

# 1 CBRNE Detection

## CBRNE Detection

### **Capability Definition**

The capability to protect against weapons of mass destruction (WMD) through deployment of systems that ensure early detection of the import, transport, manufacture or release of chemical, biological, radiological, nuclear and explosive materials. The CBRNE Detection target capability is not just about technology, but rather the ability to recognize and resolve potential CBRNE threats through equipment, education, and effective protocols. The importance of training, communication, and close coordination with the intelligence community (with special attention to fusion centers and processes) was recognized as critical enabling elements of the two performance objectives. However, only the CBRNE detection specific tasks to these crosscutting elements have been identified in this capability. The CBRNE Detection target capability does not include actions taken to mitigate the consequences of a CBR (Chemical, Biological, Radiological) release or activities to render any CBRNE device safe. The needs of these important functions are identified in other target capabilities.

### **Capability Outcome**

Chemical, biological, radiological, nuclear, and/or explosive (CBRNE) materials are rapidly detected, identified and safely managed at borders, critical locations, events and incidents. To meet the desired outcome the following objectives must be achieved: (1) CBRNE detection at key interdiction points. This objective has a primary focus on fixed locations where Federal, State, local, or Tribal entities have authority to inspect people and/or goods for safety or security reasons. Examples include customs inspections at points of entry and weigh stations or agricultural inspection points within the U.S. (2) CBRNE surveillance. This objective refers to general area monitoring, ad hoc inspection points, or targeted area search. Examples include community, venue, or mass transit system monitoring for CBR release, explosives screening of vehicles and personnel entering an event, and searches to locate unauthorized radioactive material in a venue or community.

### **Capability Discussion Points**

When discussing and analyzing the NCR's homeland security preparedness capabilities, stakeholder participants should consider the following:

- The adequacy of plans, policies, and procedures for CBRNE detection, response, and decontamination capabilities.
- Mutual aid agreements, regionally, intra-State and inter-State for CBRNE detection, response, and decontamination capabilities.
- Procurement plans in place that ensure response communities are properly equipped with detection, response, and decontamination equipment.
- Whether or not appropriate disciplines are being trained at suitable levels in a regional approach across disciplines and jurisdictions.
- The ways in which training plans are improving CBRNE detection, response, and decontamination capabilities within the NCR.
- How the CBRNE plans, policies, and procedures address potential public disorder, isolated/widespread violence, and other security issues.
- How the plans, policies, and procedures address the integration of public health surveillance activities with/for CBRNE detection and response.

### NCR Discussion Results on CBRNE Detection

Resource	SW	Comments
People	S	<ul style="list-style-type: none"> <li>• Staff is well trained. (5)</li> <li>• There are adequate personnel within NCR to confront the overall response needs to a CBRNE event. (3)</li> <li>• We have an excellent bio-surveillance system – Essence (3)</li> <li>• We have people who monitor and screen waste material collection and disposal sites. (2)</li> <li>• There is adequate personnel and security in hospitals.</li> <li>• Major water utilities have needed personnel.</li> <li>• Have ability to respond to venue specific event.</li> </ul>
	W	<ul style="list-style-type: none"> <li>• There is a lack of trained decontamination. and detection staff both generally and in hospitals. (4)</li> <li>• Need more personnel dedicated to the regional level and in the field (e.g., on the scene) (3)</li> <li>• There is a lack of coordination between functional areas (e.g., hospital decontamination personnel and fire decontamination personnel). (3)</li> <li>• There is insufficient staff and funding. (2)</li> <li>• Need more K-9 and bomb squad personnel. (2)</li> <li>• Need increased personnel to cover mass care activities including behavioral health activities, non-traditional populations’ needs, and public information and outreach, during CBRNE incidents. (2)</li> <li>• There are not enough personnel (police, forensic pathologist, epidemiologists, and micro-biologists) in the NCR. (2)</li> <li>• There are not enough personnel (police, forensic pathologist, epidemiologists, and micro-biologists) in the NCR. (2)</li> <li>• Small water utilities do not have number of personnel needed and rely on large utilities for support.</li> <li>• We have a problem with staff turnover and subsequent training needs.</li> <li>• There are not enough staff in hospitals to provide adequate care for surge from CBRNE.</li> <li>• Need maintenance staff and software for regional and state Essence program.</li> <li>• There is no consistent standard for interpreting data.</li> <li>• We have level 4 lab in the NCR.</li> <li>• Public health surveillance is not well integrated with colleagues in public safety.</li> <li>• Need Quarantine and detection capabilities at airports.</li> <li>• There are a limited number of first responders who can be deployed in support of healthcare facilities.</li> <li>• We have multi-disciplinary IMT trained personnel, but we lack the ability to maintain the IMT.</li> <li>• Not enough people available to go through trash.</li> <li>• Health sector is not communicating with other disciplines.</li> <li>• People are in regular communication with others but the communication is still “stove piped”.</li> <li>• The medical examiners are not utilized enough in regional CBRNE incidents.</li> <li>• Existing surveillance systems are not adequately coordinated with NCR responders.</li> </ul>
Equipment	S	<ul style="list-style-type: none"> <li>• Have some detection equipment in place, (e.g., biomonitors) (3)</li> <li>• Existence of promising new technologies, e.g., <i>Essence</i></li> <li>• Chemical warfare (transit network)</li> <li>• Computer Assisted Telephone Interview (CATI) system being tested in NCR to aid detection of bio agent in at-risk community populations (quarantined)</li> <li>• NCR has enhanced equipment capabilities</li> <li>• PPE and decontamination equipment are available</li> <li>• Have chemical decontamination PPE for first 24 hours; need to increase to 72 hours</li> <li>• Quarantine area initiated at Dulles but not Reagan</li> </ul>
	W	<ul style="list-style-type: none"> <li>• Need specific CBRNE testing equipment such as Mach I, CATI, radiological mobile testing, chem/bio detection equipment, and additional water monitoring such as GC/MS. (14)</li> <li>• Hospitals are vulnerable infrastructure and lack perimeter security and detection (e.g., bio, rad, etc.) (6)</li> </ul>

