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COMPREHENSIVE READINESS PROGRAM FOR COUNTERING
PROLIFERATION OF WEAPONS OF MASS DESTRUCTION

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A REPORT THAT DESCRIBES THE UNITED STATES COMPREHENSIVE READINESS PROGRAM FOR COUNTERING PROLIFERATION OF WEAPONS OF MASS DESTRUCTION, PURSUANT TO PUBLIC LAW 104-201, SEC. 1443(c) (110 STAT. 2729)



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To the Congress of the United States:

The National Defense Authorization Act for Fiscal Year 1997 (Public Law 104–201), title XIV, section 1443 (Defense Against Weapons of Mass Destruction), requires the President to transmit a report to the Congress that describes the United States comprehensive readiness program for countering proliferation of weapons of mass destruction. In accordance with this provision, I enclose the attached report.

WILLIAM J. CLINTON.

THE WHITE HOUSE, *May 2, 1997.*

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United States Comprehensive Preparedness Program

INTRODUCTION

The Fiscal Year (FY) 1997 National Defense Authorization Act (Public Law 104-201), Title XIV - Defense Against Weapons of Mass Destruction, Subtitle D - Coordination of Policy and Countermeasures Against Proliferation of Weapons of Mass Destruction, Section 1443, directs the development of a report on the United States (U.S.) Comprehensive Readiness Program for the coordination and countermeasures against the proliferation of weapons of mass destruction. Descriptions of U.S. Government plans and activities in ten specific program areas are identified for inclusion in the report.

The information contained in this report is intended to be responsive to the Section 1443 requirement, but does not necessarily discuss or describe all U.S. Government programs and initiatives in each area.

PROGRAM ACTIVITIES

The following information is provided in the ten program areas:

<p>1443(b)(1) Plans for countering proliferation of weapons of mass destruction and related materials and technologies.</p>
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OVERVIEW

U.S. nonproliferation policy objectives were established by the President in his statement of September 27, 1993. These include:

- A comprehensive approach to the growing accumulation of fissile material from dismantled nuclear weapons and within civil nuclear programs;
- Implementation of a streamlined and harmonized export control system;
- Support for the Nuclear Nonproliferation Treaty (extended indefinitely in 1995) and the international safeguards system of the International Atomic Energy Agency (IAEA);
- Support for the Missile Technology Control Regime and active opposition to missile programs of proliferation concern;

(1)

(1)

- Commitment to ratify the Chemical Weapons Convention and promote new measures that will provide increased transparency of activities and facilities involving possible biological weapons applications;
- Active engagement in regional nonproliferation efforts, including on the Korean Peninsula, and in the Middle East and South Asia;
- Intensified efforts to ensure that the former Soviet Union, Eastern Europe and China do not contribute to the spread of weapons of mass destruction and missiles;
- Greater priority in our own intelligence collection and defense planning to promote capabilities to counter the threat from weapons of mass destruction and missiles around the world; and
- Greater transparency in conventional arms transfers.

CURRENT PROGRAMS/CAPABILITIES

These broad objectives continue to guide U.S. policy as programs are developed. Specifically, the Administration plans to carry out a broad range of activities directed at reducing the likelihood of further proliferation and at responding to the existing proliferation threat to our own security.

STRENGTHENING THE INTERNATIONAL NONPROLIFERATION REGIME

- Building on the success in attaining indefinite extension of the Nuclear Nonproliferation Treaty in 1995, the U.S. will work with other parties to ensure a successful enhanced review process, leading to a review conference in 2000.
- The U.S. will intensify efforts to secure agreement to and implementation of strengthened IAEA safeguards under the Programme 93+2, as well as to ensure that adequate resources are available to carry out the IAEA's critical safeguards responsibilities. The U.S. is placing excess weapons materials under IAEA safeguards and it will work with Russia and the IAEA to examine under what circumstances IAEA verification measures might be extended to additional fissile material from dismantled nuclear weapons in the U.S. and Russia.
- The Administration encourages Senate ratification of the Chemical Weapons Convention by its April 29, 1997 entry into force, and efforts to develop a protocol to enhance transparency and deter noncompliance with the Biological Weapons Convention will continue.

- Efforts to begin negotiations on a Fissile Material Cutoff Treaty, as President Clinton proposed in 1993, will continue.
- Despite India's refusal to join a broad international consensus in support of the Comprehensive Test Ban Treaty, the successful negotiation of this treaty contributes to U.S. nuclear arms control objectives and significantly reinforces global norms against proliferation. Widespread adherence to this treaty, including U.S. ratification, will be sought.

CONTROLLING DANGEROUS EXPORTS

- Through cooperation with U.S. partners in the Missile Technology Control Regime, the Australia Group chemical/biological weapons export control regime and the Nuclear Suppliers Group, work to refine export controls aimed at preventing proliferation will continue.
- Where appropriate, U.S. will support prudent expansion in the membership of these regimes, while seeking to ensure that all significant potential exporters of sensitive technology subscribe to international nonproliferation export control norms.
- Through the recently-established Wassenaar Arrangement, the U.S. will build international cooperation directed at controlling exports of conventional arms and dual-use goods and technology.
- Active diplomatic efforts to secure cooperation by Russia, China and emerging suppliers in preventing exports to nuclear, missile and chemical/biological programs in proliferator states will be maintained. Similarly, activities designed to prevent transfers that raise proliferation concerns will continue.
- The U.S. will provide other countries, particularly the states of the former Soviet Union and Central Europe, with technical, legal and other forms of assistance to develop effective export control systems and to enforce their own export control legislation.
- Through the Nonproliferation Experts Group (involving representatives of the Group of Seven countries and Russia, known collectively as the P-8) and other bilateral and multilateral channels, the U.S. will improve cooperation and information sharing among intelligence, law enforcement, and technical experts to stem illicit trafficking in nuclear materials. In accordance with the commitments at the April 1996 Moscow Nuclear Summit, the U.S. will extend this cooperation to additional countries beyond the P-8.

CONTAINING REGIONAL PROLIFERATION THREATS

- On the Korean Peninsula, implementation of the Agreed Framework, which has frozen North Korea's dangerous nuclear program, will be pursued. The Administration will advance efforts to persuade North Korea to forego the production and export of ballistic missiles.
- Iraq continues to obstruct United Nations efforts to uncover and destroy its nuclear, missile and chemical/biological capabilities. The inspection activities carried out by the United Nations Special Commission on Iraq and the IAEA require the full support of the U.S. and other governments, including provision of a stable financial base for these essential operations. Long-term monitoring of Iraqi activities to prevent reconstruction of prohibited weapons capabilities is an increasingly important priority.
- Active efforts to discourage assistance to Iran's nuclear, chemical and missile programs will continue to receive high diplomatic priority, as will similar efforts directed against proliferators elsewhere in the Middle East.
- The U.S. will continue to urge India and Pakistan to refrain from further steps toward the acquisition or deployment of nuclear weapons and missiles, and will encourage efforts toward nonproliferation dialogue within the region and with other countries.
- The U.S. also continues to work with members of the Middle East Arms Control and Regional Security Working Group to promote confidence building and security measures.

STRENGTHENING MILITARY CAPABILITIES AGAINST PROLIFERATION THREATS

- The Department of Defense (DoD), through its Counterproliferation Initiative, is working to prevent the proliferation of nuclear, biological and chemical weapons, to roll back such programs where proliferation has already occurred, to deter the use of these weapons, and to ensure that U.S. forces are prepared to fight and win future conflicts in which the adversary threatens or uses such weapons. U.S. forces must also be prepared to deal with threats related to such weapons in operations other than war, such as peacekeeping, in which one or more of the sides has access to such weapons.
- Over 100 DoD programs are strongly supporting national efforts to counter nuclear, biological and chemical proliferation threats. Reporting to the Under Secretary for Acquisition and Technology, the Counterproliferation Support

Program focuses on redressing the most critical shortfalls in deployed capabilities by leveraging and accelerating on-going and high payoff research and development projects. In the same functional area, the Chemical and Biological Defense Program oversees and coordinates all DoD efforts in acquiring new passive defense capabilities. Ballistic Missile Defense Organization programs involving theater and national missile defense also form an integral element of the Counterproliferation effort.

- In the area of prevention, the Counterproliferation Support Program office, in partnership with the U.S. Navy, successfully deployed the Navy's Specific Emitter Identification prototype system to improve capabilities to identify and track ships at sea suspected of transporting nuclear, biological, chemical and related materials. Deployment began in 1995; a total of 32 units will be deployed by the end of FY1997.
- The nuclear/biological/chemical Defense Program fulfills joint passive defense requirements to permit U.S. forces to survive and fight in a nuclear/biological/chemical-contaminated environment. Specific examples of new and improved systems that have been fielded include: new protective masks, advanced chemical and biological protective garments, stand-off optical chemical detectors, and first-ever capabilities for point biological agent detection and stand-off aerosol/particulate detection. Additionally, there has been significant progress in research and development initiatives, particularly in the development of miniature, pocket-sized chemical agent detectors, biological agent point detection and identification systems, and warning and reporting networks.
- Active defenses play an important role in protecting U.S., allied, and coalition forces, civilians supporting military operations, and non-combatants. By intercepting and destroying nuclear/biological/chemical-armed missiles and aircraft at effective distance and altitude, active defenses substantially enhance the ability of friendly forces to conduct successful military operations. The U.S. theater missile defense program calls for near-term improvements to existing systems, development of new core program capabilities, and exploration of Advanced Concept Technology Demonstrations and other risk reduction activities to complement the core programs.
- The Counterproliferation Support Program also funds projects to enhance U.S. military capabilities to identify, characterize, and neutralize nuclear, biological and chemical weapons, related facilities, and supporting infrastructure elements while minimizing and predicting the consequences of resulting collateral effects. Efforts are aimed at gaining a better understanding of the atmospheric dispersion of chemical and biological agents, along with methods for neutralizing them upon intercept.

- DoD is coordinating its anti-nuclear/biological/chemical terrorist technology development activities with the Technical Support Working Group, which develops joint interagency counterterrorism requirements and conducts R & D to meet the requirements, and with Special Operations Command and joint Service explosive ordnance disposal units to facilitate responsiveness in meeting user needs. Projects underway include development of chemical/biological agent perimeter monitoring sensors; a vented suppressive shield to contain biological and chemical weapons effects; a Quick Mask for responsive protection against chemical and biological agents; a joint U.S.-Canadian explosive ordnance disposal suit for biological and chemical threats; a non-intrusive chemical agent detection system; and, a special chemical and biological agent sample extraction and rapid identification system.

SECURING MATERIALS, TECHNOLOGY AND KNOW-HOW FROM THE FORMER SOVIET UNION

- The dissolution of the Union of Soviet Socialist Republics (USSR) raised the risk that former Soviet nuclear materials, advanced technologies and the knowledge of its scientists would become available to potential proliferators. The U.S. has in place a broad range of programs aimed at reducing this risk. While the primary objective is to secure weapons-related items in the former Soviet Union and prevent their diversion to unauthorized channels, cooperation against nuclear smuggling or other unauthorized transfers has been increased.
- Under DoD's Cooperative Threat Reduction program, the U.S. provides assistance to: enable Ukraine, Kazakhstan and Belarus to become non-nuclear weapons states; assist Russia in accelerating strategic arms reduction to START I levels; enhance the security, safety, control, accounting, and centralization of nuclear weapons and fissile material in Russia to prevent their proliferation and encourage their reduction; initiate and accelerate Russia's chemical weapons destruction program; and, encourage demilitarization of Russia, Ukraine, Belarus and Kazakhstan.
- Through the Department of Energy's (DOE) programs of cooperation on nuclear material protection, control and accounting, the U.S. will further strengthen material protection, control and accounting systems in the former Soviet Union. Work is being carried out at more than forty sites in Russia, Ukraine, Kazakhstan, and five other countries. This cooperation directly reduces the risk of nuclear proliferation by securing nuclear materials against theft or unauthorized use.
- The continuing implementation of a U.S. agreement to purchase highly enriched uranium from Russia will result in the conversion of the fissile

material from thousands of dismantled nuclear weapons to a non-weapons usable form. Discussions with Russia on similar international cooperation to dispose of excess plutonium are in their early stages.

