a new and more systematic method of fighting terrorism here at home, and it brought a program management approach to our national counterterrorism efforts. The directive also established, within the National Security Council, the office of the National Coordinator for Security, Infrastructure Protection and Counter-Terrorism to oversee these efforts.

Secretary Cohen, Deputy Secretary Hamre, Attorney General Reno, FEMA Director Witt, and Director Clark at the NSC are thoroughly engaged and are giving the challenges associated with this process their direct and continuing attention. With the interagency coordination process having now been formalized under the auspices of the NSC, multiple subgroups have been formed to implement the guidance provided under PDD-62. This method addresses one of the foremost issues that face an undertaking of this magnitude. It helps ensure a cohesive approach, and for the first time it fully integrates the Federal effort in support of the State agencies and, most particularly, local first responders.

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I co-chair the Assistance to State and Local Authorities Subgroup within the Department of Defense and I meet regularly with my interagency colleagues. I can assure you that this process holds great promise and that we are making important headway. For example, the National Guard and Reserve are being called upon to stand front and center in DOD's efforts to provide support to local responders in WMD incidents. Dr. Hamre recently testified that the Guard and Reserve forces are forward deployed all over America.

Last year Congress, as you know, authorized the creation of ten National Guard Rapid Assessment and Initial Detection elements. These RAID elements are designed to be assets of the governors, and the RAID elements will perform three very vital tasks. First, they will deploy rapidly to assess suspected chemical and biological events in support of the local incident commander. Second, they will advise civilian first responders regarding appropriate actions. And, third, they will facilitate requests for assistance. Their initial goal will be to expedite the arrival of additional State and Federal support, and their ultimate goal will be to help save lives, to prevent human suffering, and to mitigate the awful aftermath of these insidious weapons.

Each RAID element will be composed of 22 full-time National Guard personnel. The units will be fully mission capable in January of 2000. In fiscal year '00 five or six additional RAID elements will be organized. Congress



obviously must approve additional full-time National Guard positions for these teams.

Stationing of these additional elements is currently under consideration. Additionally, each of the Reserve components is being called upon to play an expanded role in WMD response. In fiscal year '99 and fiscal year '00, we will train and equip 43 chem/bio reconnaissance elements and 127 decontamination elements in the Army Reserve, Air Force Reserve, Army National Guard and Air National Guard, enabling them to more effectively respond to a WMD event.

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In addition, and at the direction of Congress, the department is working to establish what we call RAID Light teams in each of the States and Territories where a RAID team was not placed. These teams are being established as part of our overall effort to develop a nationwide response capability that has strong roots in the local and State first responder community. They will be established using traditional National Guardsmen and will be built on the RAID model but tailored to the specific needs of different states. The RAID Lights will be structured and trained to provide a modest planning and assessment capability in each of the states and territories.

As you also are aware, the Department of Defense is administering the Domestic Preparedness Program in 120 of America's largest cities. To date, 51 cities have been trained, involving over 14,800 first responders. This program focuses on providing initial awareness, protection, decontamination, and detection training. It includes subject matter experts who can provide expertise and ideas in the areas of medicine, public health, law enforcement, and nuclear, chemical and biological response.

Facets of this program are being transferred to the Department of Justice in order to place the training and equipping roles in one location. Both the Department of Defense and Department of Justice have conducted several forums with first responders. In fact, your hearing in Indianapolis, it gave me a marvelous opportunity to have such a forum with first responders, Mr. Weldon.

Without exception the number one request of first responders has been for the identification of a single Federal agency to lead the training and equipping of first responders. In their words, they seek the ease, the convenience and the predictability of one-stop shopping.

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In an effort to respond to this need, the Department of Defense and the Department of Justice are finalizing an interagency agreement under which the Department of Justice, beginning in October of the year 2000, will replace the Department of Defense as the lead Federal agency for this domestic preparedness training program. Within that framework, the Attorney General has established the National Domestic Preparedness Office, the NDPO, which is up and running at FBI headquarters and is even now furthering integration of our national response efforts. The Department of Defense will continue to support the Department of Justice, both during the transition and following its completion.

We believe these actions clearly demonstrate that we are making real tangible progress toward enhanced homeland defense. Our goal as we move into the 21st century is to have in place an effective, integrated and flexible response mechanism able to respond to a wide range of unconventional threats. Although we can never be fully prepared to respond to all types of events in all locations, we have begun to lay a foundation for an integrated across-the-board response, one that makes sense, and one that is truly responsive to the needs of first responders.

The continued partnership for WMD preparation among local, State and Federal authorities will be essential to our

success. We have made a good beginning. Mr. Chairman, as you know, we are faced with a multi-year effort which requires a long-term commitment, and we thank you and the members of your committee for your leadership in this arena.

Mr. **WELDON**. Thank you very much for your testimony, Mr. Cragin.

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Dr. Etter.

## STATEMENT OF DELORES M. ETTER, DEPUTY UNDER SECRETARY OF DEFENSE FOR SCIENCE AND TECHNOLOGY

Ms. **ETTER**. Mr. Chairman and members of the committee, it is an honor for me to represent the Department at this hearing. As the Deputy Director, Defense Research and Engineering and the Deputy Under Secretary of Defense for Science and Technology, I am the Department's acquisition and technology lead representative to the National Security Council's Research and Development Subgroup addressing Presidential Decision Directive 62 issues.

To address some of the tasks identified by the National Security Council's R&D subgroup, I am leading an internal process to catalogue all procurement, science and technology, and research and development programs using the taxonomy of medical, non-medical, and modeling and simulation for the areas of chemical, biological, and radiological defense countermeasures. Three working groups mirroring the interagency group have been established to cover the breadth of DOD's nuclear, biological and chemical defense community in planning, research, development and acquisition.

To avoid duplication, the DOD's PDD-62 R&D subgroup has used previous studies completed by the Technical Support Working Group and the Public Health Service. These studies were our initial baseline.

The two organizations conducting the studies have been asked by the Office of Science and Technology Policy to lead an interagency process to develop 5-year nonmedical and medical R&D plans. While these taskings were very similar to efforts now undertaken under PDD-62, it was determined that to address the full scope of PDD-62 there needed to be greater depth in order to reach solid, actionable recommendation on how the DOD's research and development efforts could be leveraged to address the intent of the directive.

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Working from these documents and department-wide input, the DOD PDD-62 internal working groups are developing a set of tables describing DOD activity in the medical, nonmedical, and modeling and simulation research areas. Development of the tables has involved four steps.

First, the working groups evaluated requirements provided by the Technical Support Working Group based upon their work with the interagency partners. Second, a list of all available military off-the-shelf equipment was identified as potentially meeting some of the requirements. The third step involved extending the time frame to evaluate future programs as they are articulated in the DOD's Future Years Defense Plan. The last step is involving an attempt to evaluate gaps and shortfalls in the current or planned programs where the program may not meet the needs of local and State agencies. The last step is crucial for planning future R&D strategies across the Federal agencies involved in this enterprise.

To date the tables have been completed for the data elements relating to existing and planned DOD programs and

activities for chemical, biological and radiological countermeasures. Upon completion of the DOD's working group analysis, the department expects to provide the information to the Research and Development Subgroup of the National Security Council's Weapons of Mass Destruction Preparedness Group.

While we have developed a centralized list of all programs, the utility and applicability of the list in the context of future civilian emergency response capabilities is not entirely apparent at present. Indeed, it is unclear that military items in development for battlefield use are suitable or are the most appropriate for local and State agencies.

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Certainly there are opportunities for technology dual use, if not direct. Evaluation of military research and development products for direct use by the emergency response community will require more formal testing and certification mechanisms than is present today. The department will continue to work within the PDD-62 framework to leverage defense technologies in our nuclear, biological, and chemical defense programs and provide functional expertise and information to assist in meeting civilian responder equipment requirements. Thank you.

Mr. **WELDON**. Thank you, Dr. Etter.

General Doesburg.

#### STATEMENT OF MAJ. GEN. JOHN DOESBURG, COMMANDER, U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND

General **DOESBURG**. Good afternoon, Mr. Chairman and members of the committee. It is a pleasure to appear before you to provide a summary update of some of our activities supporting domestic responders, particularly to a WMD terrorist event.

As was said before, I am the Commander of the Soldier and Biological Chemical Command or SBCCOM, and I will use that acronym. It is a little easier for me. We in the military use them all the time.

I am responsible for supporting the Department of Defense in the execution of two programs that benefit the Nation's responders to weapons of mass destruction terrorism incidents. These programs are the Domestic Preparedness Program and a consequence management program.

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These programs are executed in conjunction with the other services and other Federal agencies, such as the Department of Justice, Federal Emergency Management Agency, Department of Energy, Department of Health and Human Services, and the Environmental Protection Agency. The functional experts within SBCCOM are using their technical and problematic expertise that they have gained since 1917, many, many years in executing these programs.

SBCCOM is responsible for much of the Department of Defense's research, development and acquisition in the areas of individual protection and chemical/biological defense. We conduct basic and applied research, development and engineering, acquisition, integrated logistics, materiel readiness management, and maintenance support functions for all chemical/biological and soldier defensive nonmedical systems and equipment.

We work closely and collaboratively with the Army's Medical Research and Development Command at Ft. Detrick, Maryland, specifically for medically related efforts. We also work with Dugway Proving Ground, Utah, for systems level/operational field testing, and Pine Bluff Arsenal in Arkansas for manufacturing and readiness

sustainment efforts. We are relying on these extensive research and development tests and evaluation, acquisition, readiness and sustainment background to develop and enhance the Nation's response to chemical and biological incidents.

The Domestic Preparedness Program is focused on improving the response to weapons of mass destruction terrorist incidents at the local, state, and federal level. Beyond the 120 cities that are currently being trained and exercised and equipped in our effort, we have established several other efforts which use SBCCOM's technical and functional expertise to provide information in a manner that is useful for our first responders.

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In addition to the helpline, hotline and web page, the Expert Assistance Program conducts chemical agent and simulant testing to determine performance of equipment in chemical and biological environments. The testing is managed and conducted by SBCCOM and will leverage the defense test and evaluation infrastructure.

The test data is provided on a domestic preparedness web page, and we do this as reports are completed and released. The intent is to enable the local and state response organizations to become more informed and become more informed consumers as they acquire equipment to prepare their communities.

Currently our testing efforts are based on the procedures we use for testing equipment used by the military. We challenge the items with quantities of agent and simulants that, based on our expertise, should be valid for a domestic terrorist incident. We use the extensive modeling and simulation capabilities of the Department of Defense to determine valid challenge levels in a domestic setting.

We are providing technical support to National Institute for Occupational Safety and Health (NIOSH), to Occupational Safety and Health Administration (OSHA) and other regulatory agencies as they develop the standards and associated test methodologies for these types of response equipment. Once the standards are established, our programs for testing civilian response equipment will be modified accordingly.

Several types of equipment have been tested to date. Our test program has been structured to conduct this testing in phases so that we are able to address new equipment and upgrades as they are made by the manufacturers. To date we have conducted tests of the following items, and these items are on the web page: What is listed as a Level A suit, Level A suit being a full protective ensemble; Level B suit, which is somewhat less; powered air purifying respirators; self-contained breathing apparatus hoses; chemical detectors; boots; and gloves.

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We have also established an Improved Response Program to systematically review and enhance the response to chemical and biological terrorist incidents. This effort is evaluating equipment in conjunction with the aforementioned testing effort and response procedures commonly used by responders to determine their utility in a weapons of mass destruction incident. The Improved Response Program is reviewing chemical responses separately from responses to biological terrorist incidents.

