Project Plan

National Capital Region Critical Infrastructure Resiliency Program

Contact Information

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Project Information

Period of Performance:	July 1, 2006–June 30, 2008
Grant Award:	$4,801,109 (FY06)
Related Documents:	

I. Project Summary

The principal governments involved in the critical infrastructure (CI) program agree that a resilient CI program requires strong partnerships that are based on trust in data and the acceptance of common terminology and methodology. In order to achieve this resilient program the principals have, in the earliest stages of the program, committed to engage the public and private sector critical infrastructure owners and operators to develop the foundation for a prolonged CI partnership.

II. Project Background and Goals

A. Project Background

In order to cultivate this partnership and develop the framework for protected information sharing, the principals must commit resources to CI programs in their governments. Currently, the principals are utilizing overtaxed resources to start this initiative and have realized that resources to implement a resilient CI program require dedicated protagonists for each of the three states and a staff to implement the program.

This program aims to create a resilient CI program through the following activities:

- Partnering with the public-private CI owners and operators

- Identifying a common risk assessment methodology

- Developing an IT system for the exchange of protected information and a security protocol to protect this information.

- Creating emergency response plans for the CI that require updates to their plans

- Implementing a training and exercise program that will train and test the public-private response

- Implementing corrective actions for the CI

NCR Strategic Initiatives	DHS Target Capabilities & Performance Measures
3.1.1 Develop a prevention and mitigation framework for the region **3.3.1** Conduct an inventory of completed CIP assessments in the region and develop a comprehensive regional list of critical infrastructure assets and recommended protective action needs based on existing assessments **3.3.3** Conduct gap analysis of CIP assessments and apply new assessment approaches to close identified gaps. **3.3.2** Improve the region's risk- and performance-based approach to critical infrastructure/key resources (CI/KR) protection, while ensuring that consistent process and definitions are being used throughout the region.	Critical Infrastructure Protection, Regionalism, Interoperability

B. Goals and Outcomes

This initiative is closely tied to the state homeland security program and the Overarching National Priorities. The state homeland security program requires that the critical infrastructure in the region be resilient so that the prevention, response, and recovery assets can operate at an efficient level. Two of the three overarching national priorities, Implementation of the NIPP and Expand Regional Collaboration, are addressed with this plan.

Currently, the regional collaboration is focused on the public sector. A series of strong relationships have been developed with this collaboration. With the development of a resilient critical infrastructure program, the public-private sector collaboration will be enhanced and the regional collaboration will have greater depth. Cataloguing the critical infrastructure through a public-private partnership, selecting a common critical infrastructure assessment tool and enhancing the resiliency of the system will allow this program to address the NIPP.

Goal	Outcomes
Development of Strategy	• Develop plan for concise prevention, protection, and resiliency actions • Focused effort of the many groups working CIP in the NCR • Attain the goals with in the NCR Strategic Plan
Improve the quality of CIP strategy and deliverables through new CIP FTEs	• Consistent NCR CIP effort • Implementation of the CIP Strategy • Future project requirements development • Project oversight
Create a Common Risk Assessment Methodology Process	• Capability to conduct portfolio analysis on protection and resiliency needs for all NCR CI/KR
Implement Special Projects and Strategic Plans	• Back-up power resource inventory • MPD Information protection program • One mobile lab for water security

C. Project Managers

NCR CIP Regional Program Working Group members

D. Project Assumptions & Scalability

1. Project Assumptions

There are no project assumptions.

2. Project Scalability

Number	Description	Notes
1	Development of Strategy—See Statement of Work (SOW)	This is the top priority of the RPWG. The strategy is needed to focus the effort of the many groups working CIP issues in the region. $500K **Full funding needed.**
2	2 FTEs for CIP – See	There are currently no personnel focused on CIP issues full time. All

Number	Description	Notes
	attached Job Description	CIP work conducted by the RPWG level members is done on an adhoc basis. **This expenditure is the equivalent of the ETOP state/jurisdiction personnel for purposes of completing the necessary work to have a successful program.** This is scalable in that less qualified personnel can be contracted. However, this will directly affect the quality of outcomes.
3	Common Risk Assessment Methodology Process	The intent is to have a common tool to asses the NCRs portfolio of critical infrastructure. This is scalable in terms of implementation. Approximately $150K is needed to procure and adopt existing tools. Approximately $70 is needed per sector to develop accurate assessment samples. The top 5 sectors were included for this years request (energy, rail / transportation, water, large pubic venues, cyber/Telecom).
4	Critical Information Protection Program	DC CIP program enhancement to include PCII and site identification
5	Special Project Funds / Implementation of Strategic Plan	This is to partially cover important projects that did not receive funding but are high priority for the RPWG. Projects include:

III. Project Approach

A. Activities

1. Hire Staff

2. Constitute CI committees

3. Select a common risk assessment methodology/tool

4. IT system development

5. CI Risk Assessment

B. Resources

The National Capital Region (NCR) is creating a regional critical infrastructure protection program. This program involves senior officials from the Commonwealth of Virginia, the District of Columbia and the State of Maryland with pending involvement of representatives from the critical infrastructure operators and owners. These operators and owners will represent critical infrastructure located in the NCR or infrastructure that are major suppliers to the region.