- At multilaterally-funded science centers in Russia and Ukraine, former Soviet weapons scientists are being provided with productive employment on civilian research projects, removing their incentive to go to work for would-be proliferators. DOE's Initiatives for Proliferation Prevention program assists industrial facilities within the former Soviet weapons complex to make a transition to productive civilian activities in partnership with U.S. companies.
- Increased focus will be given to strengthening the ability of newly-independent countries in the Caucasus and Central Asia to prevent illicit trafficking in nuclear materials and other proliferation-related items through their territory. The U.S. is assisting the development of national legal and export control systems, personnel training, and law enforcement capabilities.

1443(b)(2)

Plans for training and equipping Federal, State and local officials for managing a crisis involving a use or threatened use of a weapon of mass destruction, including the consequences of the use of such a weapon.

OVERVIEW

Events involving weapons of mass destruction are highly destructive. Effective response measures are technical in nature and require the immediate delivery of sophisticated expertise and proficiency levels that are currently unavailable in local community response organizations. Present procedures are not adequate to protect emergency response personnel from the no-warning risks of becoming secondary victims of a weapons of mass destruction. Nor are they sufficient to address the enormous consequences that are possible with a widespread release of hazardous materials resulting from use of weapons of mass destruction. Municipalities will rely on the technical and logistical capabilities of the U.S. Government to supplement their local efforts and to assist in resolving weapons of mass destruction-related incidents.

Therefore, it is incumbent upon the U.S. Government to assist in training and equipping local emergency responders in the skills and techniques to operate safely and effectively during a weapons of mass destruction crisis. Emergency responders and managers must be able to recognize the unique characteristics of weapons of mass destruction in order to protect the public, mitigate the dangers, and facilitate

integration of the U.S. Government support actions that are necessary to resolve the incident.

Because of their potential consequences, weapons of mass destruction threats and events require the highest level of coordination among local, State, and Federal assets for effective outcome. The proposed U.S. Government training plan promotes partnership across traditional lines for the development of standardized procedures and capabilities that enable emergency responders to take the educated first response actions and efficiently incorporate the Federal functions that follow.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

The Defense Against Weapons of Mass Destruction Act of 1996, Section 1412, Subtitle A - Domestic Preparedness, specifies that "the Secretary of Defense shall carry out a program to provide civilian personnel of Federal, State, and local agencies with training and expert advice regarding emergency responses to a use or threatened use of a weapon of mass destruction or related materials" and, in doing so, "shall coordinate with each of the following (agencies):

- The Federal Emergency Management Agency (FEMA)
- DOE
- "The Heads of any other Federal, State, and local government agencies that have expertise or responsibilities relevant to emergency responses." Such agencies include the Federal Bureau of Investigation (FBI); the Environmental Protection Agency (EPA); the Department of Health and Human Services (HHS), U.S. Public Health Service (USPHS), and the Department of Transportation (DOT).

To this end, the U.S. Government has formed a Training Task Group, comprised of 13 Federal agencies and organizations with crisis and consequence management responsibilities, to address the myriad of training issues facing emergency responders and managers.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

The Training Task Group is developing a comprehensive strategy to assist communities in training emergency responders and managers for response to a weapons of mass destruction crisis. The plan involves the promotion of partnership and participation among local, State, and Federal agencies prior to an actual emergency to enhance preparedness for an effective response. Training

Task Group recommendations will guide U.S. Government plans for the expenditure of training resources made available by Nunn-Lugar legislation.

The Training Task Group has proposed a set of performance objectives critical to a weapons of mass destruction response and the respective training required for their execution. Table 1 summarizes the five levels of required training and associated performance objectives. Acceptance of these performance objectives will standardize the response community and familiarize it with the crisis and consequence management systems used by the U.S. Government. These standards will also be the basis for an assessment tool used in a self-evaluation process by states and cities of their response capabilities and training needs.

The 26 largest U.S. cities will be identified for the initial focus of weapons of mass destruction assessment and training available under the current appropriation. They coincide with the cities identified by the HHS, USPHS, for its training of the Metropolitan Medical Strike Force Teams, also funded under Nunn-Lugar-Domenici provisions of the FY 1997 National Defense Authorization Act. This decision was based on population concentrations, present base-level capabilities, and scheduled large scale security events or concerns that significantly increase their risks for terrorist activity. Washington, DC will serve as the initial training site. Further prioritization and scheduling will follow.

The Training Task Group is developing a means to engage community planners and managers in a dialogue about weapons of mass destruction training issues and to present them with a unified U.S. Government training plan. The presentation will explain the integration of the roles and responsibilities of various U.S. Government functions in response to a weapons of mass destruction event, and will assist the communities in a self-evaluation process. The training plan will require a commitment of personnel and other resources by both the U.S. Government and receiving communities. Initiation of this dialogue is projected in FY 1997.

PROGRAMS IN PLANNING OR REVIEW PHASES

Regarding methodology, the Administration plans to review existing training systems, identified in Appendix A of this document, and determine their usefulness in training emergency responders. Then, as necessary, new courses and methods will be developed and included in an updated compendium of weapons of mass destruction courses and made available to local communities for enrollment.

Community Emergency Responder Training Performance Objectives
Table 1

Level	Objectives	Audience
<i>Awareness Level, including pre- and post- weapons of mass destruction event</i>	<ul style="list-style-type: none"> Recognize potential weapons of mass destruction (components, materials) Recognize hazardous environment (including nuclear/biological/ chemical compounds) Make proper notifications Use self protection measures Take measures to protect population and safeguard property 	911 Operators/Dispatch , Law Enforcement Officers, Fire Fighters, HAZMAT Responders, On-Scene Commanders, Emergency Medical Service Personnel, Emergency Room Personnel, Emergency Management Personnel, Senior Officials, Medical Examiners/ Coroners, Trainers/Planners, Public Information, Other Event Responders
<i>Operations Level</i>	<ul style="list-style-type: none"> Awareness Level plus: Use advanced personal protection measures Administer basic life support Awareness of crime scene/evidence preservation/recognition Establish evacuation measures Use decontamination/detection measures & equip Operate in a unified command environment 	Law Enforcement, Fire Fighters, Hazardous Materials Responders, Emergency Medical Service, Incident Commanders
<i>Technician/Specialist</i>	<ul style="list-style-type: none"> Operations Level plus: Advanced knowledge of personal protection measures Advanced knowledge of sampling Advanced knowledge of detection of agents Advanced knowledge of monitoring in a complex environment Advanced knowledge of decontamination, including mass casualty and hazard mitigation 	Hazardous Materials Responders, On-Site Incident Commanders, Trainers
<i>Emergency Medical Service</i>	<ul style="list-style-type: none"> Operations Level plus: In-depth knowledge of advanced medical assessment and treatment capabilities In-depth knowledge of nuclear/biological/chemical health effects 	Emergency Medical Service (to include hospitals)
<i>Senior Management</i>	<ul style="list-style-type: none"> Specialized information briefing Knowledge of key operational aspects of an incident and decisions they must make Knowledge of the Federal plans, infrastructure, and how to access support assets 	Senior Officials

The Training Task Group also plans to complete the Performance Objectives and Assessment Tools as well as the training presentation to individual communities. It is anticipated that during FY 1997, training needs assessments will be completed in all 26 selected cities and that training will be delivered in up to 8 of those cities. Twelve additional cities will receive some training during FY 1997, with the remainder to follow in FY 1998. Delivery of training to communities in all 50 States and Territories is projected through the year 2000. Participation in this program will not preclude any of the cities from enrolling in weapons of mass destruction-related training that is made available by individual Federal agencies through other funding sources.

FUNDING

As noted elsewhere in this report and in The Defense Against Weapons of Mass Destruction Act of 1996 - Subtitle A, Domestic Preparedness, other U.S. Government agencies maintain roles for response to weapons of mass destruction emergencies. The Act provides that the current lead official, the Secretary of Defense, may use personnel and capabilities of these Federal agencies to provide training and expert advice under the program. DoD may provide some financial assistance to other Federal agencies if that agency is unable to provide required training and expert advice without reimbursement. The various Federal agencies involved in the provision of training and expert assistance must ensure that their FY 1998/1999 budget submissions fully fund these activities, since the DoD FY 1998/1999 budget request does not include funds for transfer to other Federal agencies.

The Training Task Group has identified the need for defining budget allocation requirements for follow-on funding. While the implementation of the Nunn-Lugar-Domenici program is underway, it is acknowledged that the U.S. Government will probably not reach all 26 of the largest U.S. cities in FY 1997, and will require commitment of allocated funds in 1998. In order to be able to reach all 50 states and the U.S. territories, allocation of funds for the out-years must be gained through legislative action.

1443(b)(3)

Plans for providing for regular sharing of information among intelligence, law enforcement, and customs agencies.

OVERVIEW

The mission of the U.S. Government's Nonproliferation Program is preventing acquisition of weapons of mass destruction, to include nuclear, biological, and

chemical weapons, along with related technologies, equipment and expertise; rolling back existing capabilities; deterring weapons use; and adapting military forces to respond to threats. This nonproliferation process also involves the following processes: policy formulation, interdiction, defense, licensing, enforcement, and legislation. Within these elements, the U.S. Government has developed several mechanisms for regular information sharing among the Intelligence Community, law enforcement, and customs agencies. These mechanisms include the establishment of procedures to share information from classified databases, formal committees, informal exchanges, and ad hoc working groups or case-by-case information sharing, all of which provide for regular sharing of information and intelligence.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

The Central Intelligence Agency (CIA) Nonproliferation Center serves as the focal point for the intelligence community on proliferation issues. In support of the U.S. Government's efforts to counter proliferation and promote information sharing, the Center sponsors conferences, produces papers, reports and reference documents and includes personnel detailed from the FBI, U.S. Customs Service (USCS) and other U.S. Government agencies. One example of intelligence/information sharing is the Nonproliferation Center-chaired Policy Video Conference. The following agencies are participants in the Conference: components of the DoD, to include the Defense Intelligence Agency (DIA); the National Security Agency (NSA), the DOE, the Department of State (DoS), and the FBI.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

There are a number of specialized committees which provide regular intelligence sharing in proliferation and interdiction-related matters. The Intelligence Community supports the interagency interdiction working groups in their efforts to stop or impede the diversion of equipment and production technologies to countries of proliferation concern. These DoS-chaired committees are organized by the particular weapons of mass destruction technology involved. SHIELD covers proliferation-related transaction information pertaining to chemical and biological matters; the Missile Technology Analysis Group, handles missile-related matters; and the Nuclear Export Violation Working Group, handles nuclear-related matters. The Technology Transfer Working Group handles undesirable or illicit international transfers of advanced and improved conventional weaponry and related dual use technologies and data. These committees have participation from the NSC and the following agencies: CIA, DoD, DOE, FBI, USCS, NSA, the Department of Commerce (DOC) and the national research laboratories.

In addition, other committees address intelligence production issues as they relate to proliferation. An example of this intelligence sharing is the Joint Atomic Energy Intelligence Committee, a Director of Central Intelligence committee responsible for assessing foreign atomic energy developments, including the spread and development of nuclear weapons. It produces its own intelligence reports and contributes to national intelligence products. Membership includes: the CIA; DoD, including DIA; NSA; DoS; DOE and FBI.

Given the complex nature of proliferation investigations, there is considerable intelligence and information sharing in the conduct of these investigations whether they involve an intelligence matter, a criminal case, or both. Where applicable, proliferation investigations also include cooperative initiatives with other agencies or foreign countries.

With respect to weapons of mass destruction terrorism, there is extensive intelligence sharing at the CIA's Counterterrorism Center and at the many interagency Intelligence Working Groups that pursue various initiatives, including intelligence exchange, technological research and development, database sharing, and exercise planning. Participation in these groups includes: the NSC, DoD, CIA, DoS, DOE, USCS, DOC, Department of Justice (DOJ), Nuclear Regulatory Commission (NRC), EPA, FEMA, USPHS, Office of Management and Budget, Department of Agriculture, U.S. Coast Guard (USCG), and the Center for Disease Control (CDC). Some of these Working Groups are:

- Various NSC chaired working groups, including a Sub-Exercise Working Group co-chaired by the FBI, and a Subgroup on Nuclear Trafficking, with its Nuclear Smuggling Response Group (DoS, DoD, Joint Chiefs of Staff, CIA, DOE, NRC, USCS, FBI, or DOC);
- Technical Support Working Group: research and development, science and technology devoted to counter terrorism;
- Interagency Intelligence Committee on Terrorism - Chemical/Biological/Radiological Subcommittee;
- Interagency Intelligence Committee on Terrorism - Chemical/Biological/Radiological Intelligence Working Group; and
- Annual trilateral conference with U.S. allies on the issue of chemical/biological terrorism.