The Chemical Warfare Improved Response Program is continually examining and enhancing the response to CW incidents, using the city of Baltimore and the surrounding counties and responders from across the Nation to assist in this team effort. The major emphasis of this team is to address the issues of protection, detection and decontamination during a chemical weapons incident. The program recognizes that while most communities have some capability to respond to a hazardous materials incident, they have not fully addressed a response to a chemical weapons terrorist incident.

The chemical weapons program has conducted testing of fire fighters' turnout gear to determine the protection it provides in various chemical scenarios. Evaluations of protective equipment for law enforcement and health care providers operating around the incident perimeter are also being conducted.

Additionally, the team has evaluated technical studies and conducted field evaluations to determine the best practices for mass decontamination of individuals. The chemical detectors available at hazardous materials units have been identified and some testing has been conducted to determine if they could detect chemical warfare agents. The performance of these detectors was also evaluated in the presence of possible interferents.

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As the team continues improving the response to a chemical weapons terrorist incident at the local, state, and federal levels, additional issues are also identified. The team conducts market surveys and equipment evaluation to identify solution to the gaps or those issues. If commercial equipment is not available or directly applicable to the need, requirements are defined and are provided to OSD's Technical Support Working Group (TSWG) for its efforts. Mr. Dominguez will describe the TSWG in his testimony, and some of those efforts that are currently ongoing.

As we began our efforts to address the response to a biological incident, we found that there was little or no response to build on. Because of that situation, the Biological Warfare Improved Response Program has as its focus to outline the response to a biological incident and evaluate equipment and procedures for enhancing the response at the local, state, and federal level.

The BW program has developed a template for response to a BW incident by conducting a series of workshops and scenarios using a team of responders from across the Nation. As a template was developed, gaps were identified. The technical and operational requirements of these gaps were defined and the gaps were prioritized for work efforts. The template has been documented in our report, which will be posted to the domestic preparedness web page following its release.

We have also established a process to validate components of the template and systematically demonstrate the response template. A process has also been established to address the gaps with various other agencies, since many of these gaps fall in areas outside of our expertise and must be integrated into a total response. As solutions are defined and developed we are feeding them into the template and validating the process.

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The other program Soldier and Biological Chemical Commands—Soldier and Biological Chemical Command supports is the Consequence Management Program, which is establishing state and regional response teams within the DOD Reserve component. Sir, you can probably understand why I say SBCCOM. Even I have trouble with the entire name. SBCCOM supported the development of the Utmost Advantage resource management model developed by the Consequence Management Program Integration Office.

Much of the initial equipment provided these teams is military or commercially available. We are using tried and true and tested products. Market surveys are conducted to identify product improvements for the next generation of equipment. Emerging technology will be used as we see it and, if we find it promising as advanced technology.

Representatives from SBCCOM are participating on the Interagency Board for Equipment Standardization and Interoperability. This board consists of subject matter experts from local, state, and national response organizations, is co-chaired by DOD and DOJ.

This board has developed a standardized equipment list for WMD response operations which ensures equipment standardization and interoperability at the local, state, and federal levels. This is a list of functional items, yet our equipment test program provides data on specific items within each functional category.

After the transition of the Domestic Preparedness Program in fiscal year '01, the Department of Defense focus on the Improved Response Program will be to continue to enhance the capabilities of our Reserve component response teams and our installation responders, as well as to continue our support to the Department of Justice as they request. SBCCOM functional experts will continue to support this initiative as we have supported the Domestic Preparedness Program and the Consequence Management Program thus far.

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Thank you, Mr. Chairman.

Mr. **WELDON**. Thank you, General.

And finally Mr. Dominguez. Welcome.

STATEMENT OF RAYMOND DOMINGUEZ, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR FORCES AND RESOURCES, OFFICE OF ASSISTANT SECRETARY OF DEFENSE, SPECIAL OPERATIONS AND LOW-INTENSITY CONFLICT

Mr. **DOMINGUEZ**. Thank you. A few minutes here just to set up some equipment that I will be talking about later in my presentation.

Mr. **WELDON**. You are not going to be using any agents on us, are you? There is a better way to get our attention than to do that.

Mr. **DOMINGUEZ**. Good afternoon, Mr. Chairman, members of the committee. I am pleased to be here today to update you on the Counterterror Technical Support Program, or CTTS as we call it, and the interagency Technical Support Working Group, or TSWG. Additionally, I will update you on how some of these activities of both the CTTS and the TSWG have become increasingly important to state and local agencies involved in domestic preparedness.

In February 1997 the committee received a comprehensive briefing along with a display of counterterrorism and antiterrorism equipment developed under the CTTS program. In November 1997 I updated the committee on the progress of that program and specifically how it was increasing support to first responders. Much has happened over the last 15 months, and I am pleased to update you on that progress, but first I would like to review what the CTTS program and the TSWG programs are.

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As you recall, the CTTS is a fast track research and development program that addresses domestic and international aspects of terrorism. CTTS projects are selected to meet the requirements identified and coordinated, through the TSWG, with other U.S. agencies and three countries: Israel, Canada, and the United Kingdom.

The CTTS program and the TSWG are long-standing and important parts of DOD's strategy to combat terrorism. Both track technology development in other DOD and interagency programs that may have applicability to overall U.S. efforts to combat terrorism. These include numerous technology development activities conducted by Defense



Advanced Research Projects Agency (DARPA) and the DOD Joint Chemical and Biological Defense Program. For example, the Chemical and Biological Defense Program is developing improved decontamination methods that will meet consequence management needs, so the TSWG takes these projects into account when developing its annual projects list.

Both the domestic and international programs provide us with opportunities to combine our efforts, avoid duplication, and accelerate placing equipment in operational use. The DOD executes this program to address the domestic and international requirements identified and prioritized by the Technical Support Working Group. Typically, equipment prototypes are fielded in one to three years. However, we are finding that longer term R&D is becoming necessary to find solutions to some very difficult operational problems.

The Technical Support Working Group is a unique forum where both user and developer representatives from eight U.S. departments and over 50 U.S. organizations identify, coordinate and prioritize R&D requirements and recommend projects for funding. TSWG includes representatives from Defense, State, Justice, Transportation, Treasury, Federal Emergency Management Agency (FEMA), Public Health Service, and the Central Intelligence Agency (CIA). In addition, the Technical Support Working Group includes and continues to increase its focus on the needs of state and local law enforcement and emergency agencies.

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Participation in the TSWG by Federal agencies such as the Federal Bureau of Investigation (FBI), the National Institute of Justice, FEMA, and the Public Health Service, ensures that the activities of the working groups take into account the needs of state and local responders. As you know, these agencies provide information assistance to state and local first responders. Their involvement is important to the U.S. program to support first responders through sharing information, technology, capabilities, procedures, and to identify first responder requirements.

As I stated earlier, it has been an eventful 15 months for TSWG. TSWG has added the FBI to its Executive Steering Committee, and has also invited state and local representatives to participate directly in its process. Represented on the TSWG are the Capitol Police and the Virginia Department of Emergency Services.

Additionally, the TSWG has begun an outreach program to ensure that we are addressing adequately the needs of and getting the word out to state and local responders. This program includes participating in meetings of the International Association of Bomb Technicians and Investigators, International Association of Chiefs of Police, Congressional Fire Services Institute, National Association of Technical Investigators, and cosponsoring a FEMA conference on emergency management. The TSWG has also welcomed National Guard and Reserve participation by including their R&D requirements in the TSWG interagency process.

The DOD, through the TSWG process, was a key participant in working with the Department of Justice to develop the technology portion of the Attorney General's 5-year Interagency Counterterrorism and Technology Crime Plan. The Technical Support Working Group has been and will continue to coordinate with the National Domestic Preparedness Office and the Office of Justice Programs to ensure that in meeting domestic preparedness needs, there is a streamlined approach that avoids multilayering of organizations, focuses coordination of R&D activity at a single point in government, and provides state and local jurisdictions effective access to state-of-the-art technology.

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I now want to bring to your attention a few projects. I have got them in my statement. I have some additional ones, but I just wanted to highlight a couple of the projects for fiscal year '99 that the counterterrorism support program is addressing for first responders at the Federal, State, and local levels.

You will hear a lot about detectors, and a lot of detectors are geared toward detecting military grade chemical agents but we have not tested these chemical detectors against ingredients or agents you can find on the Internet, so we are going to run an evaluation program of existing chemical agent detectors against the eight threat agents most likely to be encountered by first responders. This is a joint TSWG/National Institute of Justice (NIJ) effort that relies on the threat study that TSWG is conducting in cooperation with NIJ.

We are also developing a process, a capability for purpose of evidence of chain of custody to gather samples of air, water, and soil for later analysis for the presence of chemical and biological agents, and this project we are doing jointly with the National Institute of Justice.

Now I would like to update you on some of our completed or nearly completed projects that relate to domestic preparedness. As you may know, state and local responders have already had in their inventories a Percussion Actuated Non-electric Disrupter. It is called the PAN Disrupter, and right now it is to disable explosive devices. It was developed by TSWG, and through the FBI is in the inventory of every bomb squad in the country.

What I would like to do is start with the—I will start from your right and work to the left. But two years ago we demonstrated a suit that provided protection from chemical/biological and explosive threats. While this suit was fielded with DOD users, it never made it into the hands of state and local responders because it was not NIOSH approved. We are about to correct that situation.

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The manufacturer of the system has developed a newer, lightweight version known as the SRS-5. When combined with existing NIOSH-approved self-contained breathing apparatus such as the Biopack 240, the system will provide the bomb squad member with protection from both explosive and chem/bio threats. We are working jointly with the National Institute of Justice to fully test the suit against the full range of threats, evaluate options for lowering the system cost, and perform a limited field evaluation with bomb squads across the country.

The real-time radiography or the RTR-4 is a system used by bomb squads or other emergency responders to determine the contents of a suspicious package. This system will provide responders with critical information to help identify whether a threat is an explosive device, a chemical agent, or a biological agent.

It is an x-ray system, basically. In previous days we used to take an x-ray film, take a picture of what is in the contents, go back and develop it. If there is a problem with the picture, you have to go back and do it again. This is a real-time system. It uses digital x-ray processing, and we can set it up and an operator at a distance can evaluate the contents of the package and make a determination on whether it is a threat or not. This system is now commercially available.

The x-ray pulse controller, the next piece or item, is when some bomb components are sensitive to x-rays and this device allows responders to x-ray devices without the danger of detonating the device. This is an example of an improvement that will be made on the RTR-4. This was designed for both state and local responders as well as military explosive ordnance disposal forces, and it is going through technology transfer and will be commercially available before summer.

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Everything we do is not high-tech. We do some things that are not high-tech. Right next to it are called overpack bags and basically are simple plastic bags. It is an example, as I said, of a non-high-tech piece of gear. These bags are



intended for use by civilian and military responders. When suspicious material or a device is discovered and is determined it can be moved safely, the item would be placed in the bag for proper transport and then for further analysis.

This is now commercially available. The project is complete. It was originally asked for by Special Operations forces. It is now available to the Marine Corps CBIRF and State and local responders as well as the Army tactical escort unit.

The next device is a modular universal training device, and this device was again designed for both civilian bomb squads as well as military explosive ordnance disposal teams. It simulates booby traps that may be associated with improvised explosives, whether they be chemical, biological, or just explosive agents. And this system is now commercially available at the state and local agencies.

The next—that was over here—the next one is a hand-held radiation monitor. This was a piece of equipment that was originally requested by Special Operations forces, basically shooters going into an environment where there may be some nuclear material. It is small. It can be strapped to the body, but basically it is to detect gamma radiation and neutrons. While it is more expensive than existing gamma-only detectors, it is extremely important to detect both types of radiation when searching for a threat device. This system is now, as of last week, commercially available.