The NCR has an existing group, the Critical Infrastructure Protection Group, with governmental representatives. This group is currently expanding to include sector representatives and will report its findings to the homeland

security advisors of DC, MD, and VA. The NCR CIPG reports directly to the Senior Policy Group, which consists of the Homeland Security Advisors of DC, MD, and VA.

Resource Name	Type	Responsibility	Duration
NCR CIP Regional Program Working Group members	People	Monitor development of funded projects	June 2008

C. Deliverables

Deliverable	Delivery Dates	Estimated Cost
Development of Strategy • **Develop plan for concise prevention, protection, and resiliency actions** • **Focused effort of the many groups working CIP in the NCR** • **Attain the goals with in the NCR Strategic Plan**	180 Days from award	$500,000
2 FTEs for CIP • **Consistent NCR CIP effort** • **Implementation of the CIP Strategy** • **Future project requirements development** • **Project oversight**	This is estimated for one year	$208,000 per FTE $624,000 Total
Common Risk Assessment Methodology Process • **Capability to conduct portfolio analysis on protection and resiliency needs for all NCR CI/KR**	365 days from award	$500,000
Special Project Funds/Implementation of Strategic Plan • **Back up power resource inventory** • **MPD Information protection program** • **One mobile lab for water security**	30 Jun 2008	$1,000,000

D. Next Steps

IV. Project Methodology

A. Project Dependencies

There are no project dependencies.

Project Plan

WMATA Alternate Operations Control Center

Contact Information

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Project Information

Period of Performance:	July 1, 2006–June 30, 2008
Grant Award:	$9 million (FY06)
Related Documents:	

V. Project Summary

This project addresses a single point of failure in Metro's operations, which has been identified as WMATA's #1 security priority in federal security assessments sponsored by the Department of Homeland Security and the Federal Transit Administration – the need for an Alternate Operations Control Center (OCC). It received a #1 ranking by RESF-1 and was also the top ranked initiative out of projects addressing specific protective actions evaluated by the NCR CIP Working Group. The funds requested by WMATA will be used primarily for equipment to outfit the Alternate OCC, which will serve as the new Primary OCC.

Addressing this single point of failure in WMATA's operating system in a timely fashion will serve to mitigate the negative impacts resulting from a terrorist attack directed towards transit or other high threat targets in the region by enhancing the response, evacuation and recovery capabilities of the National Capital Region, including the continuity of federal government operations. If the building that currently houses the OCC was destroyed or had to be evacuated, it would be essentially impossible to maintain rail service with any acceptable degree of reliability. Simply put, the OCC is WMATA's levee. Additional regional benefits include the potential for the Alternate OCC site become a center point for regional information sharing and coordination, as well as provide backup traffic management capabilities for other regional transportation agencies.

VI. Project Background and Goals

A. Project Background

WMATA's existing WMATA Alternate Operations Control Center (OCC) is a multi-dimensional facility. It directs rail and bus operations, emergency repair actions, rail, bus and police radio communications, coordination and communications with the region's emergency first responders, receives PROTECT chemical sensor program data, origination point for public announcements, and needs to be extremely facile with the ability to quickly respond to a variety of incidents. WMATA's OCC represents a single point of vulnerability for operating the entire rail system. During the rush hour, 30 percent of the region's commuters rely on Metrorail service, and almost half of peak period riders are federal employees. The recent attacks in London and Madrid have shown that transit systems are a favorite target of terrorists.

In an effort to address this top security priority in a more cost effective and timely manner, WMATA recently decided to designate the facility planned to be used as a backup as its future primary OCC. Moving the primary OCC outside the region's core area will address the critical security risk, and result in cost savings by transferring rather than replicating most of the new radio infrastructure and other communications component upgrades. Previous DHS Transit Grant Funds and internal WMATA capital funds have been allocated towards the design and renovation of the building at an alternate site, as well as the purchase of radio console and other communications related equipment; FY06 Transit Grant funds will be used to transfer existing radio infrastructure and purchase additional radio related equipment.