To enhance interagency liaison, cooperation, and intelligence exchange throughout the FBI's Counterterrorism Program, the FBI has coordinated with 22 Federal agencies to arrange for their representation at FBI Headquarters Counterterrorism Center through the staffing of detailees.

In addition, Joint Terrorism Task Forces are maintained by 13 FBI field offices throughout the country. These task forces include representatives from Federal, State, and local law enforcement and U.S. intelligence agencies.

Should it become necessary to disseminate information concerning a weapons of mass destruction threat or incident, the FBI will use its Terrorist Threat Warning System. This system notifies 34 federal agencies, such as the White House, Federal Aviation Administration, DoD, CIA, and DOC, with the vital information in either classified or unclassified formats. Should a recipient agency wish to further alert other organizations, it would clear a sanitized version of the classified message through the FBI. This system has been in effect since 1989, and is regularly utilized by the FBI to alert the counterterrorism and law enforcement community responsible for countering terrorist threats.

As noted above, if the information requires nationwide dissemination to all Federal, State, and local law enforcement, the FBI will transmit an unclassified message via the National Law Enforcement Telecommunications System. In addition, the FBI could transmit weapons of mass destruction information to the U.S. business community via the Awareness of National Security Issues and Response Program. These systems ensure that all essential information is disseminated to all appropriate agencies at all levels of government.

PROGRAMS IN PLANNING OR REVIEW STAGES

In conjunction with a DOE national laboratory, the FBI is considering the development of a classified data base targeting the nuclear proliferation issue. Should this project be implemented, it is estimated that it will cost \$300,000 in the first year of its operation.

FUNDING

No line item funding requirements are addressed herein, since each agency absorbs the cost of employee participation, operational and administrative costs.

1443(b)(4)

Plans for training and equipping law enforcement units, customs services, and border security personnel to counter the smuggling of weapons of mass destruction and related materials and technologies.

OVERVIEW

Law enforcement activities - both domestic and international - within this area are an interagency partnership, including: the DOE, DoD, DoS, USCS, the FBI, and the Intelligence Community, among others. The U.S. Government objective is to establish a system for interdicting smuggled weapons of mass destruction materials, as well as to erect technical barriers for detecting and deterring illicit movement of such material. In this regard, there is overall U.S. Government agreement to provide training and technical assistance in this area.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

In accordance with Presidential Decision Directive-41 (U.S. Policy on Improving Nuclear Material Security in Russia and the Other Newly Independent States), which strives to improve nuclear security in the former Soviet Union, the DOE is the lead agency for nuclear material protection, control and accountability and for providing technical analysis of nuclear trafficking incidents. Other agencies (including USCS and FBI) have responsibility for developing and implementing programs to train and equip former Soviet Union law enforcement units, customs services, and border security personnel to counter the smuggling of weapons of mass destruction and related materials and technologies. These agencies rely on significant technical assistance from both DOE and DoD, particularly their national laboratories, in support of their programs.

With regard to the USCS, in July 1995 a Nuclear Problem Solving Group was formed. This group meets on a bi-monthly basis to address nuclear smuggling and detection issues. While it has a domestic focus, personnel for the Office of International Affairs also participate.

CURRENT PROGRAMS/CAPABILITIES

INTERNATIONAL

A. DOE

DOE has three related initiatives that are underway or have recently been completed. First, DOE supported the first phase of the USCS-sponsored training program called "Project Amber" in Eastern/Central Europe and the Baltics. DOE's role was to assess the countries' nuclear law enforcement capabilities and subsequently to develop tailored training programs for local border and customs officials on how to identify nuclear-related dual-use materials, equipment, and technologies. Seven countries were assessed and trained during "Project Amber." Second, DOE compiled a "Guidebook on

Nuclear-Related Dual Use Technologies,” including descriptions and pictures of controlled commodities, as well as useful packaging information to be disseminated to members of the Nuclear Suppliers Group. Third, under Cooperative Threat Reduction export control initiatives, DOE is providing technical support to the USCS regarding placing radiation detection equipment in Belarus.

B. DoD

DoD currently has two international initiatives underway: the DoD/FBI Counterproliferation Program and the DoD/USCS Counterproliferation Program. Both are congressionally-mandated programs developed in response to the potential proliferation of weapons of mass destruction through and within the countries of Eastern Europe, the Baltics, and the former Soviet Union.

The DoD/FBI Program, funded under the National Defense Authorization Act for FY1995, uses re-programmed DoD funds up to \$9M. The program is focused on the southern tier of the former Soviet Union, initially Kazakhstan and Uzbekistan. It is designed to provide general and specialized training with some equipment to law enforcement entities in order to help them detect, deter, and investigate proliferation incidents.

The DoD/USCS Program, funded under the National Defense Authorization Act for FY1997, is funded at \$9M. Initially, the program will focus on providing training and equipment to customs and other law enforcement agencies in Eastern Europe and the Baltics.

Both programs should be operational during FY1997.

C. USCS

1. *Equipment:* The USCS currently has 28 radiation detection “paggers” furnished, in part, by the DOE Special Technologies Laboratory, which will eventually be positioned at various international border sites. Four are being used for demonstration and analysis purposes by USCS headquarters personnel. The remaining 24 are undergoing tests at 11 sea, land, and air ports of entry. Regarding upgraded x-ray equipment, five systems are being upgraded at border locations to included nuclear detection capabilities. Efforts have been made to gather substantial background data at land borders and international airports in order to gauge the threshold levels necessary for equipment to be used at borders.
2. *Training:* USCS personnel attend DOE-sponsored courses on Nuclear Nonproliferation, Dual-Use Items, and Nuclear Awareness and Technical

Response. USCS and DOE held a three-day training seminar at the Pacific Northwest National Laboratory to establish a useful classroom and hands-on curriculum for training USCS field personnel in the detection, analysis, and handling of nuclear materials.

DOMESTIC

A. DOE

DOE has long been the developer of systems for detecting radioactive materials. Extensive cooperation with the USCS provides an example of DOE's technology development role. As noted above, DOE developed "radiation pagers," which will become the basis the of a significant procurement in the future. Additionally, DOE has developed and is testing with USCS larger fixed sensor systems appropriate for checking cargo at borders and ports of entry and will be working closely with USCS to evaluate commercial systems, which can provide specific identification of radioactive sources and the reduction of "false positives."

Perhaps the most important role for DOE in interdicting trafficking is developing advanced systems for radiation detection. Two current efforts, which will require substantial investment to advance to the prototype stage are the development of active detector systems for standoff identification of highly enriched uranium and exploration of room temperature detection systems, using either room temperature detectors such as cadmium/zinc/tungsten or embedded cooling systems. Other work is directed toward spectral analysis to allow expanded specificity in identification of materials and developing sensor systems that are capable of remote autonomous operation.

DOE offers a number of formal and "ad hoc" courses of instruction in classroom settings, both in the U.S. and abroad. DOE's Nuclear Awareness Training course and handbooks provide a basic level of understanding of nuclear technology and terminology to intelligence, nuclear licensing, and nonproliferation communities. DOE has published and disseminated a "Nuclear Terms Handbook," a "Black Market Nuclear Materials List" and ad-hoc reports on substances and objects encountered in the black market, e.g., "red mercury." Some of these training activities were developed in response to the illicit nuclear materials phenomenon, e.g., a tailored, 6 hour seminar specifically addressing nuclear trafficking and nuclear materials handling at the International Law Enforcement Academy in Budapest, Hungary. The demand for training by DOE experts related to nuclear smuggling and terrorism is growing well beyond current capabilities.

B. DoD

The National Defense Authorization Act for FY1997, Section 1421, provides authorization of \$15M for procurement of detection equipment for U.S. border security. Due to a reduced appropriations, this program was funded at \$9M. The legislation calls for procurement of equipment capable of detecting the movement of weapons of mass destruction and related materials into the U.S., and for interdicting such materials. Detailed program plans are currently in preparation by the DoD and the USCS in consultation with the U.S. Border Patrol.

C. Developing and Proposed Programs:

1. DOE

USCS and the DoD have requested DOE technical assistance for future overseas assessments and training on identifying nuclear and nuclear-related dual-use materials, equipment, and technologies. DOE will assist in local training of USCS and other law enforcement agencies. It will also modify the "Guidebook on Nuclear-Related Dual-Use Technologies" by incorporating technology input from Nuclear Suppliers Group members and translating the Guidebook into Russian.

The very high volume of air-, land-, and sea-traffic provides a challenge, not merely to detect nuclear material, but to permit the legitimate radioactive transport for passage while interdicting and prosecuting illicit trafficking. DOE will assist USCS and other agencies to develop a deployment and operations plan for nuclear detectors. This will include technical guidance or handbook pages to USCS agents on how they should respond to various levels of alert displayed on equipment.

With additional funding, DOE's Emergency Operations Center expects to define and staff a customer help line to provide quick turnaround expertise specifically geared to illicit nuclear material events. In most cases, this will meet the needs of law enforcement agencies well short of, and in lieu of, deployment of actual radiological response assets.

Training law enforcement officers how to transition from detection to a crisis management operation is a critical component within DOE's interagency training program. Once a weapon of mass destruction is located, there must be a seamless transition to a national response effort. Personnel that receive training to detect materials at ports of entry and other locations will be trained in the response program mentioned above.

2. DoD

Because of funding constraints, both the DoD/FBI Counterproliferation Program and the DoD/USCS Counterproliferation Program are limited in the number of nations that can receive counterproliferation training and equipment in Eastern Europe, the Baltics, and the former Soviet Union. With additional multi-year funding, these initiatives could readily expand into additional nations within the region of concern.

3. USCS

There are five strategic steps that USCS plans to take with the support of DOE and DoD in support of their mission and longer-term objectives:

- Carry out a Technology Assessment Program at Harvey Point, North Carolina to assess existing and developing technologies in the area of nuclear detection. These presentation will aid USCS in determining the most effective and efficient equipment to procure in the future. (Estimated cost: \$0.4M)
- Develop and conduct practical training courses for USCS field personnel based on existing training initiatives conducted by DOE and DoD laboratories. (Estimated cost: \$1.2M)
- Train and maintain a USCS Nuclear Interdiction Response Team (Estimate cost: \$0.2M)
- Upgrade existing and proposed equipment to add radioactive detection capabilities (e.g., x-ray systems). (Estimated cost: \$2.4M)
- Procure and strategically place radiation detection and analysis equipment at ports or entry. (Estimated cost: Under development)

1443(b)(5)

Plans for establishing appropriate centers for analyzing seized nuclear, radiological, biological, and chemical weapons, and related materials and technologies.

A. NUCLEAR/RADIOLOGICAL WEAPONS AND MATERIALS

OVERVIEW

DOE laboratories or sites will provide analysis of nuclear material or weapons seized as part of law enforcement or counterterrorism operations. The capabilities which now exist and those required to fulfill this mission are described below. DOE support to U.S. Government or international operations are part of broader nonproliferation and counterproliferation programs to counter nuclear smuggling and terrorism.

The comprehensive DOE program to counter the smuggling of nuclear materials is described separately. The attribution of material or samples seized in law enforcement or intelligence operations and the assessment (usually without the benefit of actual material) of suspect transactions are important components of this program.

There is a U.S. Government interagency program dedicated to the location and render safe of a nuclear or radiological device; these are national assets of the federal government and stand ready to deploy on short notice worldwide. Planning for the disposition of a seized weapon or device is currently a part of the program.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

DOE has agreements with the FBI, USCS and others with regard to technical and analytical support of investigations and emergencies involving radioactive material or weapons. Much of the capability to infer and assess the origin and credibility of nuclear material is in place as part of the DOE's Threat Credibility Assessment Program. It is the national laboratories' knowledge and expertise that provides for a seamless integration of analysis obtained during the nuclear material trafficking investigation with the analysis of a recovered nuclear weapon.

New emphasis on chemical and physical analysis of seized samples has been prompted by the interdiction of enriched nuclear materials in four cases in 1994 and more than one hundred suspect transactions reported since then. DOE national laboratories provide the technology base to analyze seized radioactive material; additional effort is required to fully organize and complete this capability.