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The next item is a nuclear material identification system. Sometimes it is not only important to know that there is some nuclear device around, but what kind of material is it? This system was designed to specifically identify what the nuclear material is. It relies on gamma spectroscopy, is intended for use when a radiation detector finds nuclear material and the users need to know if that material is either a threat or some commonly found either industrial or medical isotope. There are currently three systems on the commercial market that perform this function, and this is the least expensive one.

The next one is a mini chemical agent detector. The system is based on surface acoustic wave technology and detects the presence of both nerve and blister agents. It is one of the lowest cost electronic detectors, and is now commercially available as well.

And the final one is a chemical agent detector. It is much more expensive. It is much more complicated. It will identify the specific chemical agent that it has detected and provide information that can be collected and used later in a laboratory for analysis, but it is also software programmable. If there are any things that need to be changed, rather than changing the hardware we can change the software in it, if we have to change any of the details that aid it to incorporate any additional technology.

TSWG places a high priority on transferring technology to ensure that it is available to state and local responders. To facilitate that technology transfer, TSWG is working directly with the Office of Law Enforcement and Corrections Technology Transfer Center. In fact, an individual from this office is now a consultant to TSWG to address issues related to technology transfers, so we see this as a very important and key aspect in getting the equipment out to the first responders.

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We would also like to recognize the tremendous value and support provided by the U.S. Capitol Police Hazardous Devices Unit. Their active participation in the TSWG process helps ensure that items developed by the program meet the user needs and gain broad acceptance at the state and local level.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Cragin, Ms. Etter, General Doesburg and Mr. Dominguez can be found in the Appendix.]

Mr. **WELDON**. Thank you, Mr. Dominguez. Thank you, each of you, for your testimony. Let me begin by saying that we appreciate your being back here again. We have had similar demonstrations of technology in the past, and you have been kind enough to share these with emergency responders as they have assembled here in Washington, and we appreciate that.

I want to start out in the broad context of my concern about the total R&D budget in the country and the need for us to keep R&D funding up because of the kind of work you are doing. We spend about \$80 billion a year on research at the Federal level. About \$38 billion of that goes through Defense accounts which my subcommittee, our subcommittee, overseas. About \$42 billion is through the other agencies that are nondefense. And unfortunately we have not seen the steady increases in R&D spending that I think we should see.

To that end, we are mounting an aggressive program this year to try to begin to sensitize members on the need to continue to focus on new technology, whether it is information technology or the kind of technology that you are showing us here. In fact, we are looking to develop a special hearing room, if you will, a virtual reality hearing room, to be able to bring technology and make it real for members as compared to the way we have done things in the past.

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To that end, I would like to invite each of you and the other agencies that will be testifying to what is being billed as the first major R&D conference in the country, where every Federal agency that spends R&D money is being asked to showcase the kind of technology they are investing in, so that we can take members and staffers and academics and researchers to one site at one time and showcase the kind of technology we are developing with taxpayers' money. The idea here is to not only make the case for continued emphasis on R&D but to look for ways to develop new relationships with perhaps new suppliers and new researchers.

Your agencies have been sent information on this, and in fact all this leadership of DOD will be there, from John Hamre to Jack Gansler to Frank Fernandez to Admiral Owens and General Lyles and across the board. Neal Lane from the White House will be there, as will the head of National Institute of Health (NIH), Dr. Varmus; the head of National Aeronautics and Space Administration (NASA), Dan Golden; the deputy director of the National Science Foundation; and every other major agency that spends R&D money. I will ask you all to consider, and the other three who are going to testify, participating in that conference in April.

Let me get into some of the substance here. I appreciate the overview you gave, but what troubles me is I went through the process, both before I came to Congress when I was a mayor and a county commissioner, and now here, of seeing the emphasis started by Jimmy Carter to coordinate all of our emergency response under Federal Emergency Management Agency (FEMA). It seems to me like FEMA is lost. I don't hear anybody talk about FEMA anywhere.

I know James Lee Witt very well. In fact, he is very frustrated. I think it was a year or so ago when he called me on the phone. He said, "Curt, I am so frustrated, I am pulling FEMA out of the directorate role."

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Where does FEMA fit into this new process, Mr. Cragin?

Mr. **CRAGIN**. Mr. Weldon, as you are aware, FEMA serves for consequence management purposes under the Federal response plan as the lead Federal agency, with the Department of Justice serving as the lead Federal agency for crisis management. Nothing has changed with respect to that. The Department of Defense, for example, is in a support role and provides a support role to both the Department of Justice for crisis management and FEMA for consequence management.

I think the issue of the National Domestic Preparedness Office was an issue that all of the leadership, as I mentioned in my opening remarks, met and discussed. Attorney General Reno, Deputy Secretary Hamre; James Lee Witt; Richard Clark, the director at National Security Council (NSC); and Blair Bryan representing Director Freeh. They reached a conclusion, based on the input they were getting from Attorney General Reno's first responder focus groups and what we were getting in the Department of Defense from first responders, that we needed one-stop shopping for these issues.

The Department of Justice, through its Office of Justice Programs, was administering an equipment grant program to first responders. At the same time, the Department of Defense had been directed by the Nunn-Lugar-Domenici legislation to essentially stand up the Domestic Preparedness Training Program. It made eminent good sense, as emphasized by the first responders, to get this in one place. And we felt, inasmuch as Congress in its wisdom had indicated that once it was stood up by the Department of Defense, that the President had the ability to transfer it, that the time was ripe to get it all in one shop.

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Mr. **WELDON**. I don't disagree with that, but if you look at the history of emergency response in this country, the first effort was actually created by Richard Nixon when he created and did a report on primarily the fire problem in America. That was in the broader sense of not just fires but disasters, which led to the creation of the U.S. Fire Administration. Jimmy Carter then came in and broadened that out to include FEMA, to bring civil defense in with that.

What you have today, and I agree with you, the single point is necessary, but you have confusion. And I say it is primarily, in my opinion, because of the weakness of the U.S. Fire Administration which is under FEMA. Now with the U.S. Fire Administration still in place, running the only major national fire command operation at the U.S. Fire Academy at Emmetsburg and the National Emergency Response Center in Emmetsburg, we are shifting fire training to the Justice Department, which has no jurisdiction or no relationship to the FEMA training efforts for the emergency responders which they have been used to for the past 20 years.

Mr. **CRAGIN**. I am not sure that we are doing that, Mr. Chairman. I think what the National Domestic Preparedness Office is designed to do is to serve as that coordinating conduit for all of the agencies of the Federal Government in bringing their individualized expertise to bear on the challenge.

I think at the same time, as I mentioned, the PDD-62 management structure that is now in place, that brings all of the interagency players to the same table. At the management level it meets every other Wednesday. At the subgroup level we meet on a fairly regular basis. I am, as I mentioned, the co-chair of assistance to State and local authorities within the Department of Defense. At the NSC PDD-62 management level we meet essentially every other week, as well. So there is a significant amount of coordination, as I alluded to in my opening remarks, that didn't exist before PDD-62, and the President essentially said we need to bring management and organization to this challenge.

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Mr. **WELDON**. I don't disagree with that, but if you are an emergency responder, as I once was, and a chief officer of a volunteer company and a training director, they look at their national training focus not through the Department of Justice. They look at Emmetsburg as their National Training Center, so in effect you still have confusion.

Now, I am not saying that what we are doing with Justice is wrong because I have seen some good things happen there. But I am telling you that from the emergency responder who has been sending their chief officers and line officers to Emmetsburg for years to get their command training and their oversight training, all of a sudden they are being told now that Justice is going to do that training, and I think it is not based on logic. I think it is because Justice was more aggressive in grabbing that function than was the U.S. Fire Administration, which has been not a weak link, I think it has been a nonexistent link.

As a result of that, my point is not to necessarily say that it is wrong but to say that there is still some confusion there, and that confusion is because the emergency response network in this country sends their people to Emmetsburg to receive their coordinated training, and FEMA oversees that, yet they are being trained by DOJ. And now we are doing a whole new effort that I support with Texas A&M and the folks in Alabama, which was partially congressionally mandated to create another training network.

We have got to get over the confusion that has been created, that still exists in that area. I am not saying it is your fault because it is not.

Mr. **CRAGIN**. I agree entirely with you, and I think a perfect example of working to eliminate this confusion is bringing this all together, the consortium that you alluded to. In the last session of Congress, the Department of Defense was directed to establish a first responder training facility at Pine Bluff, Arkansas, and we have taken that direction and we have amalgamated Pine Bluff into this consortium, so that all of these folks are working together in trying to leverage and synergize these very limited resources.

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There is no question, Mr. Weldon, you are absolutely correct, people have looked for years at specific training entities. The fire fighters have gone to Emmetsburg. The law enforcement folks have gone to Quantico in many instances. That sort of specialized training will always continue. But when we have generic training opportunities that cover, as the Domestic Preparedness Program does, fire fighters, emergency medical technicians, hazardous materials, et cetera, that needs to be coordinated.

And we also have to marry up these standard equipment lists with the training, so that people are getting training on equipment that becomes interoperable and crosses jurisdictional line. When we did the Keystone exercise in Philadelphia last fall, one of the things we learned was that the fire people couldn't talk to the police people because they didn't have interoperable communication.

Mr. **WELDON**. That is true all over the country.

Mr. **CRAGIN**. You are absolutely right, and these are the sorts of things that I think this much more robust management function can do, is bring a lot of this to the table and get it resolved.

Mr. **WELDON**. I for one don't think that the Defense Department should be asked to pay the cost of that, and I am going to address that in a piece of legislation that we are going to draw up next week which would authorize \$1 billion a year over five years for fire and emergency response equipment. I am going to get into that in a moment. And

it is not going to come from the Defense budget because that has been the wrong approach.

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Mr. **CRAGIN**. We appreciate that.

Mr. **WELDON**. Let me get to the second point I want to raise. We have a lot of good things happening, but as much progress we are making, I still think there are some things we should be doing quicker.

During my 13 years in Congress I have tried to make as many disasters as possible. The World Trade Center bombing, the Loma Prieta earthquake, Hurricane Andrew, I have been to all of them. At the Loma Prieta earthquake, when we were walking the freeway with the fire chiefs and the incident commanders for Oakland and San Francisco, California and they were still searching for people that were trapped in between, that was a monumental disaster which could equally have been an incident involving a nuclear weapon. The situation is the same. There is no difference here. You have got a situation you have got to deal with.

Mr. **CRAGIN**. Except it would have been a contaminated environment.

Mr. **WELDON**. But they were looking for people and they were using dogs and I said, "Why aren't you using thermal imagers?" And they said, "We don't know what they are."

I came back—this has been eight years ago, I think, around eight years—and introduced legislation called the Disaster Inventory Control Act for America, which asks FEMA and the military to develop a computerized inventory that incident commanders could tap into to tell them where they could access resources on the scene that could benefit them, whether it was structural engineers, as Chief Morris Meade in Oklahoma City, or whether it was thermal imagers, as the Chief of Oakland in California. My knowledge is eight years later we still don't have that done, do we?

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Mr. **CRAGIN**. I am going to defer to Ray, but I know that is one of the things that TSWG works on and one of the things that the interagency board that is set up under the NDPO is at, is the various types of equipment that can be utilized by all of these professionals, whether they are the urban search and rescue teams that are operating under the auspices of FEMA—

Mr. **WELDON**. It is not your obligation but my point is, eight years after that suggestion was made, which is a relatively simple suggestion, take what resources we have in the services and in the agency network, put them into a computerized system so that a local incident commander with a laptop computer can punch in what he or she needs and know where to go to get it, and eight years later I don't think we have it.