Resource	S/W	Comments
		<ul style="list-style-type: none"> <li>• NCR doesn't have the ability to access and utilize existing CCTV capability in WMATA metro</li> <li>• Need additional PPE (3)</li> <li>• Need warehouse capability to store equipment (3)</li> <li>• Interoperable communications intelligence of health/public safety (3)</li> <li>• Lack of mass care supplies e.g., towels, blankets, clothes, etc. (3)</li> <li>• Not enough testing validation of new technologies; need uniform (2)</li> <li>• Not enough protective equipment for long term/multi-incident (2)</li> <li>• First responder not adequately trained on equipment (2)</li> <li>• Mechanism to determine equipment interoperability (2)</li> <li>• Lack of coverage of monitors</li> <li>• Toxic industrial detection</li> <li>• Lack of post incident protection personnel</li> <li>• IMT is in need to support its ops</li> <li>• Lack of standardization of equipment</li> <li>• Decontamination capabilities</li> <li>• Public notification systems</li> <li>• Communication from HazMat to mass care and PIO</li> <li>• Not all equipment is compatible</li> <li>• NCR hospitals lack level C and B decontamination PPE for victims</li> <li>• Not enough detection and identification equipment for the law enforcement personnel of NCR</li> <li>• Need funds to upgrade equipment</li> <li>• Lack of integration within NCR</li> <li>• First responders not aware of available resources</li> <li>• Need additional funding for software</li> </ul>
Training	S	<ul style="list-style-type: none"> <li>• Well educated staffs at major water utilities (3)</li> <li>• CBRNE training is available</li> <li>• Good training program funded (Washington Hospital Group) to address limited healthcare staff knowledge</li> </ul>
	W	<ul style="list-style-type: none"> <li>• Need more of an ongoing regional training exercises and coordination components (11)</li> <li>• Training of professional community and non-professional people in decontamination exercises and equipment (9)</li> <li>• CBRNE symptoms training (6)</li> <li>• Training for chem. and biomonitors protocols needed (3)</li> <li>• Awareness training → traditional and non-traditional responders (3)</li> <li>• LE WMD personnel need to train with their FD counterparts (2)</li> <li>• Cross training between EMS and hospitals (2)</li> <li>• Lack of knowledge about training programs</li> <li>• Lack of money to provide training opportunities to staff</li> <li>• NCR personnel are not adequately trained in surveillance capabilities</li> <li>• Lack of training for laboratory personnel</li> <li>• A need to train public safety on capabilities of ESSENCE</li> <li>• Training needs to be ongoing to be proficient</li> <li>• Regional IMTs is limited, does not include other disciplines</li> </ul>
Exercises/Evaluation	S	<ul style="list-style-type: none"> <li>• Many local are regional exercises. (4)</li> <li>• ESSENCE is evaluated daily within ESF8</li> </ul>
	W	<ul style="list-style-type: none"> <li>• Need more Local and regional exercise. These exercises should include the health care sector and WMATA/Metro and the coordination between different the different stages of response to a CBRNE incident (e.g., post-decontamination handoff between hazmat/CBRNE and mass care/EMS.) (24)</li> <li>• RESF 3 (debris) has not implemented an exercise/evaluation program. (3)</li> <li>• First responders lack adequate detection equipment and therefore do not exercise adequately with detection equipment. (2)</li> </ul>