The U.S. Government has an organizational structure for developing detailed plans for the disposition of seized weapons of mass destruction. Needed planning and exercises to include all national assets are described below.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

A. Forensics and attribution of seized material

The interdiction of smuggled nuclear material provides an opportunity to trace its origin and transport. With encouragement from the P-8 countries, an International Conference on Nuclear Smuggling Forensic Analysis was held at a DOE National Laboratory in November 1995. Subsequent meetings in Karlsruhe and Moscow of scientific, law enforcement and public policy representatives have established the basis for future cooperation in Europe and Asia on nuclear forensics. An international exercise for forensic analysis of high enriched uranium and plutonium is being planned for the coming months.

Within the U.S., an interlaboratory exercise was concluded this summer. It successfully benchmarked capabilities of the national laboratories. Within hours of receipt, DOE had characterized the nuclear isotopes, screened for high explosives and performed various spectroscopy and chemical analysis to determine the makeup of the sample. The latter provides clues about the sample beyond its simple nuclear isotopic formula. In combination with law enforcement and intelligence information, the U.S. would then hope to deduce how the material was packaged and transported.

B. Assessment of suspect transactions

Most often, material is not available for analysis. DOE has reviewed and assessed illicit nuclear materials sales for numerous U.S. and non-U.S. government agencies and maintains the only U.S. government database dedicated solely for this purpose. DOE maintains data on the flow and composition of nuclear smuggling, detailing the quality of smuggled material, the source of the material and its intended use. Reported incidents and the materials being seized and/or offered for sale are examined in depth. Seventy-five transactions were assessed in FY1996. Comprehensive summaries of illicit nuclear materials transactions are produced in monthly and annual reports to aid the law enforcement, policy, intelligence, and diplomatic communities in the understanding of trends and methods used in such transactions.

C. Disposition of seized weapons

Planning activities for recovery operations (Phase I Operations) have been conducted for the past several years.

PROGRAMS IN PLANNING OR REVIEW PHASES

A. Attribution of seized nuclear material

The next step beyond prototyping the forensics will be to operationalize the capability. The intent is to do so with the inclusion of one exercise annually. This must include clear protocols among DOE, FBI and USCS (domestically) and international agencies/foreign governments to provide for promptness and legal integrity of evidence. Additionally, it is planned to develop in cooperation with other federal and international agencies a Nuclear Forensics Implementation Support Tool; in effect, a library of libraries for forensic baselines, e.g., soil samples from around the world as well as such things as isotopics of various nations' nuclear feedstock, country of origin of containers and packaging. \$1M in FY1997, \$2M in FY1998, \$3M each FY afterward.

B. Expansion of the contingency planning to include all national assets and the final disposition of seized weapons/devices

This planning will leverage the information and plans developed in the Phase I planning, but will be conducted separately in order to protect sensitive information regarding the conduct of those operations. \$2M in FY1997, \$3M each FY starting in FY1998.

C. Area surveys and preparations of remote sites for the disassembly of nuclear weapons

The activities in FY1997 will be primarily plan development, FY1998 activities will include procurement and pre-positioning of equipment, FY1999 operations will begin baseline management of the capability. \$2M in FY1997, \$5M in FY1998, \$2M in each FY starting in FY1999.

FUNDING

The forensics effort is \$1M in FY1997 and is expected to increase to \$2M in FY1998 and \$3M each year thereafter. This is shown as part of the Nuclear Smuggling Initiative discussed elsewhere.

Expansion of the contingency planning to include all national assets and the final disposition of seized weapons/devices. \$2M in FY1997, \$3M each FY starting in FY1998.

Area surveys and preparations of remote sites for the disassembly of seized nuclear weapons. \$2M in FY1997, \$5M in FY1998, \$2M in each FY starting in FY1999.

B. BIOLOGICAL, CHEMICAL WEAPONS OR MATERIALS

OVERVIEW

FEMA is responsible for ensuring the Federal Response Plan is adequate for responding to the consequences of terrorism involving nuclear/biological/chemical materials or weapons. DoD possesses significant assets that, at the onset of a domestic nuclear, chemical, or biological terrorism incident, will be integrated into a coordinated federal resolution effort, including response assistance to the FBI for crisis management and to FEMA for consequence management.

A recent Secretary of Defense review of military assistance to civil authorities clearly established an integrated DoD response mechanism to support a Federal response to any domestic terrorism event. All DoD assistance will be personally managed by the Secretary of Defense, and assisted by the Chairman of the Joint Staff (CJCS) and the Secretary of the Army. The CJCS will assist the Secretary of Defense for crisis management through the Joint Staff. The Secretary of the Army will assist the Secretary of Defense for consequence management through the Director of Military Support. DoD crisis management will be provided through the national interagency terrorism response system. DoD crisis management response forces will be employed under the operational control of the Joint Special Operations Task Force (JSOTF). Units supporting the Federal consequence management response will be under the operational control of the Response Task Force; the Commander, Response Task Force will provide direct support to the JSOTF commander. The Response Task Force will be assigned to the appropriate Unified Combatant Commander (CINC).

DoD units and organizations can provide analysis of biological or chemical weapons or materials seized as part of law enforcement or counterterrorism operations. These capabilities are described below.

DoD Response Capabilities

The Defense Department special mission units are capable of operating in an nuclear, biological, or chemical environment and are tasked with the responsibility of responding during a terrorist crisis. The Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (SO-LIC) has established the structure of DoD support to the nuclear, chemical, or biological interagency terrorist crisis management capability and is in the process of refining it. Additionally, a focused effort is now underway to organize a robust consequence management response capability integrated with local, State, and Federal authorities in accordance with The Defense Against Weapons of Mass Destruction Act of 1996. Several DoD elements have expertise that will be called upon.

DoD provides a 24-hour a day, on-call emergency response capability to respond to nuclear, biological, or chemical incidents with personnel trained in nuclear, biological, chemical, and explosive ordinance disposal operations. DoD personnel perform render-

safe procedures; provide damage limitation, reconnaissance, recovery, sampling, mitigation, decontamination, and transportation; and perform or recommend final disposition of weaponized and non-weaponized nuclear, biological, or chemical materials.

DOE Forensic Capabilities

The DOE Chemical and Biological Weapon Nonproliferation Program was initiated in October 1996, in response to the Fiscal 1997 Energy and Water Development Appropriations Act which allocated \$17M in FY1997 for DOE research and development on measure to counter the proliferation of chemical and biological weapons and their related technologies.

The Department in coordination with the DOE national laboratories with their significant capabilities in the chemical and biological sciences is focusing its program in several areas including detection technologies and forensics. This leverages their significant capabilities in the chemical and biological sciences to address high priority gaps in the nation's ability to mitigate the spread of these weapons of mass destruction. The DOE laboratories have traditionally performed forensic analyses on chemical and biological samples for the law enforcement and intelligence communities, and have established capabilities in the identification of chemical and biological agents obtained from diverse environmental samples.

DOE is applying these capabilities to assist law enforcement and other agencies in their search for forensic signatures associated with suspicious disease outbreaks and/or chemical releases, domestically and abroad. As a result, the Department is forging new partnerships with military, intelligence, law enforcement, and emergency response organizations at the Federal, State, and local levels.

Biological Weapons/Chemical Weapons Response

The Chemical and Biological Counterterrorism response capability within DoD falls under the Joint Staff working closely with other federal agencies. The U.S. Army Chemical and Biological Defense Command (CBDCOM) also develops technological countermeasures and equipment that provide rapid warning and facilitate quick response in the event of a chemical or biological incident. Under CBDCOM, the Edgewood Research, Development, and Engineering Center (ERDEC) also maintains a rapidly deployable mobile environmental monitoring and technical assessment system, the Mobile Analytical Response System. This system provides state-of-the-art analytical assessment of chemical or biological hazards at an incident site.

Also under CBDCOM is the U.S. Army Technical Escort Unit which is a specialized army unit with missions of escorting the movement of chemical or biological material and finding, rendering safe and disposing of chemical or biological munitions. This unit maintains a 24-hour, on-call alert team that will be specifically tailored to a current

situation for both the crisis and consequence management response. Among the different missions these units perform are:

- Recon mission - conduct reconnaissance of the incident site; identify munitions and hazards; perform render safe procedures on munitions; gather samples of suspect biological/chemical agents; provide small-area decontamination; and advise the on-scene coordinator on personnel and equipment requirements.
- Decon mission - conduct decontamination of personnel exiting the incident site; control entry/exit at the site; and secure clothing/equipment of processing personnel.

Under the U.S. Army Medical Research and Materiel Command (USAMRCD), the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) develops strategies, products, information, procedures, and training for medical defense against agents of biological origin and naturally occurring infectious diseases of military importance that require special containment. USAMRIID has many existing capabilities which can be directly employed for evaluating terrorist incidents from the initial communication of the threat or incident to its resolution. These capabilities include technical expertise to assist in the evaluation of threat capability in relation to specific agent or agents; assist in the evaluation of delivery methods and their impacts; identification of biological agents (infectious and toxic) in samples from an incident; technical and biomedical expertise required to protect personnel responding to such a terrorist incident or to decontaminate personnel and facilities; technical expertise to accomplish medical and operational planning; special vaccines for personnel who respond to or are the target of such incidents; and specialized transport of limited numbers of biological casualties under containment conditions to a receiving medical facility. A key capability of the Institute is its staff of physicians who are experienced clinicians and also understand the unique diagnostic and therapeutic challenges posed by biological warfare agents, information with which most physicians are not familiar.

The Naval Medical Research Institute (NAMRI) provides basic and applied research competence in infectious diseases, immunobiology/tissue transplantation, diving and environmental medicine, blood research, and human factors directly related to military requirements and operational needs. The Biological Defense Research Program has designed reagents, assays, and procedures for agents classically identified as biological threats as well as non-classical threat agents, in environmental and clinical specimens. This program has developed rapid, hand-held screening assays and immunoassays for clinical and environmental samples which can be deployed globally.

The U.S. Marine Corps Chemical/Biological Incident Response Force (CBIRF) is a consequence management response force tailored for short notice response to chemical and/or biological incidents. This self contained response force has five elements: command; chemical and biological detection/identification and decontamination; medical; security; and service support. A unique feature of the CBIRF is its electronic linkage to

an Advisory Group of civilian experts in chemical and biological matters and disaster response who will advise the CBIRF in training and during incident response. The CBIRF is also supported by a deployable laboratory from the Navy Medical Research Institute. This laboratory is capable of detecting and identifying biological agents.

1443(b)(6)

Plans for establishing in the U.S. appropriate legal controls and authorities relating to the exporting of nuclear, radiological, and chemical weapons, and related materials and technologies.

OVERVIEW

The U.S. maintains a comprehensive system of export controls, which has as one of its most important objectives preventing the transfer of goods, technology or technical data where such transfer would assist the development, acquisition, or use of weapons of mass destruction or missile delivery systems. As appropriate, these controls are closely coordinated with international export control regimes. Violations of U.S. export control laws can be punished by severe criminal penalties, including substantial periods of imprisonment.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

With the solid foundation for national export control systems laid in place by the interagency export control working group under the Cooperative Threat Reduction program, the DOE multi-year export control plan is designed to supplement current U.S. export control activities and to provide for continuity of export control assistance to the foreign Soviet Union. The DOE plan supports U.S. nonproliferation policy, including Presidential Decision Directive-13, Presidential Decision Directive-41, the Nuclear Nonproliferation Act of 1978, and the Atomic Energy Act of 1954, as amended. The DOE former Soviet Union export control program is implemented through both government-to-government channels and laboratory-to-laboratory initiatives.

CURRENT PROGRAMS/CAPABILITIES

NUCLEAR

To address export control issues, DOE has developed a unique, multi-year Plan for Cooperation on Export Controls in the former Soviet Union. The Plan is designed to harness former Soviet Union experts' technical knowledge in the export licensing review process, specifically focusing on commodities covered under the

Nuclear Suppliers Group lists and the Zangger Committee Trigger List, including specially designed or prepared equipment or material for the processing, use, or production of special fissionable material. Benefiting from the past several years of U.S. policy level interaction with former Soviet Union government counterparts, DOE has noted the particular need for engaging their scientific experts in the export control process. Thus, the DOE focus is on the scientific community.

Under the Atomic Energy Act, the export of fissile materials, facilities for the production or utilization of nuclear materials (e.g., nuclear reactors) or major components of such facilities is subject to licensing by the NRC. Significant nuclear exports require a government-to-government agreement for cooperation, that among other things, obligates a non-nuclear weapons state recipient to accept IAEA safeguards on all its nuclear activities.