Mr. **DOMINGUEZ**. We have been focused on capability, not on inventory of what is available, what can be done. If it is off the commercial market—

Mr. **WELDON**. I meant for emergency on the scene. If you needed a structural engineer and you didn't have that resource local, how would you get it? Where could the Federal Government provide any support or something that the military has in its inventory?

Mr. **DOMINGUEZ**. We have not worked on that.

Mr. **WELDON**. Let me ask another question. How much does the suit cost that came in, approximately?

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Mr. **DOMINGUEZ**. We don't have a handle on that yet. We know what the biopack is but we are not sure of the suit.

Mr. **WELDON**. The last time I think the suit we saw was around \$35,000, maybe less? Just give me a ball park estimate. I am not going to hold you to this.

Mr. **DOMINGUEZ**. We think it is down to around \$16,000.

Mr. **WELDON**. How much is the basic monitor for either a chemical, biological or nuclear detector? How much would a basic one cost?

Mr. **DOMINGUEZ**. The hand held-one, the radiation monitor is about \$2,500.

Mr. **WELDON**. How about a biological detector?

Mr. **DOMINGUEZ**. We don't have a biological detector.

Mr. **WELDON**. I have seen some work being done on those, simple work, I think at Lincoln Labs or one of the labs.

Mr. **DOMINGUEZ**. We are watching the technology on the biological side, but that is a tough one.

Mr. **WELDON**. I guess my point gets down to this. Thirty-two thousand departments are the first in at the scene, need to be able to know in the first ten minutes, not when the CBIRF team arrives, not when the Reserves are activated by the governor, not when FEMA comes in, because the local FEMA emergency response person—but they need to know in the first ten minutes, do I have an agent—the local responders, 85 percent of whom are volunteers, have to buy that \$2,500 piece of equipment, have to buy that \$16,000 suit. Are we giving them any money to do that?

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Mr. **CRAGIN**. I am going to let the Department of Justice respond directly, but yes, there is money in the Department of Justice budget for equipment grants to first responders, Mr. Chairman.

Mr. **WELDON**. Isn't that being aimed primarily to the 125 largest cities that are being trained?

Mr. **CRAGIN**. They have been looking at a different list that had included the 120 cities, but I think had 157 jurisdictions, but that is one of the things that we are looking at as part of the interagency PDD-62 management group.

Mr. **WELDON**. Just before I turn this over to my friend, and I will ask other questions following him, my point is a simple one. We are doing a good job in the research area, and I am going to continue to support you and I know Owen will, and give you the money you need to keep doing the good work.

But for all this investment we are making, I am concerned about the groups that have to buy this equipment, to use it, not sitting in a Reserve office some place waiting to be activated by the governor, not sitting in a county emergency

response office, but on the first in piece of apparatus so that first responder can tell what he or she has. In a very, very superficial way they can make a pinpoint determination, but if they can't determine, we are going to see what we saw in Japan with the Sarin gas attack. The first wave is going to be wiped out, and that is where our focus has to be.

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What frustrates me so much, and this gets at the issue of supporting the efforts that Justice has started, is we have taken care of our police. We are throwing billions of dollars at our police, and I support much of that. We buy their vests for them now. We pay for the COPS Fast program. Well, they are all paid.

Eighty-five percent of our first responders in this country are volunteers. One hundred of them on average a year are killed in the line of their duty. What have we done for them? Where is the program to protect their health, safety, and well-being? Are we spending the billions of dollars in Justice for them that we are for law enforcement officers?

We lose 200 police a year. That is on average. They are paid for their job and they are well-protected. They all have vests on, and we provide half the costs of those vests, and we are paying for more officers.

We are not doing beans to supply the first responders in this country. To me that is disgusting because a hundred of them are killed each year, and there are volunteers running chicken dinners and having tag days to buy a \$2,500 detector to tell whether or not they have a chemical or biological agent that they are trying to deal with, and have to buy a \$16,000 suit after having bought a \$700,000 piece of equipment, a fire truck, or a \$500,000 pumper to respond to their disasters.

This country better change and better understand. That is the group of people that I want us to start paying attention to. And it is not your problem, but it frustrates me.

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You said it, Charlie, when they go to an event, an incident, they can't communicate. I went to the World Trade Center. They had no command center where Alcohol, Tobacco & Firearms (ATF), FBI, the Port Authority police, the city police and the fire department could all talk to each other, because all the radios were on different frequencies. There was no command center where they could interconnect and talk about what they were doing.

That is New York City, where the largest collection of our people are. If they can't do it, how can we expect any other area of this country, after they are trained to be able to respond, to get to the scene, they are well trained, they are gung-ho, they know what to do, yet on the phone they can't talk to each other. What good is the training? Or they get trained on the use of detectors and they can't maintain them because we don't give them the money.

I am not talking about the 125 largest cities. All 32,000 departments need to have some basic preparation for what they are eventually going to face. The department I was involved in was a city of less than 5,000 people. In 1975 there was the largest incident in the country. Two tankers collided. Killed 29 people. Gave off toxic material for three days. Burned out of control.

You never know where these incidents are going to occur. It could be in the town of 2,000 or it could be in a metropolitan area. But my point is, while we need to continue the research, we need to also focus on how to get this material down to those people who can use it. And it is not necessarily your fault because it is not but it is something that we as a government have to deal with.



Mr. Pickett.

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Mr. **PICKETT**. Thank you, Mr. Chairman. Did I understand that this panel is not prepared to talk about the matter of detection devices? Someone else is going to deal with that issue?

Mr. **CRAGIN**. Are you talking about biological detection, Mr. Pickett?

Mr. **PICKETT**. Yes.

General **DOESBURG**. I can talk a little bit to that.

Mr. **PICKETT**. As I understand it, I think I got a demonstration over a year ago now from some people from John Hopkins working on this issue, and I would like for you all to tell me what you are doing to coordinate the efforts under way nationwide to come up with something simple, inexpensive, and dependable that we can use for this purpose?

General **DOESBURG**. Sir, there are multiple efforts going on in technology to address the bio issue. The bio issue is much more complex than chemical weapons. But in some ways we can take some of the technology that we have which is rather inexpensive, and in particular as we look at our first responders, if we can't provide a device immediately that will provide them the capability to positively identify an agent over a wide spectrum of possibilities, then to assist them in being able to eliminate certain agents as potentials that could be on the scene, and in particular eliminate those agents that are the most worrisome, particularly anthrax, cholera plagues, smallpox, in that range of agents.

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To do that there are some very simple devices now that we use in our military, detectors called hand-held assays. The issue becomes how do we move the sample to the hand-held assay to do the test. As early as today I was reviewing a very simple system that uses a sponge. It is called swipe kit. By using a buffer saline solution, wetting the sponge, being able to use that in an incident where in fact you may have had biological agents used, through a very simple system of what we refer to commercial off-the-shelf items, take that sponge, put it into a device. Now put it into a sample bottle that can now also be used as a chain-of-custody by that local response unit, but more importantly be able to draw the sample out and now use it on that array of hand-held assays. Although it won't positively identify all agents, it will help us at least eliminate agents.

The work that was being done at John Hopkins was a specific issue that I had asked to be looked at many years ago, and it is probably the most difficult issue because I have just explained the current technology, which is you have to have a wet sample to in fact use the detectors that we have, and the real issue at hand in biological detection is in fact can we take an air sample and from that air sample be able to identify a biological agent? In other words, not have to do sample preparation, put it into a liquid solution to do the testing.

All of our current biological agent detectors require us now to go to that liquid sample. John Hopkins' work has been very promising, and in fact with Lincoln Labs outside of Natick, Massachusetts, in fact we are looking at combining a number of efforts to in fact build a very small device based on mass spectroscopy. The issue currently at hand in that, and one that is currently being worked, is the library that has to be maintained for that particular type of detector.

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So, sir, there is technology that we are currently trying to put together to give us a first capability which is fairly inexpensive. Those hand-held assays run about \$5 apiece. I am anticipating a kit would be somewhere between \$10 and \$20. But then working for the long term for a solution that really provides what you are asking about for that wide range and wide spectrum of biological agents.

Mr. **PICKETT**. I understand there is a representative from Defense Advanced Research Projects Agency (DARPA) here that may be able to provide any additional information that DARPA may have on this issue.

General **DOESBURG**. It was in conjunction with DARPA that we were doing that work at John Hopkins.

Mr. **PICKETT**. Do any of these detection devices, have any of these been made available to the National Guard units or to any local responder units?

Mr. **CRAGIN**. Mr. Pickett, not at this time, but the program integration office that General Doesburg referred to in his opening remarks is the organization that is doing the development of equipping these RAID teams that are going to be stationed throughout the United States, which was a response by Secretary Cohen to first responders who said one of the things they don't have is the ability to evaluate the sort of events they are dealing with. As Mr. Weldon said, in the Tokyo situation it took about three hours before they even knew they were dealing with Sarin gas.

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They are working with the interagency board as well as the folks within DOD to identify off-the-shelf equipment that they can equip these RAID teams with, that will provide them with some ability to make these determinations, but the technology has only moved so far with respect to these assay units, et cetera.

Mr. **PICKETT**. Is there some organization, either you all's shop or somewhere, that is coordinating what is going on nationwide in this area? Because I know there is other work going on in other universities and laboratories.

Ms. **ETTER**. We have a process that looks at a number of areas, and this is a multiagency and a cross-service group that looks at areas in, for example, the biological sensor area, and they work together to make sure that people are aware of what is going on. We are supporting a number of activities in looking for biological sensors, but as you are aware, it is a very difficult problem.

DARPA is doing a lot of work in that area, NRL, Lincoln Labs, but these groups all work together and we have a process for making sure that there is interaction among the groups. There is also interaction among the other groups such as Department of Energy. So we do work that carefully to make sure that there is interaction.

Mr. **PICKETT**. So there is some coordination?

Ms. **ETTER**. Yes.

Mr. **CRAGIN**. Mr. Pickett, I might point out that Dr. Etter serves as the chairman within the Department of Defense of our research and development subgroup, which falls under the PDD-62 weapons of mass destruction preparedness management structure, and represents the department in dealing with some of those issues at the interagency level. This is how the process has now become coordinated throughout not just the Department of Defense but the interagency as well.

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Mr. **PICKETT**. Following up somewhat on what the chairman has already alluded to, is there a specific program in place to get these kinds of devices into the hands of the local responders, or is that yet to be developed?

Mr. **CRAGIN**. There is a program in place that is moving towards certifying standard equipment, and I alluded to it in our prepared testimony which we filed, an interagency board that is now being run under the auspices of the national Domestic Preparedness Office but was being worked within the Department of Defense and in the interagency before that. We have just, as I indicated, given it more rigor.

So yes, there is a program that is developing those sorts of lists, and this is a board that has first responders participating in it. As a matter of fact, I think the Chairs of each of the subcommittees of this interagency board are first responders or people from state and local officialdom that work these issues.

And this is being worked on a regular basis to try to identify, one, the right equipment, and then make sure that it is standardized equipment so we don't have the same sorts of challenges in the future that the chairman alluded to in the past, where you had three fire departments that show up to fight a fire and they all have hoses or couplings of a different size and things of that nature. We are going to have to have more interoperability as we move down this road to meet these challenges.

Mr. **PICKETT**. So you see your role here as being strictly one of coordination, and that the responsibility of providing the funds to purchase these devices that have been certified by your organization would be the locality or the state. Is that where we are?

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Mr. **CRAGIN**. I think within the perspective of the Department of Defense, we see our primary role as a role of supporting the Federal response plan and derivatively supporting local first responders. Obviously, to the extent that in any of our research and development activities, we develop equipment that has an application for use by first responders, that is going to be dealt with and worked through the Technical Support Working Group, the so-called TSWG that Mr. Dominguez was referring to, as well as the interagency board through the National Domestic Preparedness Office.

