



U.S. DEPARTMENT OF HOMELAND SECURITY

Fiscal Year 2008

HOMELAND SECURITY GRANT PROGRAM

**SUPPLEMENTAL RESOURCE: DOMESTIC NUCLEAR
DETECTION OFFICE OVERVIEW**

February 2008



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DOMESTIC NUCLEAR DETECTION OFFICE OVERVIEW

A. Mission and Vision

As part of the national effort to protect the Nation from radiological and nuclear threats, the Domestic Nuclear Detection Office (DNDO) was established by Presidential Directive on April 15, 2005. DNDO plays an essential role in creating and implementing a defensive strategy, with domestic and international programs, to protect the Nation from a terrorist nuclear or radiological attack. Because no single layer within the strategy will be capable of providing one hundred percent effectiveness in detecting and interdicting radiological and nuclear materials for illicit use, DNDO is using a multi-layered strategy.

The DNDO is the primary agency within the U.S. Government responsible for developing the global nuclear detection architecture, and acquiring and supporting the deployment of the domestic detection system to detect and report attempts to import or transport a nuclear device or fissile or radiological material, intended for illicit use.

Among these program initiatives, DNDO is conducting both evolutionary (near-term, requirements-driven) and transformational (long-term, high pay-off) research, development, test, and evaluation (RDT&E) programs to improve the Nation's capabilities for detection, identification, and reporting of radiological and nuclear (rad/nuc) materials. By integrating RDT&E programs with operational support responsibilities, DNDO will ensure all technologies are appropriately deployed, with training materials and well-developed operational response protocols. Working with Federal, State, and local partners, DNDO has piloted initial training programs and developed detection alarm protocols that can be customized for specific operational missions. Additionally, complementary systems comprising the global architecture will be positioned utilizing resources and components with maximum effectiveness.

B. Federal, State, Local, and Tribal Partnerships

DHS values the importance that effective sharing and use of nuclear detection-related information, intelligence, and systems play in strengthening our Nation's security. DNDO will integrate crucial overseas detection programs with domestic nuclear detection systems and other nuclear detection efforts undertaken by Federal, State, local, and tribal governments and the private sector. To facilitate an effective partnership with State and local entities that are involved in preventive rad/nuc detection activities, DNDO will continue to pursue through active engagements a coordinated delivery of DNDO products, programs, and services to expand State, local and tribal preventive rad/nuc detection capabilities.

C. Building Capabilities

DNDO encourages States and regions to implement a comprehensive preventive rad/nuc detection program capable of detecting radiological and nuclear materials and weapons in support of, and in concert with, the domestic portion of the global nuclear detection architecture. DNDO believes that implementation of a comprehensive program will take several years, and require substantial interstate and Federal coordination. As such, DNDO strives to partner with State, local, and tribal agencies choosing to develop, enhance, and implement nuclear detection systems with regard to architecture design, subsystem configuration, upgrades and coordinated operations, communications, and interoperability.

DNDO believes that domestic layers of detection assets may include fixed and mobile radiation portal monitors, Polyvinyl Toluene (PVT) and spectroscopic, handheld and other human-portable nuclear detection devices, and other mobile nuclear detection devices.

But while technology is a critical tool to combat terrorism, the nuclear threat is not one that can be effectively countered by technology alone. Accordingly, DNDO supports the development of comprehensive preventive rad/nuc detection capabilities across the State, local and tribal communities by developing the necessary training, exercise support, equipment test reports, information sharing capabilities, and program tools to create a fully integrated operating environment. These resources includes: providing technical reachback support to Federal, State, local and tribal operators; development of standardized training curricula and response protocols; conducting comprehensive assessments of existing technology to inform application and acquisition; providing program development tools and guidance for immediate application by policy makers and operators; and the development of a robust national situational awareness and analysis capability through the Joint Analysis Center (JAC). Such resources can be used by State, local and tribal entities to build or enhance a comprehensive preventive rad/nuc detection program, or to develop specific preventive rad/nuc detection capabilities in areas such as commercial vehicle inspection, special events screening, small maritime craft monitoring, fixed infrastructure protection, and urban area security.

Funding from the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), Law Enforcement Terrorism Prevention Program (LETPP), Buffer Zone Protection Program (BZPP), Transit Security Grant Program (TSGP), Port Security Grant Program (PSGP), and Intercity Bus Security Grant Program (IBSGP) can be used to enhance existing or establish new preventive rad/nuc detection programs. However, grantees are encouraged to contact DNDO prior to initiating program activities and provide a point of contact for each detection program to whom DNDO can provide program guidance, tools, resources and updates. Please contact DNDO with this information at DNDO.SLA@dhs.gov.