Resource	S/W	Comments
		<ul style="list-style-type: none"> <li>• Need to identify skills that need to be improved via evaluation/after action of exercises and practice those weak skills identified. (2)</li> <li>• Very limited evaluation of "ability to detect."</li> <li>• Lack of critical structure vulnerability assessment.</li> <li>• Need to exercise ESSENCE and CATI systems outside of ESF8 alone.</li> <li>• Lack of awareness regarding capabilities of medical examiners offices and lack of involvement of medical examiner during exercises.</li> <li>• Need increased funding to conduct exercised to test surveillance capabilities.</li> </ul>
Plans, Policies and Procedures	S	<ul style="list-style-type: none"> <li>• Potomac has good detectors for chemicals</li> <li>• Have federal quarantine station at Dulles, but need resources for quarantine stations at BWI and Regan</li> </ul>
	W	<ul style="list-style-type: none"> <li>• Regional plans and procedures must be developed, updated, distributed and exercised across jurisdictions/coordinate federal response plans with local and regional plans (17)</li> <li>• Need to incorporate public health, medical examiner, hospitals, first responders at local level in planning and training. Detection gaps contribute to significant risk to healthcare infrastructure (6)</li> <li>• No NCR area has capability to confirm identification or detection of CBRNE with state or private lab system – only federal lab system has this capability (3)</li> <li>• Lack of a NCR interdisciplinary surveillance system/lack of system for biological assessments/toxic materials in the transportation sector (2)</li> <li>• Lack of funds to hire staff to develop policies and procedures for radiation monitoring and surveillance</li> <li>• Phone Georges and Montgomery Counties all not part of the NCR FBI JTTF</li> <li>• Need a regional terrorism tip line</li> <li>• Need to integrate CBRNE planning and response with mass care, HazMat decontamination</li> <li>• Distribution system models not yet fully implemented and tested for NCR water system</li> <li>• Hospitals need to do a better job of reporting trends and distribute related information</li> </ul>

**NCR Concept Papers and Initiative Plans**

<p><b>CONCEPT PAPER</b></p> <p>Preliminary Document – Presented for Review and Discussion</p>		January 27, 2006	
		RESF#3 (WATER) Water Security Work Group Charles M. Murray, Chairman Fairfax Water	
		James Shell, Principal Water Resources Planner, Metropolitan Washington Council of Governments, 777 North Capitol St. NE, Washington, DC 20002 202-962-3342 jshell@mwkog.org	
Project Title:	<p><b>Establishment of a Fully Functional Regional Emergency Mobile Laboratory Program</b></p>	Estimated Grant Amount	\$1,200,000
NCR Strategic Goal Alignment:	Meets the National Priority to strengthen CBRNE Detection, Response, and Decontamination Capabilities  Addresses a weakness of Priority Capability: CBRNE	Allowability	This is allowable in accordance with UASI guidelines for CBRNE activities. Some of the commercially available analytical lab equipment

	<p style="text-align: center;">Detection</p> <p>Addresses identified weakness of Priority Capability WMD/Hazardous Materials Response and Decontamination</p> <p>Meets need of NCR Goal 3: Prevention and Mitigation</p> <p>The establishment of three rapid response emergency mobile labs provides the NCR with an unparalleled capability to rapidly respond to contamination events and quickly identify the contaminant using EPA approved analytical laboratory equipment thereby minimizing threats to human health and safety risk</p>		<p>and vehicles may require ODP approval.</p>
<p><b>Estimated Timeline</b></p>	<p>16 months from the time of the grant award</p>	<p><b>Dependencies and Cost Factors:</b></p>	<p>The establishment and operation of drinking water purification, bottling and stockpiling will be heavily dependent on staff support from participating NCR water utilities as well as coordination with emergency managers, health officers, FEMA, and USCOE.</p>

**Problem Statement/Project Description:**

The region currently has limited rapid mobile emergency water laboratory response capability. In the event of a regional or local incident or emergency, drinking water treatment facilities, distribution systems, and raw water sources may be contaminated and/or relegated physically inoperable. Such possible contamination events will require, within a two to eight hour window, a determination if the contamination event should be elevated from "possible" to "credible"<sup>1</sup>. In the event of a true contamination, such timely answers will protect the public health and potentially save lives. Such a quick determination will only be made through field water quality screening laboratory analysis performed by the utility. Such screening tests will confirm the existence/non existence of contaminants but not generally identify the specific compound; that step generally takes place at a higher level laboratory. These mobile labs will be equipped with EPA approved and recommended analytical techniques being pilot tested by one of the NCR utilities. These emergency mobile labs would also eliminate the potential for main lab contamination by isolating the unknown contaminant(s) within a smaller mobile lab setting during initial testing, thus eliminating any possible contamination of a larger permanent main laboratory facilities. This would also be especially critical if the main lab(s) have been rendered inoperable. The mobility of the labs will offer a tool to rapidly move to incident areas and perform quick and accurate analysis. Such rapid capability is essential in minimizing the impacts to human health and safety as the result of contamination event.