Mr. **PICKETT**. I am speaking now about actual procurement of the devices. That is going to be left up to the localities to fund and take care of on their own?

Mr. **CRAGIN**. It will be left up to the localities and the states to fund, unless and until funds are provided by the Federal Government.

Mr. **PICKETT**. There is no program to do that?

Mr. **CRAGIN**. That is right. As I mentioned, the Justice Department does have an equipment grant program to purchase specific types of equipment for first responders, and I am sure they can discuss that in more detail.

Mr. **PICKETT**. What kind of benefits are you deriving from what the military has already developed in this area of dealing with chemical and biological agents?

General **DOESBURG**. Sir, I covered a little when we talked with regard to what we have learned in the biological agent detection business and I will expand on that a little bit. The biological agent detector that we have, that is in fact capable and was deployed during Desert Thunder and has made a big mark, has in fact cost about \$1 million a copy

to build one of those, and it does exactly what you referred to.

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But one of the parts of that process is that hand-held assay which is used as a second confirmation of what that device has done. That is one of the spin-offs that we see and that is one of the things that I think is important as we go through this process.

The other is some of the military process that we went through. The large detector that you see on your left which says GID-3 is also called a CADNBA, chemical agent detector, nerve and blister agents. It does it near real-time. If there is a cloud of agent that passes over it, very quickly it will alarm.

Another device called a chemical agent monitor, however, is just that. It is a monitoring device, and the military had two different thoughts in mind. First, if an attack occurred, I need to know as soon as possible so I can take protective measures. Second, if in fact the attack occurred and equipment was contaminated or individuals were contaminated, I need the capability to monitor that area.

That technology is also one of those technologies that you look as a technology handoff because, as the chairman stated so eloquently at the beginning, what we are looking at with our first responders is that in many cases they have arrived on the scene and the event has already occurred. It is almost in my mind-set a forensics issue that we are looking at now, in which that chemical agent monitor is a type of technology that is extremely important for that, because now it gives you the ability to be able to take a look and find out what occurred at that site rather than having a chemical agent detector which was meant to let you know in advance.

Sort of very briefly, those are some ideas and thoughts on technology transfer that I have seen come from the military and be made available to our first responders.

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Mr. **PICKETT**. More specifically, doesn't the military have specific units that have been trained up to deal with this very issue of detecting and analyzing chemical and biological agents? What have we learned from that, and has it been made available to other organizations, the National Guard, for example?

General **DOESBURG**. In fact, 70 percent of our chemical units in the Army today are located in the Guard and Reserve. And in fact the training that is provided to our Guard and Reserve is the exact same training provided to our active component with regard to all of our chemical agent detectors and our biological agent detectors.

The current biological agent detection company that we have in the Army today is in fact a Reserve company. It in fact has been on alert for Desert Thunder, and it has been on alert on at least two other occasions for possible deployment to in fact provide support to the active component or to our installations as necessary.

So currently the training level is there. Also the equipment level is quickly getting there for our Reserve and Guard component, and I think that is important to know because that training for those units and their availability within their states and their local communities is of course of extreme importance to our first responders, to our counties and to our governors in the case of an event occurring.

Mr. **PICKETT**. So how many states—the Guards in how many states now have this capability?

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Mr. **CRAGIN**. I think we have 127 units that are being trained up in assisting local responders. They are not there yet and will not be until probably the end of this fiscal year, beginning of the next fiscal year. I can't tell you on a State-by-State basis, but I would be happy to provide it for the record where each of these units are. But please keep in mind that these are chemical and bio units that are designed to do the warfight.

Mr. **PICKETT**. I understand.

Mr. **CRAGIN**. And generally speaking if you have a chem/bio situation, you try to get away from it; whereas first responders, they must go into it, and our folks are not trained for that at this juncture either. That is the next challenge that we all face.

Mr. **PICKETT**. They are trained to identify?

Mr. **CRAGIN**. They are trained and they have the equipment to identify it if in fact—

Mr. **PICKETT**. The Guard units, I'm speaking of.

Mr. **CRAGIN**. If in fact they are in the warfight. But what we are trying to do now is to train them to come to assist responders in dealing with decontamination aspects. They are not going to be in a position to be called up to make the detection because they are traditional Reservists. The ones that can assist first responders in detection activities are the rapid assessment and initial detection teams, which are full time personnel specifically dedicated to this mission. And at this juncture we have one in each of the ten FEMA regions, but we are requesting five or six in fiscal year 2000.

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Mr. **PICKETT**. You mentioned earlier that you can provide the distribution of the other type units around?

Mr. **CRAGIN**. Yes.

Mr. **PICKETT**. I would like to have that for the record. Thank you.

[The information referred to can be found in the hard copy.]

Mr. **WELDON**. If we take the ten RAID teams, I would assume one would be put in Alaska and one in Hawaii?

Mr. **CRAGIN**. Of the ten that are now positioned, neither are in Alaska or Hawaii.

Mr. **WELDON**. So they don't have much help?

Mr. **CRAGIN**. In fiscal year 1999, they don't.

Mr. **WELDON**. Let's take my district, 30 minutes from Philadelphia and 30 minutes from Wilmington, Delaware. I have an incident. How quickly can I expect a RAID team to be on the site, if I am worried about what I have in my town that might be the target of an incident? How quickly can I expect a response from the RAID team?

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Mr. **CRAGIN**. We have looked at the maximum response time of four hours. But keep in mind we have tried to

station these elements where we have airlift capability and things of that nature, so that as soon as the governor picks up the phone, through his emergency management officials they can be on the way. And that is frankly one of the reasons why we placed these critical elements under state control, so that we wouldn't have to jump over Federal hoops in order to immediately get them into—

Mr. **WELDON**. I think that is wise but my concern is, I think we are creating a false sense of security in this country, and I am not criticizing anyone for this. I think we are creating a false sense of security by letting people know that we have RAID teams, and I think four hours is optimistic. If you go to rural areas, it is probably going to take more than four hours. You are going to have so much damage done in those four hours, you could wipe out tens of thousands of people before we even activate the RAID team through the network.

And I have trouble with Justice saying they are going to have a grant program because that grant program cannot meet the needs that are out there. I do not want to not give any money there and create an incident where this Congress has to act to give the support, and force the states to come up with mechanisms to help these emergency responders out.

Six of the states have low-interest loan programs where the emergency responders can take low-interest loans out to buy the equipment. I do not think that the Federal Government should buy it all, but we ought to be doing things to give them the tools to allow them to buy this equipment, and we are not doing that now. We are not doing that now.

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Equipping 125 of the largest cities is important, but almost all of those large cities are paid departments and they are all understaffed. They can't even handle the incidents they have. This city here, the EMS units are on the streets 24 hours a day, they never get in the station. My concern is in training the largest cities, they don't even have enough resources to take care of their ongoing needs.

I think we are creating a false sense of security in this country. We need to let the people in America know that we are not taking the first steps to deal with the first few hours of an incident of this type that might occur.

Mr. **CRAGIN**. I don't disagree with your assessment of where we are, and I don't think that the President disagrees with your assessment. I think everyone recognizes that we have a very, very long road to go, and we have to start.

And I can tell you candidly that the team that was looking at the RAID elements as well as leveraging the resources resident in the Guard and Reserve came in and recommended that we establish one of these RAID elements in every single one of these States and Territories. And Secretary Cohen said, look, we need to walk before we can run. We need to evaluate these units. We need to learn about these units. We need to train them. We need to figure out if in fact we can find and attract and retain nuclear medicine specialists that are resident in these elements. So this is a first step on a journey.

Dr. Hamre has agreed to set up essentially a virtual mall that will list equipment that first responders can identify. But the critical word is resources. Where do we get the resources, and can this country afford to expend dollars in every one of the 32,000 emergency responder units to have these suites available, or do we have to rely on mobility to take these suites where we need them.

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Mr. **WELDON**. This is not meant to be critical of you or your people. We support it and will continue to give you more funding than what the administration asks for in most cases.

My concern is that the approach has been largely a top-down bureaucratic approach, organize the top and work our way down. The greatest threat to loss of life is from the bottom up. They are going to lose their lives. It is not going to be a bureaucrat sitting in the Pentagon or somebody in Health and Human Services (HHS's) headquarters in the city. It is going to be those people where the rubber meets the road and trying to respond to an impossible situation. We have to think from the bottom up and get the resources to them.

I don't think that should be through DOD's budget, and I don't think that DOJ can think that they can be the cure-all. We need to address this as a country, and in my opinion we are not doing it. Addressing it through the Nunn-Lugar program is wrong. This should not be a DOD issue. We should not be trying to raid the defense budget to make it work, and I only say that because I am concerned that we will not be able to meet the needs that are out there.

Mr. Pickett has a follow-up.

Mr. **PICKETT**. No, we covered it.

Mr. **WELDON**. There was one other question on restrictions on biological defense programs, should restrictions be changed on that. Can you get back to us on the record in terms of the biological agent threats? We would appreciate that. And with that we will thank you all, and will convene our next panel. We appreciate your efforts.

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[The information mentioned can be found in the Appendix.]

We are pleased to have you here. Our second panel is other agency research and development support programs for domestic emergency preparedness, and we are very pleased to have Dr. Page Stoutland, director, Chemical and Biological Nonproliferation Program at the Department of Energy; Dr. William Raub, Deputy Assistant Secretary for Science Policy at the Department of Health and Human Services; David G. Boyd, director, Office of Science and Technology, National Institute of Justice, Department of Justice; and Dr. Randall Murch, deputy assistant director, Federal Bureau of Investigation Laboratory, and again I would ask you to get your labs to come to our national technology expose' so we can show the kind of good things that you are doing.

With that, your statements are accepted as part of the record. We will let each of you say your comments. If you would like to in your comments comment on anything that I said or Mr. Pickett has said, we would welcome that. We will start off with Dr. Stoutland and then go to Dr. Raub, and then Mr. Boyd and Dr. Murch.

Dr. Stoutland, the floor is yours.

#### STATEMENT OF PAGE STOUTLAND, DIRECTOR, CHEMICAL AND BIOLOGICAL NONPROLIFERATION PROGRAM AT THE DEPARTMENT OF ENERGY

Mr. **STOUTLAND**. Thank you, Mr. Chairman and members of the subcommittee, for this opportunity to appear before you and to tell you about the Department of Energy efforts to support domestic emergency preparedness for responding to the terrorist use of weapons of mass destruction. I will begin with a brief description of some of the Department of Energy's role in responding to threats of nuclear terrorism, and I will spend the majority of my time today speaking about our efforts in countering the threats of chemical and biological terrorism.

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With respect to nuclear terrorism, the Department of Energy has a comprehensive set of programs to provide a national technical response to any nuclear or radiological emergency within the U.S. These programs draw upon the capabilities and skilled personnel from throughout the nuclear complex. Two of these programs, the Nuclear Emergency Search Team or NEST and the Radiological Assistance Program or RAP, are of specific interest to today's hearing.

Our NEST team provides technical expertise and support in the resolution of nuclear terrorist crises, works in conjunction with the Department of Defense, the FBI, and includes the capability to locate, identify, diagnose, assess and render safe or disable a terrorist nuclear device. A technology integration program is in place to identify emergency response operational needs requiring technology solutions.

Our Radiological Assistance Program operates from eight regional locations in the U.S., works directly with first responders, and will usually arrive on the scene within two to four hours.

With respect to supporting research and development for these teams, these efforts are an integral part of DOE's program and our commitment to reducing the nuclear threat. I will just give you one important example, in that we are working with the NEST team to deploy radiation detection equipment or a concept along streets and highways in a perimeter defense mode to detect the movement of a nuclear device.

Mr. **WELDON**. Is this the Area-Wide Tracking System that we saw a couple of years ago?