List the NCR Strategic Initiatives and DHS Target Capabilities and performance measures that your project supports. You can find a list of each found at http://www.mwcog.org/committee/committee/login.asp

NCR Strategic Initiatives	DHS Target Capabilities & Performance Measures
3.3.1 Conduct an inventory of completed CIP assessments in the region and develop a comprehensive regional list of critical infrastructure assets and recommended protective action needs based on existing assessments	Critical Infrastructure Protection, CBRNE Detection, Economic and Community Recovery, Citizen Protection: Evacuation and/or In-Place Protection, Firefighting Operations/Support
4.1.2 Align and integrate response plans across jurisdictions (including Federal partners), with	

NCR Strategic Initiatives	DHS Target Capabilities & Performance Measures
emphasis on continuity of government, operations, and evacuation	
4.3.1 Develop a regional resource management system for deployment and utilization of resources	
4.4.1 Model and exercise the appropriate 15 DHS scenarios to assess region-wide impact	
4.4.2 Align public, private and NGO resources with identified needs for response and recovery	

B. Goals and Outcomes

This Initiative directly serves to advance in the NCR two of the three Overarching National Priorities:

- Implement the Interim National Infrastructure Protection Plan, and

- Expanded Regional Collaboration.

As cited in the responses above, this Initiative addresses a single point of failure associated with a key sector of the NCR's critical infrastructure and will also expanded regional coordination in the transportation sector by providing the opportunity for enhanced connectivity and coordination among all transportation agencies operating within NCR.

This Initiative provides a specific protection action that addresses one of the key capability gaps resulting from the session on critical infrastructure protection – the need to address single points of failure that can cause system wide failures in key critical infrastructure sectors within the NCR such as transportation.

Goal	Outcomes
Eliminate single point of failure in WMATA's rail operations	Alternate Operations Control Center provides redundant operations capabilities if current OCC becomes inoperable
Provide redundancy for bus operations and police dispatch	Alternate Operations Control Center includes bus operations center with Automated Vehicle Locator displays and police dispatch center
Eliminate single alert notification point for PROTECT chemical detection system	Alternate Operations Control Center provides redundant hook-up for alert notification and data feed for PROTECT chemical detection system
Enhance regional transportation coordination and connectivity	Alternate Operations Control Center has the capability to accommodate data from other regional transportation agencies, including traffic management

C. Project Managers

Let us know who has responsibility for ensuring the goals and objectives of this project are met. Please list them using the following format:

David Couch   Director, Office of Infrastructure Renewal Programs, WMATA

Diana Bowdry   Project Manager, Office of Infrastructure Renewal Programs, WMATA

Mark Miller   Operations Emergency Coordinator, WMATA

D. Project Assumptions & Scalability

1. Project Assumptions

Number	Description	Notes
1	Additional DHS Transit Grants will be available to complete the Alternate OCC	FY06 NCR Transit Grant allocation still pending
2	WMATA project staff and contractor support is available, with the required skill set, to complete all tasks identified in the project schedule	

2. Scalability

The project is scalable. Please also see the information in the "Deliverables" table. The first priority is for the equipment to outfit the Alternate OCC, which totals $6 million and is broken into two major parts:

- $4 million for equipment linked to rail and bus operations, such as software modifications for the Rail Operating Computer System, large scale displays of train positioning, rail consoles, power/fan control and fire intrusion alarms; also includes consoles for bus Automated Vehicle Locator, police dispatch and maintenance portions of OCC; amount further scalable to $3/$1 million. **(rationale: essential OCC equipment for operating the rail and bus systems and police dispatch)**

- $2 million is for equipment to extend the PROTECT chemical detection alert and data/video system to alternate site, and equipment for the public communications system and installation of an OCC recording system. **(rationale: high-priority OCC related equipment, especially during an emergency situation)**

An additional $3 million is for a more robust Local Area Network/Wide Area Network (LAN/WAN). This will provide additional bandwidth and enhanced reliability for connecting business systems and operations data, such as email, PROTECT data, maintenance data, and passenger information displays. **(rationale: important upgrade needed to enhance reliability of service but not essential for basic rail/bus operations)**

VII. Project Approach

A. Activities

- Operations Control Center Outfitting Design

- OCC Procurement and Installation of Equipment

- Network Design

- Network Procurement and Installation

B. Resources

WMATA has already applied most of its FY03-FY05 DHS transit grant funding towards the program and intends to use their FY06 allocation towards the project. But the transit grant program does not provide enough resources to put in place an Alternate Operations Control Center in a timely manner. With the use of FY06 UASI funds in addition to the FY06 transit grant funding, WMATA will be able to complete the project sooner. WMATA has leveraged existing capital funding acquired from other federal sources for the radio infrastructure and other communications component upgrades.