The specific proposal calls for three mobile labs for the three major NCR water utilities (WSSC, WAD/DCWASA, Fairfax Water), each lab to be equipped with a specific set of base field analytical tools. It should be noted that a requirements analysis has already been conducted by the Washington Suburban Sanitary Commission in order to identify analytical equipment needs. This analysis included identification of other cities with mobile lab capacity. The strategic placement of the mobile labs the NCR would insure coverage north (MD-NCR) and south (VA-NCR) of the Potomac River as well as near Washington D.C. This strategy would provide reasonable and balanced emergency mobile lab availability throughout the NCR. If transportation routes are blocked for one lab, either of the remaining two labs could be summoned. In addition, smaller NCR utilities, in some instances may not have this capability on hand and the mobile units would be essential in an emergency. This initiative also designates one of the three labs to be equipped with advanced field analytical equipment, such as Gas Chromatograph and Mass Spectrometer and a portable radiological detector used for water. The three labs would coordinate regionally and shift across regional boundaries as the need arises. The base cost for analytical equipment for each utility is \$150,000, plus \$125,000 for the vehicle, or a total of \$275,000 for a fully equipped base mobile lab. The additional advanced analytical equipment will add \$245,000 (GC/MS, radiological, etc).

These mobile labs would be staffed by trained teams of water utility laboratory personnel during regional incidents or emergencies. It is anticipated that the primary function of the emergency mobile lab would be for use by water utilities and related health agencies and officials in the NCR during water related and/or other emergencies or incidents. The mobile labs are not likely to remain idle as they could be rapidly activated during natural disasters through mutual aid request, used in special water related operations, testing, training or studies. A response and mutual aid protocol is to be developed as part of this initiative. It is expected that the labs will be frequently tested and operated to maintain a high level of personnel and equipment readiness.

<sup>1</sup>“possible, credible” are terms taken from the USEPA Response *Protocol Toolbox*, a document specifically developed to aid the water supply industry with contamination events.

**Preliminary Project Plan (Tasks, Resources, Deliverables, Collaborating Partners, etc.)**

Tasks	Collaborating Partners	Deliverables	Target Date
1. Establish a regional emergency mobile lab project team	Water Security Work Group RESF#3; MWCOG	Establish Regional Emergency Mobile Lab Project Team	Within 30 to 60 days of the grant award
2. Develop a project management plan	Water Security Work Group RESF#3; MWCOG	Project Management Plan	Within 60 days of the grant award
3. Identification of mobile laboratory equipment and supplies	Water Security Work Group RESF#3; Project Management Team; utility lab staff; MWCOG	Identify mobile laboratory equipment and supply needs	Within 90 days of the grant award
4. Submit materials to seek approval of identified analytical equipment and vehicles for ODP approval, if needed	Water Security Work Group RESF#3; Project Management Team; utility lab staff; MWCOG	If needed, submit materials to support the approval of analytical lab equipment and mobile lab vehicles	Within 90 days of the grant award
5. Issue RFP's for equipment and vehicles	Project Management Team; MWCOG	RFP's issued	Within 120 to 150 days of the grant award
6. Issue purchase orders for equipment and vehicles	MWCOG	Purchase Orders issued	By month 5 of the grant award
7. Install and out fit three NCR emergency mobile labs	Project Management Team; MWCOG	Three fully operational mobile labs	By month 12 of the grant award
8. Develop emergency response protocols for use and maintenance of mobile labs	Project Management Team; utility lab staff; MWCOG	Emergency response protocols for use and maintenance of mobile labs	By month 8 of the grant award
9. Emergency mobile lab training	Project Management Team; utility lab staff; MWCOG	Structured on-going mobile lab training sessions	Month 12 through 16 form the award of the grant
Project Performance Measures		Baseline Value	Target Value
1. Three fully equipped NCR rapid response mobile labs		Limited capability	Three fully equipped regional rapid response mobile labs

2. Trained mobile lab response teams	Does not exist	Trained emergency mobile lab teams
3. Analytical equipment and mobile lab vehicle approval by ODP, if needed	Does not exist	Approved analytical equipment and vehicles
4. Project Management Plan	Does not exist	Project Management Plan
5. Emergency response protocols for mobile lab use and maintenance	Does not exist	Emergency response protocols

## INITIATIVE PLAN

### Critical Transportation Infrastructure Protection

- 1. Provide the Name of this Initiative. Describe how this Initiative will address the priority needs and strengths identified through the program and capability evaluation, and prioritization analysis.**

Establishment of a Fully Functional Regional Emergency Mobile Laboratory Program:

Through the establishment of three regional emergency mobile laboratories to rapidly respond to contamination events in the NCR this initiative directly meets the National Priority to strengthen CBRNE detection, response and decontamination, as well as address identified weaknesses in CBRNE, WMD/Hazardous Materials Response, and Critical Infrastructure Priority Capabilities, and meets the needs of NCR Goal 3: Prevention and Mitigation, and Goal 4: Response and Recovery. The mobile lab capability provides the NCR with a tool to rapidly respond and identify contaminants in water, lessening the time to mitigate an incident and provide more protection to the citizens of the NCR.