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Mr. **STOUTLAND**. That is correct.

Mr. **WELDON**. There is a question about that being funded. Is that fully funded?

Mr. **STOUTLAND**. I believe at the present time, and I would defer to my nuclear colleagues behind me.

Second, we have touched on coordination today. That obviously is very important, more important than ever before. We work through the other mechanisms that were discussed earlier, but specifically a couple of things have happened in the last year.

The Department of Energy has entered into a formal agreement with the Departments of Treasury and Justice to provide state-of-the-art solutions for fighting crime and terrorism; and Lawrence Livermore National Laboratories specifically signed a Memorandum of Understanding (MOU) with the FBI to provide some of their capabilities to support the FBI in their technical investigative needs. In addition to these programs, several of our national laboratories are partnered with local law enforcement to provide direct support to first responders.

I would now like to turn, however, the remainder of my remarks to the chemical and biological efforts. The Department of Energy's Chemical and Biological Nonproliferation Program was initiated in fiscal year 1997 in response to the Defense of Weapons of Mass Destruction Act.

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The mission of this program is to develop, demonstrate and deliver systems and supporting technologies that will lead to major improvements in the U.S. capability to prepare for and respond to chemical and biological attacks. The program leverages existing DOE capabilities, and is focused on developing detection systems to improve our domestic preparedness while at the same time supporting the needs of the defense and intelligence communities.



The program targets not incremental improvements but major capability enhancements that can be achieved in the three to five year time frame. Our budget request in fiscal year 2000 is \$31 million, representing a 70 percent increase over the fiscal year 1999 budget, signifying the department's commitment to this effort.

I would like to step back for a brief moment and talk about the context of DOE's involvement. The department and its laboratories have a long history of supporting nonproliferation and national security policy.

As part of its primary nuclear science and technology mission, the Department of Energy has developed substantial capabilities in areas that are directly related to responding to the chemical and biological threat. These capabilities, in areas such as genomic sequencing, development of the new DNA-based diagnostics, and advanced modeling and simulation, and the linking of these capabilities with our expertise in nonproliferation and national security, form the basis for our role.

In addition to the DOE-supported efforts, our laboratories conduct over \$50 million per year in chemical and biological defense R&D for other government agencies in direct support of their missions.

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Preparing for and responding to the domestic use of chemical and biological agents presents enormous challenges. The technical and operational issues associated with responding to such events are complex and are distinct from the issues the military faces on the battlefield.

In our view, responding to such threats requires a "defense in depth" strategy in which we need to deter and do everything we can to deter an attack while preparing for the possibility of one; two, put in place detection and warning systems to detect attacks at the earliest possible stage; three, develop means to counter the effects of attacks, including medical treatment; and, four, enhance forensic capabilities to support post-incident criminal investigations.

A common theme in all of these areas is the importance of technology to support effective preparation and response options. A high priority component of our program is the development of these detection and warning systems. Technology comprises a key part of these, and because of this, our program also supports the underpinning areas of detector development, modeling, fundamental biology, information tools and decontamination.

Last Tuesday during a speech at the National Press Club, our Secretary Richardson challenged us to accelerate our efforts to develop and field a biological detection system in time for the Salt Lake City Olympics in 2002. Today I would like to tell you about our plan to implement our Secretary's vision.

Our goal is to complete the first phase of two detection and warning systems by 2002, to be followed by more robust detection and warning systems in later years. One of the initial systems will be designed for high priority events such as the Olympics, and the other will be a system suitable for protecting fixed assets such as subway systems. I would like to describe some of the key elements of these systems, and the research and development that is being done in detection, modeling and fundamental biology that together will save lives and form the basis for our plan to meet our Secretary's challenge.

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In the first phase of what we call the PROTECT program, we are working closely with the Department of Transportation and a number of major U.S. subway systems to examine systematically and rigorously the vulnerability of subway systems to attack. Using computer models, we can estimate not only what the effects of an



attack might be, but how to most effectively respond to them by, for example, changing the airflow in the subway system.

Let me give you one specific example of the impact such a system may have. Our scientists have estimated that if one can respond within six minutes using appropriate actions, using existing equipment, that over 1,800 lives would be saved in a small scale Sarin nerve gas attack when compared with how we might respond today. The reduction in potential casualties could be 10 to 100 times greater in the case of a deadly biological agent. In either case, mitigating actions depend critically upon prompt detection of the attack. We are now aggressively moving forward both in developing detectors and in improving the computer models and related information systems.

In the Sentry and Crisis Management Information System program we have been working closely with a number of major U.S. cities—

Mr. **WELDON**. Let me stop you right there on that point, Dr. Stoutland, because that is an important point. When you said six minutes would be the desired goal—

Mr. **STOUTLAND**. That is not the desired goal, that is the estimate based on speaking with people who run subway systems about the time it would take.

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Mr. **WELDON**. I think this underscores the point that we can never expect the Federal bureaucracy to be able to achieve that nationwide, and it underscores my point that this whole effort needs to be driven bottom-up to give those people the basic understanding of what they need to do quickly to respond and hold the situation until we can bring in appropriate resources.

That is my whole point in the direction we should be going, to give that basic tool to the local folks, whoever they might be, to hold the situation, and my problem is that I don't see that happening. I realize that we are training 125 cities and we are bringing them together, but I realize 125 cities doesn't cover—and I realize how we got there. They were based on DOJ criteria and statistics of where the most likely incidents would occur. I understand the logic in that, but I think we just need to keep reinforcing the notion that we should be doing this from the bottom up every step of the way.

I am sorry to interrupt you.

Mr. **STOUTLAND**. I agree. In fact, in our discussions with several major metropolitan systems, they believe that strongly, are in fact today implementing some of the preliminary guidance that we have provided to them.

With respect to the Sentry and Crisis Management Information System program, we have been working closely with a number of major U.S. cities to lay the groundwork for deploying an integrated network of sensors linked to computer models and information tools. Just three weeks ago some of our scientists participated in the Westwind exercise in Los Angeles County sponsored by the FBI's Critical Incident Response Group. Using recently developed computer tools, we were able to provide real-time hazard zones and casualty estimates.

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We are now focusing our attention on fielding a system by 2002 that builds upon these capabilities, a system comprised of a network of integrated sensors, models and information tools. This will require substantial efforts in the area of technology development, and I will now describe some of the challenges ahead of us and the progress that we

have made in those areas.

Improved detection capabilities are critical. Domestically, even small quantities of agents can have severe effects, and false alarms cannot be tolerated. Our program is developing a suite of detection systems. Today I will mention just one of them, a hand-held chemical and biological toxin detector for first responders. Our goal is to develop a hand-held unit able to detect rapidly many different toxic agents with a false alarm rate of less than 1 in 10,000 measurements.

This detector is possible because of recent advances in micromachining technologies and the fabrication of miniature lasers and optical components. Over the last year we have fabricated several of the key components. In my hand I have a box that contains three of these components, that a few years ago would have been the size of a microwave oven. Now we are going to put these in a hand-held, pocket calculator sized format.

Mr. **WELDON**. What is your goal in terms of the cost?

Mr. **STOUTLAND**. The initial target is a few thousand dollars. Because these are micromachined and integrated components like computer chips, in the outyears the hope is that they would be much, much cheaper.

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Mr. **WELDON**. When do we expect that they may be available, at least the first prototype?

Mr. **STOUTLAND**. The first prototype will be available in fiscal year 2000.

We are also developing computer models to simulate the effects of chemical or biological attacks on urban areas so we can develop systems to counter these attacks. Today's suitable models can take days to give accurate predictions on the location and effects of an attack. This limits the number of case studies that are considered in designing protection of key events, such as the recent State of the Union address, for which we provided key assistance to emergency planners. Developing fast and accurate models is a significant challenge and we have initiated an effort to do that.

Finally, I want to mention some of the biological research programs that underpin our detection and analysis efforts. Recent advances in this area have resulted in development of detection technologies that can identify the DNA of agents like anthrax. As part of developing a post incident analysis capability, we have made significant progress over the last year in minimizing false alarms, and in being able to not only identify an agent, but to tell where it came from and whether it has potentially been engineered.

Finally, turning to coordination, our efforts require close coordination via some of the mechanisms which have been mentioned earlier, for example the TSWG, the NDPO and the Weapons of Mass Destruction Preparedness group. In addition, we participate in a number of formal mechanisms with the defense and intelligence communities such as the Counterproliferation Program Review Committee.

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Informal coordination, however, is perhaps even more important, and occurs routinely via information exchanges between our program and other agencies. We sponsor an annual summer meeting to review the status of our program. Last year this meeting attracted over 200 people, of which 100 were from other agencies.

Let me conclude by saying that the DOE program is focused on addressing the high leverage areas, particularly

detection, that have been identified as being central to an effective response to chemical and biological attacks. The benefits of these efforts are clear. Detection and warning systems enable prompt responses that can limit exposures to lethal agents and provide timely information to the medical community, ultimately saving lives and dollars.

Our program builds upon existing capabilities of the DOE laboratories and has begun to reach out to the industrial and academic communities. The program emphasizes the near-term fielding of detection and warning systems to protect key events and facilities, while developing more robust capabilities for the longer term.

The chemical and biological threat represents enormous challenges. We at the Department of Energy are committed to fully utilizing the capabilities of the department and of our laboratories to meet these challenges.

Finally, I would like to thank the committee for the opportunity to testify here today.

[The prepared statement of Mr. Stoutland can be found in the Appendix.]

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Mr. **WELDON**. Dr. Raub, we do have a vote, but we can keep going and get you in before we leave. We will go with about six minutes or five minutes left because Owen and I can run really fast. So we will let you give your testimony now.

#### STATEMENT OF WILLIAM F. RAUB, DEPUTY ASSISTANT SECRETARY FOR SCIENCE POLICY AT THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

Mr. **RAUB**. Thank you, Mr. Chairman. I appreciate the opportunity to join you today.

The Department of Health and Human Services (DHHS) anti-bioterrorism initiative features activities in five distinct but related areas: deterrence of biological terrorism; surveillance for unusual outbreaks of illness; medical and public health response; development of a national pharmaceutical stockpile; and research and development. In view of the scope of this hearing, with one exception I will limit my remarks to the research and development activities, but with your permission I would like to provide for the record a copy of our operating plan for fiscal year 1999 which describes the entire activity, and a summary of the fiscal year 2000 budget request that we will build upon and expand these activities.

[The information referred to can be found in the Appendix.]

Mr. **WELDON**. Without objection.

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Mr. **RAUB**. The one exception that I wanted to make in the R&D comments is to set one bit of context for my statements about R&D.

As we have heard in the previous testimony, a biological agent could be part of an obvious terrorist event. That is, it could be announced that it has been released, or it could be part of something that goes bang or something that goes splash, and therefore all of the concerns that you raised and my colleagues have raised are critical in terms of the preparedness of the first responders.

But we have another scenario to worry about, and that is the silent or surreptitious release of a biological agent, and

in that scenario symptoms might not appear for days or weeks after the release, depending upon the particular agent used. The people exposed would be likely to have spread far and wide from wherever the site or sites happen to be of that release, and for many of these agents the symptoms are quite common ones. They look like flu or a rash. Therefore, the first responders in this particular scenario would be health care personnel in emergency rooms or physicians' offices or elsewhere, and they would not necessarily know that they are first responders.

The chances are, depending on the agent used, that only after many weeks went by would some detection of either a cluster of unusual illnesses or deaths or an unusually large cluster of common symptoms would cause someone to suspect that something untoward had happened. If the agent also happened to be one that was transmissible, we could be into the second or third wave of infection before epidemiological analysis determined that indeed something untoward had happened and where and when it occurred. Therefore, complementing our R&D investments are even larger investments in the public health infrastructure to give us the capacity to deal with that surreptitious release.