DOE has six laboratory-to-laboratory agreements in place, including three in Russia, two in Ukraine and one in Kazakhstan. Additionally, DOE is cooperating bilaterally with former Soviet Union governments to design effective workshops and seminars to strengthen their national export control systems.

DOE seeks to maintain its current laboratory-to-laboratory programs already in place. Additional initiatives will include establishing a laboratory-to-laboratory program with Snezhinsk, formerly known as Chelyabinsk-70 and Kremlev, formerly Arzamas-16, both weapons laboratories in Russia. Further, while the DOE former Soviet Union Export Control Plan does not limit attention or resources to the four inheritors of nuclear weapons, budget constraints have not allowed for expansion to other Soviet republics.

To maintain the current DOE former Soviet Union export control programs, funding for FY1998-2003 is estimated to be approximately \$3M per year.

CHEMICAL/BIOLOGICAL

- The Arms Export Control Act and its implementing regulations provide broad authority to control the export of chemical or biological warfare agents, munitions capable of disseminating such agents, or related technical data.
- Precursor chemicals, biological cultures, and certain types of dual-use equipment capable of contributing to the production of chemical or biological weapons are subject to DOC export license under the Export Administration Act.
- The Chemical Weapons Convention, which has been submitted to the Senate for advise and consent to ratification, prohibits the production or possession of chemical weapons and requires parties to maintain export controls on certain precursor chemicals.

- Currently, the multilateral Australia Group coordinates international implementation of export controls on chemical and biological weapons-related items.
- The production, possession, or use of biological weapons is banned by the Biological and Toxin Weapons Convention, to which the U.S. is a party, and its implementing legislation. Federal law also prohibits the production or possession of biological weapons within U.S. jurisdiction.

MISSILE

- The Arms Export Control Act subjects missiles, their major components, and related technical data to export licensing by the DoS.
- The export of certain dual-use items-with potential application to missiles is licensed by the DOC.
- Export controls on missile-related items are coordinated through the international Missile Technology Control Regime.

1443(b)(7)

Plans for encouraging and assisting governments of foreign countries to implement and enforce laws that set forth appropriate penalties for offenses regarding the smuggling of weapons of mass destruction and related materials and technologies.

OVERVIEW

The U.S. efforts to encourage and assist foreign governments in implementing and enforcing laws relating to smuggling of weapons of mass destruction are based upon the following tenets. They should:

- Further a basic policy commitment to nonproliferation;
- Develop the legal and regulatory foundation for an effective system of export control, including appropriate penalties for violations;
- Develop a licensing mechanism; and
- Strengthen enforcement systems, including customs and border controls aimed at preventing smuggling.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

The Office of Arms Transfers and Export Control Policy of the DoS's Bureau of Political Military Affairs chairs an interagency working group on export control cooperation. This group coordinates U.S. efforts to assist other countries to develop and implement effective export controls. Members of this group include representatives from DoS (chair), DOC, DOE, DoD, USCS, the Arms Control and Disarmament Agency, and the Intelligence Community. Goals are accomplished through bilateral and multilateral forums, seminars, and exchanges, training activities, and the provision of equipment.

CURRENT PROGRAMS/CAPABILITIES

Since 1991, the U.S. has been working with the states of the former Soviet Union and Central Europe, including conducting programs on the legal and regulatory foundation for export control. A variety of funding sources were used, including the Cooperative Threat Reduction Program for the four former Soviet Union nuclear weapons successor states, the Agency for International Development-funded Commercial Law Development Program for central Europe, and the Nonproliferation and Disarmament Fund throughout the region. Several activities are on-going using funds from the former and latter programs. Estimated costs to complete this program are \$9.9M.

The nuclear successor states of the former Soviet Union and most of the states of central Europe have established some form of legal basis for their export control systems. Often, however, it is based on a number of executive orders. Only in Kazakhstan and Lithuania has comprehensive export control law been passed by the Parliament. The U.S. is working with the remaining states to help them codify their laws and establish appropriate enabling regulations. Although all agencies in the export control group participate, the DOC, has the lead on this part of the activities. DOC has developed an extensive library of training material in both English and Russian that can be readily adapted to meet a country's specific needs. Cooperation with customs and border control agencies has been led by the USCS.

Export control assessment teams will visit the states of the "Southern Tier" (except Azerbaijan) through March 1997 under a program funded by the DoS Nonproliferation and Disarmament Fund. The objective is to develop a comprehensive picture of the existing export control systems and identify specific areas where U.S. cooperation could be most effective. An essential element of this is the current status of laws, decrees, and regulations related to export control. Anticipating that further assistance will be needed in this area, the Nonproliferation and Disarmament Fund agreed to finance a series of bilateral seminars on the legal and regulatory issues involved in export control.

Under the FY1997 Defense Authorization, DoD and the FBI have begun cooperation to strengthen law enforcement assistance to former Soviet Union countries with the aim of reducing the dangers of nuclear smuggling. To a significant extent, this program will also emphasize assistance to the countries of the Caucasus and Central Asian regions.

1443(b)(8)

Plans for building the confidence of the U.S. and Russia in each other's controls over U.S. and Russian nuclear weapons and fissile material, including plans for verifying the dismantlement of nuclear weapons.

OVERVIEW

The need for more modern and effective nuclear material protection, control, and accounting systems in Russia, the former Soviet Union and the Baltics became apparent in 1992 following the breakup of the Soviet Union. In the initial response to these concerns, the U.S. began to address the nuclear material security issue in the former Soviet states which had nuclear weapons on their soil: Russia, Ukraine, Kazakstan, and Belarus. This cooperation was established through the Cooperative Threat Reduction Act. Programs of cooperation were established through agreements with the appropriate authority in each of these countries and the DoD, with the DOE as the agency responsible for their implementation. This assistance consisted of the provision of technology, training, and technical support.

In 1995, DOE signed an agreement with the Russian Federal Nuclear and Radiation Safety Authority, Gosatomnadzor, to establish a program which focused on the development of national nuclear regulatory systems. Also, DOE established independent efforts with other countries of the former Soviet Union which use or store highly enriched uranium or plutonium. Presidential Decision Directive-41 consolidated these efforts, giving DOE responsibility for the budget and implementation of the entire Material Protection, Control and Accounting Program across Russia, the former Soviet Union, and the Baltics, consolidating the effort under one agency. Since that time, the level of effort, the number of facilities and governmental cooperating partners, and funding have all risen dramatically to meet the need for improved material protection, control and accounting in these countries.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

Under Presidential Decision Directive-41, DOE was assigned responsibility to protect weapons-useable nuclear material in Russia, the Newly Independent States, and the Baltics. DOE formed the Material Protection, Control and Accounting Task Force in 1995, under the Office of Arms Control and Nonproliferation, to fulfill these obligations.

In conjunction with DOE's efforts, the NRC provides support, including regulatory development activities, such as licensing and inspection program development, and related training.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

A. Material Protection, Control, and Accounting Program

The primary goal of DOE's Material Protection, Control and Accounting Program is upgrading security and accounting systems at all facilities in the former Soviet Union where separated plutonium or highly enriched uranium is located. The Material Protection, Control and Accounting Program cooperates with all sectors of the former Soviet nuclear complex which possess such materials except those with nuclear weapons under the control of the Russian Ministry of Defense. DoD has a separate program of cooperation on nuclear weapons control and accounting. Also, DOE works closely with nuclear regulatory authorities in Russia by initiating material protection, control and accounting training, assisting with the creation of regulatory documents and national systems for nuclear material control and accounting, and providing needed equipment for inspectors to carry out their responsibilities. DOE has also initiated material protection, control and accounting assistance programs for nuclear materials used by the Russian Navy and Icebreaker fleet and for nuclear materials during transportation in Russia.

Cooperation is underway across Russia in four sectors: the Ministry of Atomic Energy Civilian Complex, Independent Civilian Sector, Ministry of Atomic Energy Defense Complex, and the Naval Fuel Sector.

B. Ministry of Atomic Energy Civilian Complex:

DOE is providing material protection, control and accounting upgrades for the following facilities in the Ministry of Atomic Energy Civilian Complex:

Dimitrovgrad, Scientific Research Institute of Atomic Reactors
 Elektrostal, Production Association Machine Building Plant
 Obninsk, Institute of Physics and Power Engineering
 Podolsk, Scientific Production Association Luch
 Novosibirsk Chemical Concentrates Plant
 Sverdlovsk Branch of the Scientific Research and Design Institute of
 Power Technology
 Beloyarsk Nuclear Power Plant
 Khlopin Radium Institute
 St. Petersburg Central Design Bureau of Machine Building
 Moscow Institute of Theoretical and Experimental Physics
 Moscow Scientific Research and Design Institute of Power Technology

C. Ministry of Atomic Energy Civilian/Defense Complex:

In addition, DOE is providing assistance that cuts across the Ministry of Atomic Energy civilian and defense sectors in the form of training and transportation:

Russian Methodology and Training Center, Obninsk: DOE is assisting Ministry of Atomic Energy to fulfill its October 1994 mandate for the development of this training center. One of the primary goals of this project is to develop an indigenous and effective cadre of Russian training instructors in Material Protection, Control and Accounting systems, concepts, and technology.

Transportation Security: The initial project for improvement of nuclear material transportation in Russia began in May 1996. This project will make significant improvements to the security of nuclear materials transported by Ministry of Atomic Energy throughout Russia. Cooperation is being coordinated with a variety of Russian ministries through Eleron. In a separate program DoD has cooperated with the Ministry of Defense on warhead transportation and security.

D. Ministry of Atomic Energy Defense Complex:

DOE cooperation with the Ministry of Atomic Energy Defense Complex is underway at the following sites:

All-Russian Scientific Research Institute of Automatics (VNIIA)
 Arzamas-16, All-Russian Scientific Research Institute of Experimental
 Physics (VNIIEF)
 Chelyabinsk-65, Mayak Chemical Metallurgical Combine
 Chelyabinsk-70, All-Russian Research Institute of Technical Physics
 (VNIITF)
 Tomsk-7, Siberian Chemical Combine
 All-Russian Scientific Research Institute of Inorganic Materials
 Sverdlovsk-44, Urals Electrochemical Integrated Plant
 Krasnoyarsk-26, Mining and Chemical Combine
 Krasnoyarsk-45, Uranium Isotope Separation Plant
 Eleron (Special Scientific and Production State Establishment)

E. Independent Civilian Sector:

Russian State Scientific Research Center-Kurchatov Institute

The DOE is cooperating with Gosatomnadzor, the Federal Nuclear and Radiation Safety Authority of Russia, which provides regulatory oversight of the Russian civilian nuclear complex. In June 1995, DOE and Gosatomnadzor signed an agreement for cooperation on nuclear Material Protection, Control and Accounting. DOE and Gosatomnadzor representatives met in October 1995, agreeing to cooperate in six areas: Regulatory Document Development; Development of the Russian Federal Materials Control and Accountability Information System; Provision of Materials Control and Accountability Equipment for Inspectors; Development of the Gosatomnadzor Material Protection; Control and Accounting Oversight Information System, Training; and, Material Protection, Control and Accounting Facility Upgrades. Gosatomnadzor selected the following six sites for material protection, control and accounting upgrades:

St. Petersburg Institute of Nuclear Physics (PNPI), Gatchina
 Karpov Institute of Physical Chemistry, Obninsk
 Moscow Engineering Physics Institute (MEPhI)
 Joint Institute of Nuclear Research (JINR), Dubna
 Nickel Metallurgical Combine, Norilsk
 Tomsk Polytechnic University (TPU)

F. Naval Nuclear Fuel Sector:

Through cooperation with the Kurchatov Institute, DOE has negotiated a series of steps with the Russian Navy to strengthen material protection, control and accounting for Russian naval nuclear unirradiated or fresh fuel. The first technical meeting between DOE and Russian Navy representatives occurred in September 1995. The work in 1996 focused on upgrades at two naval fuel storage facilities plus a naval research facility located at the Kurchatov Institute. In February 1996, 12 Russian Naval officers from Navy Headquarters in Moscow and the Northern and Pacific Fleets attended a workshop presented by U.S. specialists at the Kurchatov Institute on analysis of vulnerabilities that an effective safeguards system must take into account. In April 1996, three Naval officers and five representatives of the Kurchatov Institute visited DOE Headquarters and several of the National Laboratories to attend briefings and observe DOE material protection, control and accounting methodologies. A visit by U.S. experts to a naval facility outside of Murmansk was completed in May 1996. Upgrades at Russian naval fuels storage facilities are being designed and implementation is beginning this year. In addition, following a series of visits to Murmansk Shipping Company in the summer of 1996, cooperation has also begun to upgrade security for highly enriched uranium fuels used to power Russian nuclear icebreakers.