- 2. Regional Construct: Briefly describe the geographical context of this Initiative.**

This initiative will build upon efforts by the Regional Water Security Work Group to develop comprehensive responses to the highest regional water security needs identified through regional strategic planning sessions and individual water utility vulnerability assessments. The Water Security Work Group consists of water utilities, NCR local governments, as well as state, federal and regional public agencies covering the entire National Capital Region.

- 3. Resources, Processes, and Tools: Identify the resources, processes and tools that already exist, and those that will need to be leveraged, created, or acquired for this Initiative. Briefly consider how these resources, processes and tools may be attained.**

Under Title IV of the Public Health Security and Bioterrorism Response Act of 2002 (PL 107-188) the Act, EPA is authorized to take steps to prevent, detect, and respond to the intentional introduction of chemical, biological, or radiological contaminants into community water systems and source water for these systems. The Water Security Work Group was established to guide and coordinate response capabilities resulting from intentional contamination events in public water supply systems. The mobile lab capability will continue to be coordinated through RESF#3's Mobile Lab Project Team which would be composed of participating water utilities, laboratory personnel, local government and

state emergency managers, and health officers within the NCR, as well as state, federal and regional agencies (i.e., FEMA, USACOE, EPA) who have vested interest in the security of drinking water in the NCR.

**4. Governance Structure: Describe the high-level governance structure (e.g., management plan, stakeholder involvement) required for successful implementation of this Initiative.**

This initiative will be governed by the Regional Water Security Work Group, RESF#3 (WATER), which consists of water utilities, local governments, state, federal and regional public agencies covering the entire National Capital Region.

**5. Program Management: Explain how this Initiative relates to the overall State homeland security program, and/or how it helps incorporate the three Overarching National Priorities.**

The mobile lab capability will be fully integrated with the Water Supply Emergency Plan for the National Capital Region. This plan has been formally incorporated as an annex to the Regional Emergency Coordination Plan (RECP<sup>SM</sup>) under Regional Emergency Support Function 3, Public Works and Engineering, and helps facilitate a coordinated response to events that affect the quality or quantity of water in the National Capital Region. In the event of a contamination incident or event detected, response protocols would initiate the implementation and use of the regional emergency response mobile labs. This action would be a part of the Water Supply Emergency Plan. Consequently, it would also help ensure implementation of the National Incident Management System, coordination with the Federal Response Plan, and enhance development of regional response capabilities.

<p><b>CONCEPT PAPER</b></p> <p><i>Preliminary Document – Presented for Review and Discussion</i></p>		<p>January 27, 2006</p>	
		<p>RESF #3 (Debris) Solid Waste Managers Group Tom Smith, Chairman Solid Waste Division Chief Prince William County</p> <p>Grant recipient would be a local government</p>	
		<p>John Snarr, Principal Environmental Planner MWCOC 777 N. Capitol St., NE Suite 300 Washington, DC 20002 202-962-3359 <a href="mailto:jsnarr@mwkog.org">jsnarr@mwkog.org</a></p>	
<p><b>Project Title:</b></p>	<p><b>Radiation Detection Equipment for Solid Waste Disposal Facilities</b></p>	<p><b>Estimated Grant Amount</b></p>	<p>Total: \$281,500</p> <p>5 locations each receive</p> <ul style="list-style-type: none"> <li>• truck portal system</li> </ul>

			(\$50,000) <ul style="list-style-type: none"> <li>handheld detector (\$6,000)</li> <li>Dosimeter (\$300)</li> </ul>
<b>NCR Strategic Goal Alignment:</b>	Meets the National Priority of strengthening CBRNE detection, response, and decontamination capabilities. Addresses a weakness of lack of sufficient detection equipment. Also responds to the Regional Capability priority of Critical Infrastructure Protection. Address weakness of lack of CBRNE detection equipment. Meets the Following NCR Goal: <u>Recovery and Response</u> Allows area waste facilities to detect radiological materials in the waste stream as an early warning sign of misuse of these materials and to protect these facilities from contamination.	<b>Allowability</b>	UASI Equipment Category: Inspection and Screening Systems Equipment
<b>Estimated Timeline</b>	July 2006 – December 2007	<b>Dependencies and Cost Factors:</b>	

**Problem Statement/Project Description:**

Local terrorist handling of radiological, biological, or chemical materials may likely result in some of this material entering the local waste stream. Initial inquiries indicate that devices designed for screening trash trucks for chemical and biological agents do not exist; however, there are commercially available devices available for monitoring radiation in truck loads entering solid waste facilities.