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Turning now to the R&D, the capability to detect and counter bioterrorism depends to a substantial degree on the state of relevant medical science and technology. Without rapid techniques for accurate identification of pathogens and assessments of their antibiotic sensitivity, planning for the medical and public health response will be compromised significantly. Without efficacious prophylactic and therapeutic agents, even the best-planned responses are likely to fail.

The current base of science and technology is strong in some areas, such as certain classes of antibacterial drugs, and weak in others, such as rapid diagnostics, antiviral drugs and vaccines. Strong, sustained research and development in relevant scientific disciplines is the only proven way to remedy such deficiencies in knowledge and technology.

DHHS is expanding its research related to likely biological weapons. We are doing so as part of a broader research agenda involving several agencies within DHHS, other Cabinet departments such as the Department of Defense, and components of the Executive Office of the President, in particular the Office of Science and Technology Policy and the National Security Council.

Through the National Institutes of Health (NIH), DHHS is emphasizing the generation of genome sequence data and other molecular and biochemical information on potential biological weapons, such as the organisms that cause anthrax, tularemia, and plague, respectively. The results of such research are expected to facilitate pursuit of a variety of critical goals, such as the development of rapid diagnostic methods for the most likely biological weapons, the development of new and improved antibiotics, the development of antiviral therapies for smallpox and Ebola virus, and the development of new vaccines for smallpox and anthrax. NIH also will undertake an array of basic and targeted studies oriented toward development of improved methods to diagnose chemical exposures and to determine their effects upon the nervous system.

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Other DHHS agencies are engaged in relevant research and development as well. As part of its multifaceted effort to enhance local, state and national capacities for public health surveillance related to microorganisms and toxins most likely to be used by terrorists against the civilian population, the Centers for Disease Control and Prevention is expanding its in-house Rapid Toxic Screen project.

This project is developing methods for rapid identification and measurement—that is, within 48 hours—of toxicants contained in human blood or urine samples. The goal over the next three years is to devise methods to

identify and measure 150 different toxins in such clinical samples and to achieve an in-house analytic capacity of 200 samples per day. As new methods come on line, CDC will disseminate them to state and local laboratories as appropriate for incorporation into their analytic repertoires.

Also, the Food and Drug Administration is exploring appropriate means to expedite its premarket review of new or improved diagnostics, therapeutics and vaccines against microorganisms likely to be used as bio weapons, and to expand its research on detection and characterization, in various media, of toxins that might be used by terrorists.

In conclusion, Mr. Chairman, my DHHS colleagues and I feel confident that our research and development efforts constitute an indispensable investment toward proper domestic preparedness against potential uses of biological or chemical weapons. I will be pleased to respond as best I can to any questions you have now or subsequent to the hearing.

[The prepared statement of Mr. Raub can be found in the Appendix.]

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Mr. **WELDON**. Thank you, Dr. Raub.

I hate to do this to you, fellows, but when the bell rings, we have to run. We will be back very quickly. So the meeting will stand in recess until we can get back. It is just one vote.

[Recess.]

Mr. **WELDON**. The subcommittee will resume. So we don't keep you here all day, we will try to move this process along. There may be another vote in 30 minutes or so, so I figure we get started before Mr. Pickett gets back.

Dr. Raub, you had finished. Mr. Boyd, you were next.

#### STATEMENT OF DAVID G. BOYD, DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY, NATIONAL INSTITUTE OF JUSTICE, DEPARTMENT OF JUSTICE

Mr. **BOYD**. Mr. Chairman, members of the subcommittee, on behalf of the Attorney General, the Assistant Attorney General for Justice Programs, Laurie Robinson, and Jeremy Travis, the director of National Institute of Justice (NIJ), I would like to thank you for this opportunity to discuss NIJ's Counterterrorism Technology Program.

NIJ is the research, development and evaluation arm of the Justice Department, and it is established within the Office of Justice Programs. Although NIJ covers the spectrum of technology development for the entire criminal justice system, and the Counterterrorism Technology Program aims at providing the state and local law enforcement community better tools to address the spectrum of possible terrorist acts, my remarks will focus primarily on our efforts to address the threat posed by weapons of mass destruction, as well as on the steps that we have taken to coordinate our work with other agencies involved in combating this threat.

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We are now beginning the third year of our program initiated pursuant to the Anti-Terrorism and Effective Death Penalty Act of 1996. Among the technologies our program has already produced is an advanced electromagnetic portal for detection of concealed weapons which has far fewer false alarms than current technologies already operating in an Idaho courthouse; an interagency information sharing system for law enforcement involving several

jurisdictions in Florida; a hand-held acoustic device for detection of concealed weapons; development of a computer-based training tool for bomb technicians; a concrete-penetrating portable radar for through-the-wall surveillance which we recently demonstrated in California; and a means of safely disabling large explosive devices such as 50-gallon fuel-fertilizer bombs.

Now, based on your comments earlier, I would also like to point out that part of what we do is not in the weapons of mass destruction area but is terribly important in terrorism, and one of those is a program we call AGILE, which is the Advanced Generation of Interoperability for Law Enforcement (AGILE), where we are trying to make it possible for various jurisdictions, or for that matter even within jurisdictions, for agencies involved in agency support to be able to communicate with each other, the medical folks, the fire folks, the police and the rest.

In fact, in a recent video we published to try to demonstrate the problem, we used as an example a fire service ambulance which has to operate across a number of jurisdictions, and in order to communicate with those jurisdictions it has seven different radios in the ambulance, the cost of which together exceeds the cost of the ambulance itself. So that is also a major component of what we are trying to do in this area.

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NIJ's R&D strategy includes a number of bilateral interagency agreements, including with the Department of Defense since at least the early 1970s, and most recently with the Office of the Director of Defense Research and Engineering. We also work closely with the TSWG that you have heard so much about today, and the National Security Council chaired Weapons of Mass Destruction Preparedness group. NIJ is the executive agent for the Attorney General's Technology Policy Council, which includes members of all of the law enforcement agencies in Justice and Treasury as well as representatives from the Department of Defense, Treasury and others.

NIJ's statutory authority, unique within the Federal Government, directs it to give primacy to State and local needs in combating all forms of crime, including of course terrorism. NIJ has therefore implemented a comprehensive program, based on input from the field, to provide those agencies who are almost always first on the scene tools to address the whole spectrum of possible terrorist acts.

The high cost of technology development makes it essential that we leverage the technology efforts of other agencies and, wherever possible, adapt existing technologies to meet law enforcement needs. As a consequence, NIJ's first concerns are technology development efforts that affordably meet state and local needs but where there are no investments by other agencies or investments are very limited. By partnering with organizations like TSWG, we are able to ensure that our efforts complement rather than duplicate those of other agencies, and it gives us an opportunity to pool our resources where appropriate.

For example, we are working with TSWG and the U.S. Marine Corps to develop a wearable device to measure an individual's exposure to chemical and biological agents, which our 1997 inventory of state and local counterterrorism needs identified as a very high priority. This requires a modification to the original DOD requirement which highlights our role in meeting needs unique to state and local agencies that might not otherwise be addressed.

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Other joint efforts include a study to determine the chemical and biological agents terrorists are most likely to use, development of a compendium of available equipment for distribution to the first responder community, and a project to demonstrate and assess the utility of chemical agent detection systems in subways.

The Anti-Terrorism and Effective Death Penalty Act of 1996 also requires NIJ to develop or upgrade standards—I

can't emphasize how important this particular effort is—to ensure that what we develop is compatible with national systems and does not produce islands of incompatible technologies. This work is led by the Office of Law Enforcement Standards, which is established and funded by NIJ at the National Institute of Standards and Technology, and we did that so we could leverage their entire laboratory infrastructure.

This office is also supporting the development of a national standardized equipment list for use by first responders. State and local agencies obtain most of their equipment through purchase from private vendors, so NIJ also created the Office of Law Enforcement Technology Commercialization you heard about a bit earlier, to bridge the gap from the laboratory to the market. This key office also serves TSWG and other agencies in helping to move technologies into the commercial market where local agencies can then purchase them.

In summary, NIJ is an active partner in the national effort to deal with the terrorist threat, and it provides to this national effort a focus on the needs of these state and local agencies who frankly constitute our primary line of defense.

I would like to thank you, Mr. Chairman, and members of the subcommittee for this opportunity, and I will be happy to answer any questions you may have.

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[The prepared statement of Mr. Boyd can be found in the Appendix.]

Mr. **WELDON**. Thank you.

Mr. Murch.

STATEMENT OF RANDALL S. MURCH, DEPUTY ASSISTANT DIRECTOR FOR SCIENCE,  
LABORATORY DIVISION, FEDERAL BUREAU OF INVESTIGATION

Mr. **MURCH**. Thank you, Mr. Chairman, members of the subcommittee. I am the Deputy Assistant Director for Science, Laboratory Division, and I have provided you some background information regarding what I do for a living. I will condense my remarks.

As you know, the PDD–39 under which the FBI is designated as lead Federal agency for crisis management of events involving weapons of mass destruction (WMD), our National Security Division at FBI headquarters is the national program manager for WMD. All of the FBI's 56 field offices have WMD coordinators who specifically interact with their counterparts at State and local levels. They also coordinate all FBI-related WMD activities within their jurisdictions.

The FBI laboratory is in the process of providing technical training to field office personnel in the recognition, protection from, handling and collection of hazardous materials and contaminated evidence, to not only better meet our needs but also those of the first responder. The FBI's Hazardous Devices School at Redstone Arsenal, Huntsville, Alabama, has added a WMD awareness course in its curriculum as part of its training for civilian bomb technicians, including our own.

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In 1998 the FBI created the National Domestic Preparedness Office, NDPO, to identify, establish standards for, and help provide equipment, training and advanced field technology for the first responder community. This office



has been described at great length, but I would offer you, sir, having our people from NDPO speak with you privately if you so desire. Clearly NDPO's role is a coordinating role and will work very closely with DOD, DOE, HHS, and certain elements of FEMA.

Because of the nature of hazardous materials used in WMD, the potentially severe impact on society, and the variety of methods that could be used in their deployment, even from our perspective, science, technology and medicine play a very significant role in responding to, investigating, resolving and recovering from such events. The FBI Laboratory is the Nation's largest and most diverse laboratory focused on the application of science and technology to problems of law enforcement. We have a number of expertises and resources of our own to bring to bear on the problems associated with WMD.

As an example, in 1996 we created the Hazardous Materials Response Unit or HMRU as a focal point for the FBI's scientific and technical support involving WMD. This unit is responsible for supporting our field offices, national program managers, and partners in the scientific and forensic aspects of crisis management and investigation for both criminal and terrorist events involving WMD materials. We do this by applying or developing our own capabilities, but more importantly for the purpose of this hearing, acquiring such from other organizations.

Over the past three years, the FBI Laboratory has aggressively engineered close collaborative relationships with key elements of Defense, Energy and Health and Human Services for coordinated response, consultation and technical advancement. This began actually from our perspective in 1996 with the Army, Navy and Marine Corps and several civilian organizations when we were planning, preparing and staging for the 1996 Olympic Games in Atlanta. Since then, we have been called out and worked together regularly to investigate suspected WMD events, shared technologies and protocols, exercised together, and have established several memoranda of understanding.

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We intend to continue this work and expand our use of DOD, DOE and HHS facilities and personnel to meet not only our needs but also on behalf of the first responder. We will do this by acquiring specialized expertise and analyses, training, research, development, test and evaluation, technology transfer and exercises.