FUNDING

BUDGET SUBMISSION FOR FY98-2003:

Material Protection, Control, and Accounting Program

1998 request:	\$140M
1999 projected request:	\$156M
2000 projected request:	\$104M
2001 projected request:	\$70M
2002 projected request:	\$34M
2003 projected request:	\$0

1443(b)(9)

Plans for reducing U.S. and Russian stockpiles of excess plutonium.

(A) Consideration of the desirability and feasibility of a U.S.-Russian agreement governing fissile material disposition and the specific technologies and approaches to be used for disposition of excess plutonium, and

(B) An assessment of the options for U.S. cooperation with Russia in the disposition of Russian plutonium.

OVERVIEW

The U.S. is committed to safeguarding and reducing U.S. and Russian stockpiles of excess weapons plutonium as quickly as practicable, while ensuring effective nonproliferation controls. Safeguarding and reducing these excess stockpiles will help reduce the risks of nuclear theft and terrorism and contribute to the irreversibility of nuclear arms reductions.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

Efforts in this area are overseen by an interagency plutonium disposition group, co-chaired by the NSC and the Office of Science and Technology Policy (OSTP). Implementation actions are primarily the responsibility of DOE, though the DoS plays a leading role in relevant negotiations and other discussions with Russia and other countries.

On January 14, 1997, DOE issued a Record of Decision setting forth a strategy to irreversibly dispose of the nation's surplus weapons plutonium and to reduce from seven to three the number of sites where surplus nuclear materials are stored. The fundamental purpose of the storage and disposition program is to provide for the safe, secure, environmentally sound and inspectable future storage of all weapons-usable fissile materials (primarily plutonium and highly enriched uranium) and the disposition of fissile materials declared excess to national security needs.

The Administration's approach to the disposition of U.S. surplus plutonium is to pursue a dual-track strategy that allows for immobilization of surplus plutonium in glass or ceramic material with highly radioactive fission products, and burning of some of the surplus plutonium as mixed oxide fuel in existing domestic commercial reactors. These options would both meet the "spent fuel standard;" that is, they would transform the excess weapons plutonium into a form in which it would be roughly as inaccessible and unattractive for recovery and use in weapons as the plutonium in ordinary spent fuel from commercial reactors. In both cases, the resulting plutonium-bearing wastes (immobilized plutonium forms or spent fuel) would be stored for an interim period and then disposed of in a geologic repository pursuant to the Nuclear Waste Policy Act. The U.S. preserves the option of burning mixed oxide fuel in Canadian Deuterium Uranium (CANDU) reactors in the event of a multilateral agreement to do so among Russia, Canada, and the U.S.. The timing and extent to which either or both of these immobilization and mixed oxide disposition options are ultimately deployed will depend upon the results of future technology development and demonstrations, follow-on (tiered) site-specific environmental review, contract negotiations, and detailed cost proposals, as well as nonproliferation considerations and agreements with Russia and other nations. DOE's program will be subject to the highest standards of safeguards and security throughout all aspects of storage,

transportation, and processing, and will include, when appropriate, IAEA verification as soon as practical. DOE has estimated that the net life-cycle cost of implementing this dual-track strategy will be approximately \$2.2B (discounted net present value) over the life of the project.

As noted in the nonproliferation and arms control assessment prepared by DOE, the dual-track strategy would provide increased flexibility, ensuring that plutonium disposition could be initiated on schedule even if one of the approaches ultimately failed or was delayed. Establishing the means for expeditious plutonium disposition will also help provide the basis for an international cooperative effort that may result in reciprocal, irreversible plutonium disposition actions by Russia. This disposition strategy signals a strong U.S. commitment to reducing its stockpile of surplus plutonium. Planned programs will provide the basis and flexibility for the U.S. to initiate plutonium disposition either multilaterally or bilaterally through negotiations with other nations, or unilaterally as an example to Russia and other nations.

The use of mixed oxide fuel in existing reactors would be undertaken in a manner consistent with U.S. policy objectives to make the nuclear disarmament process irreversible and not to encourage the civilian use of plutonium. To this end, implementing the mixed oxide alternative would be characterized by government ownership and control of the mixed oxide fuel fabrication facility at a DOE site and use of the facility only for the surplus plutonium disposition program. There would be no reprocessing of spent mixed oxide fuel. Instead, the fuel would be used in a once-through fuel cycle in existing reactors, with appropriate arrangements, including contractual or licensing provisions and limiting use of mixed oxide fuel to surplus plutonium disposition, to discourage general civil use of plutonium-based fuel.

This Administration is committed to working closely with Russia and other nations to establish a cooperative program to implement disposition of Russian excess plutonium on a parallel track. The U.S. believes that U.S. and Russian stockpiles of excess plutonium should be reduced in parallel, with the goal of eliminating all excess weapons grade plutonium resulting in each side having roughly equal remaining stocks of plutonium in military stockpiles. International cooperation, including cooperative approaches to the financing of plutonium disposition in Russia, is likely to be essential to success in reducing Russian excess plutonium stockpiles. The U.S. and Russia have substantially different views concerning the costs and risks posed by civilian plutonium fuel cycles. It appears likely that Russia will ultimately decide to pursue a disposition approach whose main emphasis is on the mixed oxide option, though with some limited use of immobilization as well.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

As noted above, the Administration will pursue a strategy for U.S. plutonium disposition that allows for immobilization of surplus weapons plutonium in glass or ceramic forms and burning of the surplus plutonium as mixed oxide fuel in existing reactors. DOE has determined that at least eight metric tons of plutonium will be immobilized because it would not be suitable for use in mixed oxide fuel without extensive, and costly, purification. The Administration intends to move forward as rapidly as practicable to carry out tests and demonstrations of both options over the next several years. The extent to which either or both of these technologies is implemented will be determined in the future.

DOE has established a detailed program plan for implementing both of these approaches to plutonium disposition – with the built-in flexibility needed to modify U.S. approaches as circumstances warrant. Tests and demonstrations of key plutonium disposition technologies are already underway. For example, a full-scale “cold test” of the “can-in-canister” immobilization approach (described below) has already been conducted, and reactor fuel pellets made from weapons plutonium have been fabricated on a laboratory scale at Los Alamos National Laboratory; a full-scale prototype demonstration of the technology for safely and cleanly converting plutonium weapons components or “pits” to oxide is expected this year. Following a step-by-step program of further tests, demonstrations, and licensing procedures, DOE expects that full-scale disposition operations using both approaches could begin 8-13 years from now, and be completed by 24-31 years from now, assuming successful program implementation and continued Congressional support.

The mixed oxide option, if implemented, will make use of existing operating reactors and a government-owned mixed oxide fabrication facility licensed by NRC (either a new facility or a modification of an existing building or buildings). The number of reactors required for the mission is undetermined at this time, but is expected to be in the range of four to eight reactors for disposition of 50 metric tons of excess weapons plutonium over 20-30 years.

Based on analyses and tests to date, the most attractive immobilization approach appears to be the “can-in-canister” option, in which cans of plutonium-bearing immobilized material would be arrayed within large canisters into which molten glass containing intensely radioactive high-level waste would be poured. The resulting waste canisters would be generally similar to waste canisters already being produced, except for the inclusion of plutonium. The immobilization operation might be conducted at the Savannah River Site, making use of existing plutonium-handling glove-box facilities and the Defense Waste Processing Facility.

Alternatively, the operation might be conducted at the Hanford Reservation, where new immobilization facilities for high-level waste are planned. Selections of specific facilities will be made after site-specific environmental impact statements are complete.

To accomplish the U.S. plutonium disposition mission, DOE will use existing buildings and facilities to the extent practical to minimize costs and delays, and build new facilities where cost, environmental, safety, and other factors suggest that this would be the best approach. All disposition facilities will be designed or modified as needed, to accommodate any international inspection requirements to which the U.S. may agree, consistent with the President's nonproliferation policies.

Pursuant to its Record of Decision, DOE will pursue the following strategy and supporting actions for plutonium disposition:

- Immobilize plutonium materials using vitrification or ceramic immobilization at either Hanford or the Savannah River Site, in new or existing facilities. Immobilization could be used for either pure or impure forms of plutonium.
- Convert surplus plutonium materials into mixed oxide fuel for use in existing reactors. Pure surplus plutonium materials, including pits, pure metal, and oxides, could be converted without extensive processing into mixed oxide fuel for use in existing commercial reactors.
- DOE reserves as an option the potential use of some mixed oxide fuel in Canadian reactors in the event that a multilateral agreement to deploy this option is negotiated among Russia, Canada, and the U.S.. DOE will engage in a test and demonstration program for Canadian reactor mixed oxide fuel consistent with ongoing and potential future cooperative efforts with Russia and Canada.

Implementation of this strategy will involve some or all of the following supporting actions:

- Construct and operate a plutonium immobilization facility at either Hanford or the Savannah River Site. DOE will analyze alternative locations at these two sites for constructing new buildings or using modified existing buildings in subsequent, site-specific NEPA reviews. Savannah River Site has existing facilities (the Defense Waste Processing Facility) and infrastructure to support an immobilization mission. At Hanford, DOE is planning to construct and operate immobilization facilities for the wastes in Hanford tanks. DOE will not create new infrastructure for immobilizing plutonium with high-level waste or cesium at Idaho National Engineering Laboratory, the Nevada Test Site, Oak Ridge Reservation, or Pantex.

- Construct and operate a plutonium conversion facility for non-pit plutonium materials at either Hanford or Savannah River Site. DOE will collocate the plutonium conversion facility with the vitrification or ceramic immobilization facility discussed above.
- Construct and operate a pit disassembly/conversion facility at Hanford, Idaho National Engineering Laboratory, Pantex, or Savannah River Site (only one site). DOE will not introduce plutonium to sites that do not currently have plutonium in processing or storage. DOE will analyze alternative locations at Hanford, Idaho National Engineering Laboratory, Pantex, and Savannah River Site for constructing new buildings or using modified existing buildings in subsequent, site-specific NEPA review.
- Construct and operate a domestic, government-owned, limited-purpose mixed oxide fuel fabrication facility at Hanford, Idaho National Engineering Laboratory, Pantex, or Savannah River Site (only one site). As noted above, the Nevada Test Site and Oak Ridge Reservation will not be considered further for plutonium disposition activities. In follow-on NEPA review, DOE will analyze alternative locations at Hanford, Idaho National Engineering Laboratory, Pantex, and Savannah River Site for constructing new buildings or using modified existing buildings.

DOE's program for surplus plutonium disposition will be subject to the highest standards of safeguards and security for storage, transportation, and processing, particularly during operations that involve the greatest proliferation vulnerability, such as mixed oxide fuel preparation and transportation, and will include IAEA verification as appropriate. Transportation of all plutonium-bearing materials under this program, including the transportation of prepared mixed oxide fuel to reactors, will be accomplished using the DOE Transportation Safeguards Division's "Safe Secure Transports," which afford these materials the same level of transportation safety, safeguards and security as are used for nuclear weapons.