D. Allowable Costs and Available Resources

DNDO is working in close coordination with Federal, State, and local entities to develop technical assistance (TA) programs for the enhancement and development of preventive rad/nuc detection programs that support the planning, organization, equipment, training, exercises activities, and operational support systems (POETE/Ops framework) as explained in Table 1. This POETE/Ops framework matches to the National Preparedness Goal, State Homeland Security Strategies, and all reporting requirements for DHS grant programs.

Table 1 – TA for Preventive Rad/Nuc Detection Programs

Planning	DNDO will provide assistance with planning and development of protocols and programs.
Organization	DNDO will provide guidance for organizational structures to support successful preventive rad/nuc detection programs.
Equipment	DNDO will evaluate equipment and provide recommendations on integrated sets of equipment to meet detection and alarm resolution mission priorities.
Training	DNDO will help States develop and implement training guidelines and programs.
Exercises	DNDO will provide assistance with enhancing and developing exercise guidelines and support.
Operational Support	DNDO is establishing technical reachback support systems and other 24/7 information sharing systems.

State and local grantees are encouraged to work closely with DNDO as they develop preventive rad/nuc detection programs in order to ensure consistency with DNDO program guidance and to ensure that national operational support systems are effectively coordinated with their programs.

During FY07, DNDO strengthened the breadth and effectiveness of its programs and TA offerings in cooperation with the Department of Energy, the Department of Defense, Customs and Border Protection, the Federal Bureau of Investigation (FBI), State, territorial, tribal, and local governments, related national associations, and the private sector. The resulting products and TA are currently available to State and local grantees that wish to develop or enhance preventive rad/nuc detection programs—

- **Protocols**—DNDO partnered with a national stakeholders group of States, locals, and national association representatives as well as the Federal Interagency to establish alarm resolution and response protocols. State and local public safety agencies and State level radiation safety and health authorities are an integral part of the radiation detection alarm adjudication and resolution. DNDO is establishing a technical reachback training course to educate State and local authorities on alarm adjudication protocols and the technical tools and techniques available to supplement existing knowledge and capabilities at State and local levels. For additional information please email DNDO.SLA@dhs.gov.
- **Regional Reachback Centers**— DNDO has partnered with national laboratories to provide specialized technical analysis necessary to resolve radiation detector alarms by identifying and distinguishing special nuclear material and suspicious or unidentified radioactive materials from radioactive materials that are naturally occurring, used in industry, in medical treatments, or found in commercial

products. Regional Reachback is available 24/7 to support State and local authorities through the DNDO Joint Analysis Center (JAC) via 1-877-DNDO-JAC and DNDO.JAC@dhs.gov.

- **Training**—DNDO has piloted several initial training program offerings that can be tailored from awareness to operations level needs for a variety of public safety disciplines. Training offerings will be available in FY08, in limited numbers, to the State and local community, and additional training programs will be developed and piloted.
- **Preventive Rad/Nuc Detection Program Management Handbook with Commercial Vehicle Inspection Rad/Nuc Module** —DNDO has developed a Preventive Rad/Nuc Detection Program Management Handbook with a Commercial Vehicle Inspection (CVI) Rad/Nuc Module in concert with State and local stakeholders. The Handbook is designed to assist State and local officials seeking to develop or enhance CVI rad/nuc detection programs. This Handbook provides comprehensive guidance (POETE/Ops framework) for administration of a domestic preventive rad/nuc detection program and is intended to assist program development and implementation at both senior policy making and operational levels. DNDO is in the process of developing a second module, with a focus on developing a small maritime craft rad/nuc detection program, which will be available in FY08.
- **Equipment Test Results**—DNDO has made available an initial round of equipment test results to evaluate the effectiveness of detection systems in multiple performance areas and inform State and local agencies making procurement decisions. The Anole Test Campaign Report (which includes test results for handheld, backpack, and mobile systems) is available on the Responder Knowledge Base (RKB). The second round of test results (Bobcat Test Campaign Report) includes Commercial-off-the-Shelf (COTS) Personal Radiation Detectors (PRDs), and is expected to be available on the RKB in February 2008. States and Urban Areas interested in receiving the report immediately may contact DNDO at DNDO.SLA@dhs.gov for a copy of the report.

During FY08, DNDO will continue to refine and expand program offerings and TA, as well as expand its State and local stakeholder partnerships to coordinate the delivery of DNDO products, programs and services to enhance the global nuclear detection architecture and enhance nationwide preventive rad/nuc detection capabilities.