This screening both protects the solid waste facility from contamination and alerts authorities to sources of radiation in the community. Awareness of this material may provide an early warning sign about future terrorist attacks. Waste disposal facilities are part of the critical infrastructure for the region as they provide a daily service that ensures the health, safety and welfare of the community. An interruption in this service can have a dramatic negative effect on local waste collection and disposal.

Radiation devices are available in hand-held and fixed drive-through versions. Four local public facilities (I-66 Transfer Station in Fairfax; I-95 Landfill Complex in Fairfax; Montgomery County Transfer Station, Arlington/Alexandria Waste-to-Energy Plant) have a set of these devices, but detectors are not installed in all possible locations. Fairfax County was able to obtain its two sets of detectors under the State Homeland Security Grant Program FY 2003. This initiative would procure sets of detectors (truck portal system, handheld detector, personal dosimeter) for a total of 5 public landfill and transfer stations that do not have the devices. These locations would be Loudoun County's landfill, Prince William County's landfill, the two District of Columbia-owned transfer stations, and Prince George's County's landfill.

**Preliminary Project Plan (Tasks, Resources, Deliverables, Collaborating Partners, etc.)**

Tasks	Collaborating Partners	Deliverables	Target Date
10. Determine precise final host locations.	RESF 3 Debris	Selected locations	9/06
11. Acquire 5 sets of detectors.	RESF 3 Debris	5 sets of radiation detectors	6/07
12. Ensure that host personnel have proper training and procedures manual.	RESF 3 Debris	Training completed for host staffs.	9/07

Project Performance Measures	Baseline Value	Target Value
6. Ensure that the public waste disposal facilities in the region have the equipment to effectively screen for radioactive material.	37%	100%
7. Ensure that appropriate local personnel are trained to use the equipment.	0%	100%

## INITIATIVE PLAN

### Radiation Detection Equipment for Solid Waste Disposal Facilities

- 1. Provide the Name of this Initiative. Describe how this Initiative will address the priority needs and strengths identified through the program and capability evaluation, and prioritization analysis.**

Critical Transportation Infrastructure Protection

Responds to National Capability priority “CBRNE Detection.” Addresses weakness identified in the January analysis session, “Need specific CBRNE testing equipment.” Builds on strength identified in the analysis session, “We have people who monitor and screen waste material collection and disposal sites.”

Also, this initiative responds to the Regional Capability priority of “Critical Infrastructure Protection.” Address weakness identified in the January analysis session, “Lack of CBRNE detection equipment.”

- 2. Regional Construct: Briefly describe the geographical context of this Initiative.**

Applies to local, state, and federal partners in the NCR. Equipment would be located in six local governments in the NCR.

- 3. Resources, Processes, and Tools: Identify the resources, processes and tools that already exist, and those that will need to be leveraged, created, or acquired for this Initiative. Briefly consider how these resources, processes and tools may be attained.**

Local governments have radiation detection equipment permanently installed in three locations. Two of these units were obtained under the State Homeland Security Grant Program FY 2003. At least one local government has already written a procedure manual on the permanent equipment. Several governments have hand-held devices and are trained to use this equipment. Additional training and procedures will be required for the new equipment.

- 4. Governance Structure: Describe the high-level governance structure (e.g., management plan, stakeholder involvement) required for successful implementation of this Initiative.**

This initiative will be governed by the R-ESF 3 Debris, represented by the COG Solid Waste Managers Group, in the NCR structure.

**5. Program Management: Explain how the Initiative relates to the overall State homeland security program, and/how it helps incorporate the three Overarching National Priorities.**

The initiative relates to the Recovery and Response goal in the NCR Strategic Plan by allowing area waste facilities to detect radiological materials in the waste stream with equipment as an early warning sign of misuse of these materials.

It also responds to the NCR Strategic plan priority initiative to “enhance and integrate risk assessments of critical infrastructure and high risk targets within the NCR and take protective actions.” Specifically, it addresses the desired outcome of reducing “the probability and impact of an incident to critical infrastructure within the NCR.”