Within DOD particularly we work with U.S. Army Medical Research Institute for Infectious Disease (USAMRIID), the Naval Medical Research Center, Edgewood Research, Development and Engineering Center (ERDEC) at Edgewood, and Dugway Proving Grounds, to name a few. We have executive and subgroup membership, including WMD, in TSWG—I am the executive council member—which is also managed jointly by DOD, Departments of State and Energy, as well as the FBI, and you are quite familiar with TSWG's mission.

With approximately \$4.7 million we receive annually, we fund HMRU and other WMD-related research and development at several Department of Energy national laboratories. We have briefed and intend to share our results and our products with pertinent Federal, state and local agencies as appropriate. We are beginning to work with the Centers for Disease Control, along with medical components of DOD, to more effectively define and develop the capabilities of the civilian public health community, which is also an important component of first response, particularly in the area of bioterrorism. We are regularly invited to attend and participate in DOD, DOE and HHS conferences and meetings on the subject area.

I would like now very briefly to give you some specific examples of what we have been working on and sharing.

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In 1996 the Naval Medical Research Center (NMRC) began transferring its hand-held immunoassays from



microbial and toxins diagnostics to HMRU for field use.

The FBI laboratory tested the technology and identified improvements that were needed in these assays and went back to Naval Medical Research Center (NMRC). These improvements have been incorporated in the technology, and now HMRU has and uses this technology in the field. It is the only biodiagnostic technology that the FBI possesses and truly is available.

The first investment of appropriated HMRU research and development funds, about \$1.9 million, was used to acquire and further customize the Army's powerful mobile treaty verification laboratory, which was developed and maintained by ERDEC's AMC Treaty Laboratory. We will take delivery of a customized version of this system this month. We in ERDEC are committed to jointly developing protocols for our use, and certifying the laboratory to a very high level of quality assurance. This laboratory will be a critical and integral part of our response to WMD.

Using funds supplied by TSWG, ERDEC and the FBI Laboratory have contracted for the development of a very small, portable, about 50 pounds, and powerful chemical and analytical instrument known as a gas chromatograph mass spectrometer. This is being developed by Lawrence Livermore National Lab. They are just beginning to do the shakedown testing of the system, and once it is certified for field use, this technology will provide sensitive, accurate and rapid analysis of hazardous chemical substances.

Beginning in fiscal year '98, HMRU initiated 12 priority research and development efforts totaling approximately \$2.6 million out at DOE National Laboratories. The focus of these projects is the detection, identification, analysis, sampling, and handling of biological and chemical hazards and contaminated evidence.

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Much of this leverages previous investments by DOD, DOE, and other customers. All HMRU efforts have been briefed to other partners. We also do actively participate in DOE's Chemical and Biological Nonproliferation Program reviews.

We are peer reviewers of the DARPA's Medical Defense and Biological Diagnostic Programs, and in this capacity we are obtaining important views of leading edge research that DARPA is doing which may be applicable later to our needs as well as those of the extended community. We also have access to other programs that are managed by the Defense Threat Reduction Agency and the Directorate of Research and Engineering.

We are beginning also to work with the Department of Agriculture to explore possible areas of joint scientific interest, particularly in the area of rapid and informative identification technologies for plant and animal pathogens when our food supply might be at risk. As a plant pathologist, I am particularly interested in those areas as well.

The FBI Laboratory has begun working with CDC to develop the "gold standard" for diagnostic procedures for the top ten threat agents that public health laboratories would be confronted with.

And we are also actively participating with other Federal agencies to write the research and development section of the Attorney General's Five Year Counter Terrorism Strategy. You might be interested to know that the top priorities out of that exercise for R&D were field diagnostics, tactical communications, and personal protective equipment.

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So thus far, starting from almost ground zero three and a half years ago, we believe we have made significant progress and have built strong multilateral and bilateral relationships with the leading Federal agencies. We have a

great deal more work to do, and we look forward to working with you and your colleagues in this area and moving us forward.

Let me close with one final comment, really outside of traditional WMD issues, which I think you might be interested in. WMD is not the only important area of key DOD–FBI technical cooperation. In July of this year we will establish a joint computer evidence analysis center which will further our current and future capabilities in cyberspace for criminal investigations and counterterrorism. Research and development will clearly be a jointly held endeavor in this new center.

Thank you for your time, sir. I appreciate it.

[The prepared statement of Mr. Murch can be found in the Appendix.]

Mr. **WELDON**. Thank you, Dr. Murch. Thank you each for your testimony. We appreciate your comments, but more importantly the efforts you are putting forth on behalf of our country.

I am not going to repeat my comments I made with the first panel. You know where I am coming from on these issues, and my constant goal is to drive the Federal response to be very much in sync with what most local needs are and provide that coordination that I think is so vitally important.

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In the case of what you all do and what is being done by the other agencies, I guess my main concern would be that we have a degree of cooperation and coordination because in some cases you are doing research that is similar, very close to that being done by other agencies.

I assume that all of you are satisfied with the level of cooperation between the agencies. Are there ongoing regular meetings that occur between you on specific program areas? Are there things we could do, if it is not enough, to encourage more of that? Or are you satisfied that that in fact is occurring across the agency spectrum?

Mr. **BOYD**. If I may, sir, in 1994 the Attorney General and the Deputy Secretary of Defense signed a memorandum of understanding which created a body we call the Joint Program Steering Group or JPSG. That group is jointly staffed by NIJ and DARPA, and it actually has offices in DARPA and it has offices in NIJ.

Since 1994 we have been sharing windows into our relevant technology areas, and there have been some kind of interesting spin-offs. We have been able to identify what it is that Defense has been doing and have been able to pick off some things that we thought we might be able to adapt in ways that made them affordable for state and local. Because, as you are well aware, for a state or local agency, if you take a police agency as an example, the largest capital investment typically is a police car, so anything that costs more than \$2,500 is extraordinarily expensive. We have been able out of that to help develop a number of things that are of mutual interest and which we hope will produce, say, large enough manufacturing runs that it will make them more affordable for both.

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I think that in part because this is a relatively small community, the amount of information being exchanged now is considerable, because representatives from every agency that you have heard from today participate in councils at Defense, they participate in the Technology Policy Council at Justice, and of course we bump into each other at routine meetings. We are always going to have slightly different interests, I think, because the warfighting requirements for some equipment will be a bit different from Justice, but there is a terrific opportunity there, which I

think we are all trying very hard to take advantage of, to adapt some of these things so they will really fit in both worlds.

Mr. **WELDON**. Anyone else?

Mr. **STOUTLAND**. My only comment is, a number of formal coordination mechanisms have been mentioned and I fully support those efforts, but even more important are the informal mechanisms, program managers talking to one another, scientists talking to one another. And I can tell you that at least from my program we speak daily with people in Health and Human Services, Department of Defense, the law enforcement community and so on, specifically about our programs, where we are going in the coming months and years. In many cases we have begun to fund projects jointly, where the end products may be quite a bit distinct but some of the underpinning science is the same.

Mr. **MURCH**. Sir, I would fully agree with that as well. In the 19 years I have been in the FBI, most of it in science and engineering, there has never been better coordination.

Mr. **RAUB**. If I can add, from the HHS perspective the coordination is good and getting better, but I think we would delude ourselves to say we are satisfied. They clearly are selected opportunities, especially for our agency, our department, whereas it has for many years been involved in the medical consequence management and therefore has excellent working relationships with the FBI and other agencies in that regard. We are relatively lately come to viewing the terrorist threat, and therefore do have better connections to make with organizations that traditionally have produced specialized types of equipment or technology, whereas our focus has been the traditional medical community itself.

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Mr. **WELDON**. Dr. Raub, I spoke a couple of times at national conferences with the trauma center providers, and they try to look at what their role should be in networking their own communities in this area. Do we have the guidelines laid out, and do we have trauma centers around the country who are being specifically tested to deal with trauma victims who may have been subjected to chemical/biological agents?

Mr. **RAUB**. The principal approach there is through the Metropolitan Medical Response Systems, as we call them. You had mentioned before the importance of a bottoms-up approach, and the philosophy is exactly that. We have 27 of these metropolitan systems in place now, and funds for an additional eight this fiscal year, and are requesting funds for another 16 in fiscal year 2000. The idea there is to give the municipal officials the wherewithal to do the planning, acquire specialized equipment, supplies, pharmaceuticals and training; and probably most of all to identify, as only that community could identify for itself, the particular resources it has, and to the extent that it has trauma capabilities, to ensure that those are identified, that they can be integrated into a plan, not just for the medical people but with the traditional first responders and the fire departments and the hazardous material people and others. And we will continue in that direction.

Mr. **WELDON**. Are we reshaping our training requirements for EMTs and paramedics to include parts of their curriculum in the area of chemical and biological responses and sensitivities?

Mr. **RAUB**. Yes, sir. In particular, the investments to date in the 27 cities have been focused heavily on chemical and nuclear and the more traditional type of obvious attack. In addition to expanding the number of cities, we are making additional investments in the original ones with respect to the biological agents. And again, we will continue, given appropriations, to do that over the coming years.

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Mr. **WELDON**. I don't mean this to disparage the cities because the cities do a good job, but they are oftentimes strapped for resources and when the city budgets are cut, the area they usually first cut is fire and EMS. I have seen that firsthand in a number of cities across the country. I want to make sure that when we go in and train and provide resources they don't get cut, because the city budget then can be shifted because of what we are doing, putting in additional resources that they then don't have to provide. Do we have mandates in anything we do where the cities cannot in fact use it to subsidize what is an ongoing expense that the city itself must provide?

Mr. **RAUB**. I am not aware specifically, sir, that that is in the contracts, but the clear intent is this is supplemental, not replacement funding.

Mr. **WELDON**. And I understand that, but again the cities have such severe problems that, you know, we had a time here in the city where there were only two ladder trucks serving the entire city of D.C. because of a lack of available resources a few years ago to maintain those trucks. If you have got two ladder trucks running and the Federal Government comes in and trains you, gives you resources or dollars for this new initiative, you are going to want to save the lives of those ladder trucks and you may shift those resources. I want to make sure we don't do that because it is taking money away from what we see as priorities.

My other concern, and it is not really your area but one that I am very sensitive to, we are focusing our effort on the 127 cities. Again, I understand that, but they are all paid cities. They are not the bulk of the emergency response network in this country. That is volunteers. There are only 185,000 paid fire and emergency providers in the country. There are over one million who are volunteers.

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Every step of the way we must make sure that we bring the volunteers in. They don't have paid lobbyists here in the city. They don't have full-time people who can take time off from their work and come down here and demand that we respond to them. We need to make sure those people—if you look around the city, all of our surrounding communities around D.C. are protected with volunteers. They need to be brought into the process. In this area they are, but in other areas of the country they are not. They need to share the same technology and the preparation that the paid people get inside of our urban areas.

Mr. Pickett.

Mr. **PICKETT**. Mr. Chairman, I don't think I have any questions as such, but in listening to our two panels today, it is hard not to get the impression that there is a great opportunity for overlap and duplication in what you are doing. I would just urge you to be sensitive to that and try to confine your interest areas so that we don't waste resources at the Federal level that are so badly needed at the local level. Thank you.

Mr. **WELDON**. Thank you, Mr. Pickett.

We will have other questions for the record, but we don't want to keep you here all day. And as much as I would like to stay here all day with you, we do have other pressing issues. So I appreciate again your coming, but more importantly, I appreciate your good work. We are here to support you. We will continue to provide the funding that you need, and I will ask you to just be cognizant of our concerns. I look forward to working with you and your response to our written questions on the record.

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[The information referred to can be found in the Appendix.]

Thank you, and the hearing stands adjourned. Thank you.

[Whereupon, at 4:45 p.m., the subcommittee was adjourned.]

## **A P P E N D I X**

March 11, 1999

[This information is pending.]