NEAR-TERM PROGRAM MILESTONES

A. Plutonium Conversion

- | | |
|------------|---|
| 1997-1998: | Full-scale prototype demonstration of the Advanced Recovery and Integrated Extraction System converting weapons pits to oxide |
| 1997-1998: | Tests to demonstrate the effective removal of gallium from weapons plutonium and the acceptability of reduced gallium levels |

- 1998: Complete site-specific NEPA review
- 1998-1999: IAEA & Russian acceptance of non-destructive assay technology as a component of plutonium disposition strategy
- 1998-1999: Prototype upgrades complete

B. Immobilization

- 1997-1999: Tests to demonstrate acceptability of material designs, plutonium loadings (including safety, proliferation resistance, repository performance) and solubility
- 1997: Choose immobilization form (glass or ceramic)
- 1998: Complete site-specific NEPA review
- 2000: Can-in-canister "hot test" with waste and plutonium

C. Reactors and mixed oxide

- 1997-1998: Fabrication and irradiation of mixed oxide pellets for materials tests
- 1998: Select reactors (utilities) for possible irradiation services and contractor for development of mixed oxide fuel fabrication facility
- 1999-2000: Confirm mixed oxide fuel formulations

LONGER-TERM PROGRAM MILESTONES (NOTIONAL)¹

A. Plutonium Conversion

- 1998-2001: Siting, licensing, permitting conversion facility
- 1999-2003: Construction, modifications and pre-operation of conversion facility
- 2004 and beyond: Start-up and operation of conversion facility

¹Progress toward these milestones is contingent on comparable progress toward disposition of Russian excess plutonium

B. Immobilization

- 1998-2002: Siting, licensing, permitting immobilization facility
- 2000-2003: Construction, modifications and pre-operation of immobilization facility
- 2003: Pilot plant production-scale can-in-canister demonstration
- 2004 and beyond: Operation of immobilization facility

C. Reactors and mixed oxide

- 1998-2001: Siting, licensing, permitting mixed oxide fabrication facility
- 1998-2001: License modification for reactors
- 2002 and beyond: Reactor modifications
- 2002-2006: Construction, modification and pre-operation of mixed oxide fabrication facility
- 2007 and beyond: Operation of mixed oxide fabrication facility

PLANS FOR RUSSIAN PLUTONIUM DISPOSITION

The U.S. is committed to working cooperatively with Russia and other countries to ensure that Russian stockpiles of excess weapons plutonium are reduced in parallel with reductions in the U.S. stockpile. A wide range of issues will have to be addressed to accomplish this objective.

Russia has not yet formally declared how much of its plutonium is excess to its defense needs, an essential first step that the U.S. is actively encouraging the Russian government to take. Moreover, while Russian officials have indicated that they plan to use the bulk of the Russian stockpile of excess plutonium as fuel in nuclear reactors, Russia has not made a formal decision concerning its plan for disposition similar to the DOE's Record of Decision. In addition, Russia must address the daunting challenges of dismantlement and disposition in the midst of severe economic dislocations and budget shortfalls. It is very likely, therefore, that international cooperation in implementing and financing the program will be required to accomplish disposition of excess Russian plutonium in the near term.

The U.S. has been pursuing cooperation in this area in both bilateral and multilateral fora. Bilaterally, at the request of Presidents Clinton and Yeltsin, U.S. and Russian experts carried out a detailed joint study of the options for plutonium disposition, published in September 1996. This study examined the technical aspects, costs, schedule, and environmental and nonproliferation implications of a range of disposition options, including both reactor and immobilization approaches. The study concluded that each of these approaches was technically feasible, and provided a wealth of data on the various disposition options. Following the completion of the joint study, the U.S. and Russia are jointly undertaking a variety of analyses and tests of key technologies, including immobilization, mixed oxide fabrication, safety analyses of mixed oxide use, and technologies for converting pits to oxide, among others. In the Nunn-Lugar-Domenici legislation, Congress provided \$10M to DOE for these and other purposes related to the confirmation of irreversible weapons dismantlement. This work is overseen by a U.S.-Russian Plutonium Disposition Steering Committee, led by senior OSTP and DOE officials on the U.S. side, and a Deputy Minister of Atomic Energy on the Russian side. This panel also included senior U.S. and Russian laboratory experts.

In parallel with this official bilateral effort, the U.S. and Russia have also established an independent group of senior scientists, the U.S.-Russian Independent Scientific Commission on Disposition of Excess Weapons Plutonium, to make recommendations to the U.S. and Russian Presidents in this area. This group, consisting of five scientists on each side, completed its interim report in September 1996, recommending that both sides pursue the dual-track strategy later selected by the Clinton Administration, and that both sides take new steps related to transparency and security for nuclear materials as well. A follow-on report is expected this spring.

Multilateral governmental approaches to cooperation are actively being pursued with Russia and our Group of Seven partners. At the April 1996 Moscow Nuclear Safety and Security Summit, the P-8 agreed that programs should be put in place to accomplish plutonium disposition as quickly as practicable by converting plutonium to spent fuel or some other form equally as difficult to use in nuclear weapons. The leaders also agreed that plutonium disposition should be conducted under effective nonproliferation controls and that the mixed oxide and immobilization options were the most promising approaches. The summit endorsed international cooperation to accomplish these objectives, mandating a meeting of international experts to identify promising next steps. That meeting was held in Paris in October, 1996. The experts agreed that both mixed oxide and immobilization were important and complementary approaches, and discussed a variety of specific next steps to implement plutonium disposition. Discussion is continuing, with the goal of preparing decisions on further actions for future P-8 summits.

Like the U.S., Russia does not have large-scale, currently operational facilities for converting pits to oxide, fabricating plutonium oxide into mixed oxide fuel, or immobilizing plutonium. New facilities will have to be built, or existing facilities modified, to accomplish these missions. At the international experts' meeting, Russia, France, and Germany proposed the construction of a pilot-scale mixed oxide plant in Russia as a major initial step in plutonium disposition. The U.S. indicated that, as part of an overall strategy for timely disposition that included other elements, it could support such an approach if appropriate nonproliferation conditions were met. These conditions include stringent security and accounting for the nuclear materials, international verification, use of the facility only for excess weapons plutonium, and no reprocessing of the resulting spent mixed oxide fuel, at least until the disposition mission was complete. It should be noted that the U.S. would impose identical restrictions and international verification on its own disposition activities. International discussions of this proposed facility and associated nonproliferation and management issues are ongoing. The U.S. goal is to facilitate agreement on an implementable plan, including appropriate financing, so that disposition of Russian excess plutonium can be implemented as rapidly as practicable.

In bilateral discussions with Russia subsequent to the Paris experts meeting, the U.S. proposed joint development of a pit disassembly and conversion pilot plant for Russia. This system would extract pits, convert the plutonium metal to oxide and provide an accurate assay of the resulting material in sealed containers. This would not only demilitarize the pits but also provide a starting point for applying IAEA safeguards. FY1997 funds have been allocated by DOE for conceptual definition planning with Russia. Design and procurement would start in FY1998, with the objective of having this pilot plant converting Russian pits by FY2000.

As in the U.S., disposition in Russia could potentially make use of existing reactors and immobilization facilities. Russia has seven operational VVER-1000 reactors, its safest and most modern light-water reactors. If these reactors were not sufficient for disposition of the total stockpile of excess weapons plutonium, immobilization could provide an important complementary approach, as could the use of reactors in other countries, such as the eleven VVER-1000 reactors in Ukraine (with which Russia already has a nuclear fuel supply agreement), or Canadian reactors. In the future, if economic recovery provides sufficient resources for completion of additional reactors in Russia, these could be considered as well; however, the U.S. does not believe that new reactors are required for this mission, and it appears unlikely that international financing would be available for the construction of new reactors for this mission. Russia is currently immobilizing high-level waste from its RT-1 reprocessing plant at the Mayak facility. The resulting glass canisters are stored on site. The feasibility of using this facility for immobilizing plutonium using the can-in-canister concept has yet to be demonstrated.

Financing is perhaps the single most important barrier to implementing plutonium disposition in Russia. Several hundred million dollars in initial capital investment will be required to provide the necessary large-scale facilities. An international cooperative enterprise to finance and implement disposition in Russia, which would also contribute to ensuring implementation of effective nonproliferation controls, will likely be necessary. Options including both direct contributions from Group of Seven governments and barter arrangements, in which firms contributing to the construction of facilities would be paid by being provided commodities such as low-cost uranium and enrichment services, are being discussed.

The U.S. is already contributing financially to accomplishing near-term demonstrations and analyses needed to lay the groundwork for these larger-scale future programs, as noted above. Consistent with Congressional direction reflected in the Nunn-Lugar-Domenici legislation, the U.S. is considering undertaking a significant near-term contribution to demonstrate technologies for converting pits to oxide in Russia and provide facilities for implementing these technologies. At the same time, the U.S. is currently exploring different options for participation in an international cooperative enterprise to implement plutonium disposition in Russia, including the possibility of focusing initial U.S. participation primarily in areas of particular U.S. expertise, such as pit conversion. Specific arrangements for disposition options, financing, management, and nonproliferation conditions will be determined in the future in negotiations among the interested states.

PROGRAM MILESTONES

Program milestones for international cooperation in implementing disposition of excess plutonium in Russia will be established in negotiations involving Russia and other interested states, expected to occur during 1997-1999. The U.S. goal is to establish an implementable plan to ensure that disposition of Russian excess plutonium is carried out in parallel with disposition of U.S. excess plutonium, under effective nonproliferation controls.

CONSIDERATION OF THE DESIRABILITY AND FEASIBILITY OF A U.S.-RUSSIAN AGREEMENT

The Administration is examining the issues surrounding the possibility of negotiating a formal agreement on plutonium disposition with Russia. Such an agreement could establish a basis for building a broader system of limits on warheads and fissile materials as part of a regime for further reductions in nuclear arms, as proposed by President Clinton in his September 24, 1996, address to the United Nations. A plutonium disposition agreement could set out specified amounts of plutonium to undergo disposition on specified timetables (with some flexibility to take into account the likelihood of unforeseen implementation delays), allowing the U.S. and Russia to

move in parallel toward lower equal levels of plutonium remaining in their military stockpiles. Such an agreement would have the following benefits:

- Clearly demonstrating the U.S. and Russian commitment to eliminate these stockpiles as rapidly as practicable;
- Providing an essential element for a process of irreversibly eliminating warheads and weapons materials;
- Increasing predictability and stability in implementing plutonium disposition;
- Supporting our efforts to encourage international participation in implementation; and
- Providing greater public understanding of the process and reassurance that the excess plutonium will be safely disposed of.

For these reasons, the U.S. National Academy of Sciences, the U.S.-Russian Independent Scientific Commission on Disposition of Excess Weapons Plutonium, and a special Task Force of the Secretary of Energy's Advisory Board have all recommended that the U.S. pursue such an agreement with the Russian Federation. To date, the U.S. has been pursuing the essential first steps in technical cooperation, which are needed before full-scale disposition can be implemented, and which will help build the basis of trust and cooperation that would allow such an agreement to be negotiated.

FUNDING

For FY1998, DOE is requesting \$104M for the Office of Materials Disposition (identical to the FY1997 budget), which includes the full required funding for U.S. disposition programs and a small amount for cooperation with Russia on disposition technologies, as directed by Congress. Additional amounts for implementation of specific cooperative projects with Russia may be financed by the DoS' Nonproliferation and Disarmament Fund, or other relevant programs. As noted earlier, the total program cost for disposition of U.S. excess plutonium is estimated at approximately \$2.2B (discounted net present value) over the life of the program. (The 30 year timeline for this project makes it necessary to express total project cost in terms of discounted net present value.) DOE's 5-year budget plan includes \$1B through 2002 for the Office of Materials Disposition, including \$511M for construction of facilities. Possible requirements for future U.S. financial contributions to an international effort to implement plutonium disposition in Russia will be determined in negotiations among the interested states. Appropriate requests will then be made to Congress in subsequent years, as necessary.

1443(b)(10)

Plans for studying the merits and costs of establishing a global network of means for detecting and responding to terroristic or other criminal use of biological agents against people or other forms of life in the U.S. or any foreign country.

OVERVIEW

The issue presented in Section 1443(b)(10) is extraordinarily complex. It involves systems and technologies that are in the early stages of development. At the national level, this issue requires the coordination of the scientific and technological resources of a large number of Federal Departments and Agencies. The complexity increases at the international level. Thirdly, the issue is extremely broad because it involves "forms of life" other than human.

Many activities that can be related to this program have already been initiated and are underway. A critical forum for planning activities and developing a strategy to study the related threat of emerging and re-emerging infectious diseases is the National Science and Technology Council's Committee on International Science, Engineering, and Technology (CISSET) and its Task Force on Emerging and Re-emerging Infectious Diseases which is co-chaired by the Centers for Disease Control and Prevention (CDC) and OSTP. The CISSET EID Task Force, which was instituted as an Administration initiative under Vice President Gore in 1994, has undertaken an examination of the existing national and international mechanisms for surveillance, response, and prevention of outbreaks of emerging infectious diseases. This group has prepared a review of the U.S. role in detection, reporting, and response to these outbreaks and produced a final report in September 1995. Plans have been developed to create an ad hoc Working Group to conduct the study envisioned in this section.