<p><b>CONCEPT PAPER</b></p> <p><i>Preliminary Document – Presented for Review and Discussion</i></p>		January 27, 2006	
		Russell A. Yurek Director – Office of Maintenance MD State Highway Administration	
		7491 Connelley Drive Hanover, MD 21076 410-582-5505 RYurek@SHA.State.MD.US	
Project Title:	<p><b>Radiological Truck Cargo Screening Feasibility Study</b>  <b>I-95 &amp; I-495 Truck Weigh Station</b></p>	Estimated Grant Amount	\$200,000
NCR Strategic Goal Alignment:	Goal 3: Prevent and Mitigate Threats and Events Goal 4: Respond and Recover from Events	Allowability	
Estimated Timeline	24 Months from receipt of grant	Dependencies and Cost Factors:	
<p><b>Problem Statement/Project Description:</b></p> <p>A potential threat to the National Capital Region (NCR) is the detonation of a “dirty bomb” containing radioactive material. This device could be anticipated to be transported by means of a cargo truck or other large transport vehicle along interstate highways into the NCR. Transportation departments in the District, Maryland, and Virginia currently have no effective means to perform roadside detection for radioactive materials in trucks. The damage caused by radioactive material dispersal in the NCR would be devastating and have significant lasting effects. This project would reduce the vulnerability to this threat by detecting truck-borne radiological devices before they enter populated areas of the NCR.</p> <p>The project would involve procuring the services of consultant experienced in the field of radiological detection devices. The consultant would conduct a cost benefit analysis of the detection devices currently available and select a system feasible for deployment. The system would be installed at the Maryland State Highway Administration (SHA) Truck Weight &amp; Inspection Station (TWIS) located at the junction of Interstate 95 (I-95) and the Capital Beltway (I-495) in Prince George’s County. The system would be field tested for a period of one year. The results of the feasibility study, including the determination of additional suitable detection locations in Virginia and the District, and radiological truck screening and detection recommendations, would be provided to the District, Maryland, and Virginia Departments of Transportation for consideration. The agencies would jointly cooperate to develop consistent, uniform, effective regional standards for conducting radiological truck screening.</p>			

The project would reduce the vulnerability of the NCR to a truck-borne radiological terrorist device by implementing cost effective, standardized, truck radiological screening and detection at locations in multiple jurisdictions. The coordination of these efforts is essential to developing an effective unified regional approach to mitigating this threat. The sharing of technologies and procedures cooperatively between jurisdictions will allow lessons learned to be shared, reduce design expenditures, and provide for a coordinated, uniform radiological cargo detection program throughout the NCR.

**Preliminary Project Plan (Tasks, Resources, Deliverables, Collaborating Partners, etc.)**

Tasks	Collaborating Partners	Deliverables	Target Date	
1. Procure Consultant Services	DDOT, MDOT, DDOT	Retain Project Manager	2 Months After Start	
2. Evaluate Available Detection Devices	Consultant	Feasibility Report	5 Months After Start	
3. DOT Evaluation	DDOT, MDOT, DDOT	Device Selection	6 Months After Start	
4. Site Design & Engineering	Consultant, SHA	Contract Documents	8 Months After Start	
5. Detection Device Procurement	MDOT, SHA	Detection System	9 Months After Start	
6. Detection System Installation	Contractor, SHA	Operational System	10 Months After Start	
7. Operate & Maintain Detection System	Consultant, Contractor, SHA	Status Reports	22 Months After Start	
8. Final Feasibility Study & Report	Consultant	Final Report	23 Months After Start	
9. DOT Evaluation	DDOT, MDOT, DDOT	Retain Project Manager	24 Months After Start	
Project Performance Measures			Baseline Value	Target Value
1. Number of Trucks Screened for Radiological Cargo			0 %	25 %

# INITIATIVE PLAN

## Radiological Truck Cargo Screening Feasibility Study

- 1. Provide the Name of this Initiative. Describe how this Initiative will address the priority needs and strengths identified through the program and capability evaluation, and prioritization analysis.**

The name of this initiative is “*Radiological Truck Cargo Screening Feasibility Study*”. The Department of Homeland Security (DHS) has identified the ability to develop robust capabilities to detect, neutralize, contain, dismantle, and dispose of Chemical, Biological, Radiological/Nuclear, and Explosive (CBRNE) as one of the primary national priorities in the National Preparedness Goal. In the National Capital Region (NCR), the Metropolitan Washington Council of Governments (MWCOG) has further identified CBRNE detection as one of the regions 14 priority capabilities. This includes

acquiring the capability to rapidly detect and safely manage CBRNE materials at key interdiction points before they enter populated areas.

The proposal provides for conducting radiological truck cargo screening at established Truck Weight & Inspection Stations (TWIS) during routine vehicle inspections. This process would enhance the regions efforts to detect radiological cargo or devices prior to entering the District of Columbia. The early detection and management of these devices will prevent or deter terrorist attack and enhance public safety throughout the NCR. A prototype system would be selected and installed at SHA's existing TWIS facility at the interchange of the Capital Beltway (I-495) and Interstate 95. This project is a joint effort by the District of Columbia Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT) State Highway Administration (SHA), and the Virginia Department of Transportation (VDOT).

**2. Regional Construct: Briefly describe the geographical context of this Initiative.**

The project entails developing cost effective state-of-the-art methods to detect radiological cargo during routine truck weight and vehicle inspections. The project is a cooperative effort of the District of Columbia Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT) State Highway Administration (SHA), and the Virginia Department of Transportation (VDOT). The project will develop a multi-jurisdictional uniform regional approach to ensure the early detection of radiological cargoes or devices. It will also allow for the standardization of protocols and procedures regionally for the containment and management of these devices in the event they are discovered. By coordinating efforts regionally, these transportation departments can prevent duplication of effort and enhance the regions ability to detect radiological devices or cargo prior to entering populated portions of the District of Columbia.

**3. Resources, Processes, and Tools: Identify the resources, processes and tools that already exist, and those that will need to be leveraged, created, or acquired for this Initiative. Briefly consider how these resources, processes and tools may be attained.**

Radiological cargo screening is not currently conducted by the District of Columbia Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT) State Highway Administration (SHA), or the Virginia Department of Transportation (VDOT). The project will evaluate, study, and select the most effective method for economically and effectively detecting radiological cargo during routine truck weight inspections routinely performed by DDOT, SHA, and VDOT at existing TWIS facilities. The departments will review the study recommendations cooperatively and select a prototype system for testing and evaluation to ensure the development of a uniform method of regional detection. This joint effort will allow agencies to share costs, leverage existing technologies, and develop consistent, unified operating protocols and procedures. The project will also encourage the sharing and dissemination of lessons learned and best practices between agencies.

**4. Governance Structure: Describe the high-level governance structure (e.g., management plan, stakeholder involvement) required for successful implementation of this Initiative.**

Management and oversight of the project will be the responsibility of the Maryland Department of Transportation (MDOT) State Highway Administration (SHA). SHA will be responsible for reporting the status and final recommendations of the project final report to the Metropolitan Washington

Council of Governments (MWCOC) Management Operations and Intelligent Transportation Systems (MOITS) committee on a regular basis. SHA will assemble a team of supporting management representatives, highway engineers, and information technology specialists from DDOT, SHA, and VDOT, to support, oversee, and evaluate recommendations received from the consulting contracting firm selected to perform the study. Project meetings will be conducted to keep stakeholders informed of the progress of the study. The agencies will closely cooperate and support the effort so that results can be shared and implemented across jurisdictional boundaries.

**5. Program Management: Explain how the Initiative relates to the overall State homeland security program, and/how it helps incorporate the three Overarching National Priorities.**

The initiative supports current homeland security efforts in the District of Columbia, Maryland, and Virginia to reduce vulnerability and enhance the security by deterring or preventing a CBRNE terrorist attack utilizing radiological material. The project will reduce the likelihood that a truck borne radiological device is transported across jurisdictional boundaries. By supporting these efforts, the initiative serves to improve public safety and the ability of local jurisdictions to cooperatively respond to terrorist attacks. This initiative directly supports the National Preparedness and National Capital Regional goals of acquiring capabilities to ensure the early detection and management of CBRNE devices to deter or prevent terrorist attacks.

## Scoring Sheet

### CBRNE Detection

**Scoring Criteria:** All candidate Concept Papers are to be scored on the basis of compliance with the following 5 criteria. Each criteria is to be scored from 1 to 10 points, with 1 being lowest compliance and 10 being the highest.

**Criteria #1:** How well does this Concept Paper/Initiative Plan address identified strengths and weaknesses of the 14 Priority Target Capabilities?

**Criteria #2:** How well does this Concept Paper/Initiative Plan address identified strengths and weaknesses of the 3 Overarching National Priorities?

**Criteria #3:** How appropriate is the funding requested with the deliverables proposed by the Concept Paper?

**Criteria #4:** How beneficial will this concept paper be in addressing regional needs?

**Criteria #5:** How important is it to implement this Concept Paper/Initiative Plan in FY 06?

<b>Concept Paper</b>		Establishment of a Fully Functional Regional Emergency Mobile Laboratory Program									
<b>Related Target Capabilities:</b>											
<b>Score:</b>	Criteria #1 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #2 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #3 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #4 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #5 (1-10)	1	2	3	4	5	6	7	8	9	10
	<b>Total: (5-50)</b>										

<b>Concept Paper</b>		Radiation Detection Equipment for Solid Waste Disposal Facilities									
<b>Related Target Capabilities:</b>											
Critical Infrastructure Protection											
<b>Score:</b>	Criteria #1 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #2 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #3 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #4 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #5 (1-10)	1	2	3	4	5	6	7	8	9	10
	<b>Total: (5-50)</b>										

<b>Concept Paper</b>		Radiological Truck Cargo Screening Feasibility Study I-95 & I-495 Truck Weigh Station									
<b>Related Target Capabilities:</b>											
<b>Score:</b>	Criteria #1 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #2 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #3 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #4 (1-10)	1	2	3	4	5	6	7	8	9	10
	Criteria #5 (1-10)	1	2	3	4	5	6	7	8	9	10
	<b>Total: (5-50)</b>										

**This page left intentionally blank**