U.S. GOVERNMENT ORGANIZATIONAL STRUCTURE FOR MEETING THE CHALLENGE

The U.S. Government will create an ad hoc working group of the CISSET Task Force on Emerging and Re-emerging Infectious Diseases to develop the approaches to study the response to biological terrorism. The CISSET Task Force includes representatives of all agencies involved in surveillance, response to, and prevention of emerging and re-emerging infectious diseases.

PROGRAMS

CURRENT PROGRAMS/CAPABILITIES

A. Department Of Health And Human Services

Food and Drug Administration (FDA)

The FDA continues to enhance its control over the importation of consumer products including foods, pharmaceuticals, medical devices, biological products, and cosmetics. The Agency's import computer link to the U.S. USCS and the import community, entitled OASIS, recently was brought on line in U.S. ports of entry. This system will not only provide FDA with substantial, uniform control over products entering the country but will enable FDA to close the ports of entry, in a relatively short period of time, to products from a specific country, manufacturer, or shipper if a problem of chemical or biological significance is detected. The FDA Office of Regulatory Affairs has also sought additional Department funding for further enhancement of the Southeast Regional Laboratory to enable FDA to develop and/or enhance laboratory methodology for biological pathogen detection and identification. Also, FDA plays an important role in CISET and participates in a number of committees and work groups. For example, FDA chairs two subcommittees--Product Availability and Anti-Microbial Resistance. The Product Availability Subcommittee of the Surveillance and Response Group reviews issues related to drug, biological, and diagnostic product shortages and international product availability as it relates to response to emerging and re-emerging infectious diseases. This Subcommittee will consolidate a list of diseases, conditions, products, manufacturers, and distributors to assist in anticipating, preventing and handling either emerging or re-emerging infections, including biological terrorism. Working with information from the World Health Organization and other international, regional and national bodies, as well as industry representatives, the Subcommittee will work to develop strategies to prevent shortages in surge capacity and other emergency situations, and to evaluate new drugs, vaccines, and diagnostic agents where existing products are inadequate. FDA will also be participating along with other U.S. Government agencies, European Union, South African, and Japanese representatives, the World Health Organization and possibly other organizations in the development of standards for development of a global system for surveillance of antibiotic resistance. Such a system might ultimately be useful in detecting incidents of biological terrorism. FDA has been involved in a variety of issues concerning products that have been and could potentially be used for either pre-treating or treating individuals that have been exposed to terroristic or

other criminal or military use of biological agents. FDA is currently working with DoD and other domestic and international governmental groups to develop investigational product and approval strategies for products which are impossible or difficult to study in human subjects. This situation provides a challenging environment to obtain informed consent in the treatment setting. FDA has worked with the Public Health Service's Office of Emergency Preparedness to make available needed counter-terrorism products within the current FDA regulatory framework that would ultimately affect stockpiling of pharmaceuticals and other medical products for use in response to potential catastrophic emergencies due to exposure to chemical or biological agents.

Centers for Disease Control and Prevention (CDC)

The CDC has primary responsibility for population-based health monitoring in the U.S. CDC, principally through the National Center for Infectious Diseases, monitors a variety of infectious agents, including many considered likely to be used in biological warfare or bioterrorism. Such monitoring is done in coordination with state and local health departments, and includes laboratory support for diagnostics and subtyping. CDC possesses the only non-DoD maximum containment lab in the U.S.. CDC is also the federal agency with primary responsibility for investigating and controlling domestic disease outbreaks, and is frequently called upon to investigate internationally as well. CDC investigations and analysis would be critical in determining whether an outbreak is unintentional or the result of intentional use of a biological agent. The National Center for Infectious Diseases has also been engaged in two other efforts of relevance. One involves preparation of a manual of necessary information on high priority biologic agents of mass destruction (including relevant microbiologic, biodispersal, environmental, clinical, and interventional data and subject matter experts). This manual is expected to be completed in 1997. The second is development and funding of an emergency response plan for infectious disease outbreaks, highlighting issues relevant to lab capacity, specimen handling, training, transport, media, communications and data handling. Three other programs of relevance to response to agents of mass destruction include CDC's Emergency Response Unit, which is located in the National Center for Environmental Health; the Division of Quarantine within the National Center for Infectious Diseases; and the Office of Health and Safety. The Emergency Response Unit has been heavily involved in emergency preparedness for natural and man-made disasters, training, and implementation of control measures. It coordinates closely with other federal agencies in emergency response. The Division of Quarantine has responsibility for limiting importation of high priority agents, and maintains quarantine stations at seven major airports around the U.S.. The Office of Health and Safety plays an important role in biosafety issues, and is

currently devising new implementation regulations for monitoring and controlling the shipment of etiologic biological agents.

The National Institutes of Health (NIH)

NIH is the lead U.S. agency for the conduct of biomedical and biobehavioral research. Research conducted through the NIH serves as a critical component of the underpinning for effective surveillance and response efforts for infectious diseases, including those that might be unleashed through criminal and terrorist activities. In FY 1996, the NIH spent \$334M through the National Institute of Allergy and Infectious Diseases (NIAID) on research aimed at improving the understanding of infectious agents (excluding HIV/AIDS) and toward the development of effective diagnostic tools and preventive and treatment technologies. In FY 1996, the NIH spent an estimated \$69M, primarily through NIAID, on studies relating specifically to emerging infectious diseases. In addition, the NIH supports the training of foreign scientists as part of collaborative research efforts with U.S. investigators. This training, which is conducted through programs of NIAID and NIH's Fogarty International Center, will contribute to the development of a skilled cadre of foreign scientists who would be well-positioned to participate in global surveillance and response activities for infectious agents. The NIH participates in all the aspects of the effort of the National Science and Technology Council's Ciset Task Force on Emerging Infectious Diseases. In addition to participation in the Ciset Task Force, the NIH serves on all sub-groups. The NIAID leads the Research and Training sub-group. Consistent with the recommendations of the Ciset report on Emerging Infectious Diseases, the NIH, through both the NIAID and FIC, is working to strengthen cooperation with foreign partners on research and training on emerging infectious diseases. The NIH leads the effort on these issues under the auspices of the U.S.-Japan Common Agenda, the U.S.-European Union New Transatlantic Agenda, the Gore-Chernomyrdin Commission, and the Gore-Mbecki Commission.

B. Department Of Justice

FBI

The Hazardous Materials Response Unit of the FBI Laboratory was recently created (June 1996) to provide assistance in handling technical issues dealing with nuclear, biological, and chemical counterterrorism as well as environmental crime issues. The Unit is composed of seven (7) programs, one of which deals with the identification of microbiological agents and toxins derived from plant or microbiological origin. Staff, equipment, and facilities will be acquired over the next 3 to 4 years.

During that period of time, the Unit will increasingly provide a "hands-on" far-forward and in-house laboratory capability for the identification of biological agents arising from clinical and environmental sources. At the present time, the Unit is beginning to transition biological assays from the Navy's Biological Defense Research Program, but the overall role of the unit at present is largely administrative, advisory, and of providing coordination of other federal military and civilian assets.

C. Department Of Agriculture

The U.S. Animal and Plant Health Inspection Service, Veterinary Service Emergency Programs staff monitors foreign animal health and maintains an intensive surveillance system aimed at rapidly detecting and diagnosing outbreaks of exotic diseases in the U.S. and emerging or re-emerging animal diseases. When there is a suspicion of a foreign animal disease, a Foreign Animal Disease Diagnostician (an individual who has received intensive training in the diagnosis and identification of exotic animal diseases) makes an on-site investigation. Diagnostic specimens are collected and sent to either the National Veterinary Services Laboratories in Ames, Iowa, or the Foreign Animal Disease Diagnostic Laboratory in Plum Island, New York. If a foreign animal disease is diagnosed by either laboratory, prompt action is taken to eradicate the disease. If the disease was suspected to be the result of terroristic or other criminal use of biological agents, the Service would immediately alert other organizations involved in disaster management.

D. DOE

The DOE Chemical and Biological Weapon Nonproliferation Program was initiated in October 1996 in response to The Energy and Water Development Appropriations Act of 1997, which appropriated \$17M in FY1997 for DOE research and development on technologies to counter the proliferation of chemical and biological weapons. The requested level of funding for FY1998 is \$28M. Additional support for the DOE program is reflected in the May 1996 DoD, DOE, and Intelligence Community annual Counterproliferation Review Committee report to Congress calling for an integrated tri-agency research and development program to address chemical and biological weapons proliferation. In the areas of chemical and biological agent detection DOE draws on substantial experience in DNA-based detection technology to provide a new generation of field compatible, highly sensitive sensors which can identify different bio-strains as well as detect bio-engineered threats. For detection of bio-toxins, micro-separation techniques, mass spectrometry, and molecular recognition will be evaluated and the most promising technology will be selected for development. Complimenting these and other non-DOE agency sensor efforts is the development of an efficient, compact, sensor "front-end" for collection, concentration, and sample preparation. This front-end, or

components of it, will be applicable to a range of U.S. Government sensors currently under development which lack adequate, field-deployable collection and sample preparation capability.

E. DoD

U.S. Army Medical Research Institute of Infectious Diseases

The U.S. Army Medical Research and Materiel Command has a long standing research and development program in developing prophylactic, therapeutic, epidemiological, and diagnostic approaches to recognized biological and chemical threat agents. The U.S. Army Medical Research Institute for Infectious Diseases and the U.S. Army Medical Research Institute for Chemical Defense are the lead laboratories for medical biological and chemical defense, respectively. The Command continues to develop a number of new generation vaccines against agents such as botulism toxins, Yersinia Pestis, Venezuelan Equine Encephalitis virus and other biological threat agents, as well as, novel approaches to preventing and treating chemical agent exposure. As a result of these and other science and technology efforts, Command personnel have developed unique expertise in medical countermeasures and biological agent identification, handling and inactivation. In addition, preventive medicine and subject matter experts provide crucial training for first responders and other medical personnel on the medical management of chemical and biological casualties, advise on medical plans and operations, evaluate threat capability for specific chemical and biological agents in various scenarios and regularly train with interagency rapid response teams. The Command has a distinguished history of assisting in epidemiological studies worldwide by providing expert diagnostic approaches through development of far forward, confirmatory, and high containment reference laboratory capabilities.

Defense Advanced Research Projects Agency

Presently budgeted at the \$2B level, the Defense Advanced Research Projects Agency is an integral part of the Office of the Secretary of Defense. The Agency's mission is to prevent technological surprise. Current programs related to Biological/Chemical detection and surveillance are: Real-time sensing, external protection, advanced diagnostics, and medical countermeasures. The Biological Sensors program goal is to provide real-time, pre-exposure detection, discrimination, and identification of the threat. In addition, DARPA maintains a supporting program in informatics to provide information for correct diagnosis and treatment, and to locate therapeutics.

Office of the Secretary of Defense

The DoD Surveillance and Response System is designed to strengthen the prevention of, surveillance of and response to infectious diseases that are a threat to military personnel and families, reduce medical readiness, or present a risk to U.S. national security. The system's purposes are to increase DoD's emphasis on prevention of infectious diseases, strengthen and coordinate its surveillance and response efforts, and create a centralized coordination and communication hub to help organize DoD resources and link with U.S. and international efforts. The resources to support the Surveillance and Response System include the following: existing resources already dedicated to prevention, surveillance and response, existing funding reprogrammed as System resources (approximately \$3M annually for operations plus approximately \$500,000 initially for start-up costs), and existing military billets (approximately 15) reassigned to the System.

F. White House Office Of Science and Technology Policy

A June 12, 1996, Presidential Decision Directive (NSTC-7) created an Emerging Infectious Disease Task Force and instructed it to create a global surveillance and response network for emerging infectious diseases. The Task Force is a subcommittee of the CISET and is co-chaired by OSTP and CDC.

PROGRAMS IN PLANNING OR REVIEW PHASES

Because surveillance for naturally-occurring infectious disease outbreaks is closely related to surveillance for terrorist use of biological agents, the Emerging Infectious Disease Task Force is an appropriate forum to conduct the study required by this section. The Task Force has already completed an assessment of the existing U.S. capability to conduct surveillance for emerging infectious diseases, and this assessment will form the basis for the proposed study. This study will be conducted by an ad hoc Working Group of the existing Task Force, which that will include representatives of all appropriate agencies, including the Intelligence Community, and will be capable of addressing those aspects of infectious disease surveillance that are unique to the terrorist use of biological agents.

As new programs are developed or planned programs are put in place, the Administration will continue to advise the Congress and the American people of U.S. and international efforts to counter concerns about weapons of mass destruction and related materials and technologies.