Resource Name	Type	Responsibility	Duration
WMATA	People	Project Management	full grant period
Consultants	People	Project support	Most of grant

C. Deliverables

Deliverable	Delivery Date	Estimated Cost
OCC Outfitting linked to Rail and Bus Operations: design, procurement and installation: *essential items for controlling/running rail and bus operations from new primary site - #1 priority*	19 months after grant award	$3 million
OCC Outfitting for Police Dispatch and Bus/Rail support: design, procurement and installation*: essential items for running police dispatch operations and key support bus and rail operations - #2 priority*	19 months after grant award	$1 million
OCC Outfitting – PROTECT, Rail Public Address and OCC-wide Recording System: procurement and installation: *high priority OCC related equipment, especially during an emergency - #3 priority*	22 months after grant award	$2 million
LAN/WAN Network: design, procurement and installation	22 months after grant award	$3 million

D. Next Steps

The Alternate OCC, which will be WMATA's new primary OCC, can also serve as a center point for regional transportation information sharing and coordination, as well as provide backup traffic management capabilities for other regional transportation agencies.

VIII. Project Methodology

A. Project Dependencies

Question	Yes or No (If yes, please describe how)
Is completion of the project dependent upon other	Yes, completion of the project is dependent upon FY06 DHS Transit Grant Program assistance,

Question	Yes or No (If yes, please describe how)
DHS grant assistance?	allocations still pending
Consequences of not funding all or part of the project	An UASI allocation below the $4-6 million range for this project will jeopardize the ability to complete the Alternate OCC during the FY06 DHS Grant cycle (for both UASI and Transit Grant programs)

Project Plan

Establishment of a Regional Mobile Lab and Expansion of the Water Security Monitoring Network in the National Capital Region

Contact Information

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Project Information

Period of Performance:	July 1, 2006–June 30, 2008
Grant Award:	$ 1,250,000 (FY06)
Related Documents:	

IX. Project Summary

This project proposal is for two separate, but closely related activities:
- Establishment of a rapid mobile emergency water laboratory response capability; and
- Expansion and operation of the water security monitoring network in the National Capital Region.

The establishment of a rapid response emergency mobile lab would provide the NCR with a much needed capability to rapidly respond to water contamination events and quickly identify the contaminant using EPA approved analytical laboratory equipment, thereby minimizing threats to human health and safety risk. The proposed additional monitoring stations would be located at critical locations in the NCR, incorporating the biological and chemical water quality monitoring systems that are currently being used as well as the incorporation of radiological monitoring.

EPA guidelines establish a two to eight hour window for determining if a potential contamination event should be elevated from "possible" to "credible." If a true water contamination event were to occur, such timely answers would protect the public health and potentially save lives. Such a quick determination can only be made through a combination of strategically placed early warning monitoring stations and field water quality screening laboratory analysis performed by the region's water utilities.

This initiative directly meets the National Priority to strengthen CBRNE Detection, Response, and Decontamination Capabilities, and NCR Goal 3: Prevention and Mitigation. This initiative is also consistent with three Presidential Directives (HSPD's 7, 9 and 10) and the Bioterrorism Act of 2002, all of which call for the establishment of Early Warning Systems to protect the Nation's water infrastructure. Section 402 of the Bioterrorism Act specifically identifies "community water systems that provide service to the National Capital area" as deserving special emphasis in this regard.

X. Project Background and Goals

A. Project Background

Public water systems in the National Capital Region serve about 5 million customers, approximately 670 government-owned and leased regional buildings, and prominent national "icon facilities" such as the U.S. Capitol Complex, the White House, the Pentagon, the world-class museums of the Smithsonian Institution, and memorials along Washington's famed Mall. Consequently, water systems in the National Capital Region face unique challenges related to both potential natural disasters and from being located in one of the highest terrorist threat areas in the United States.

Water Utilities in the National Capital Region have long recognized the need for enhanced water security monitoring for both raw and finished drinking water supplies. As early as 2001, the Regional Water Security Work Group has been actively working to establish a comprehensive water security monitoring network in order to enhance water security and safety in the NCR. In February of 2005, UASI FY04 grant funding was secured to initiate the establishment of that water security monitoring network. The first group of monitoring stations is operating now, establishing monitoring capability at a number of critical locations.

However, it only represents a portion of the needed network monitoring stations. Under the current network, not all drinking water systems and sources are being monitored. Additional monitoring stations at critical locations in the NCR are needed and would incorporate the biological and chemical water quality monitoring systems that are currently being used as well as the incorporation of radiological monitoring.

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". 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.

To make such a determination, a regional mobile lab equipped with EPA approved and recommended analytical techniques is needed by the NCR water utilities. This emergency mobile lab would 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, as happened in the Gulf region after hurricanes Katrina and Rita. The mobility of the lab 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.

NCR Strategic Initiatives	DHS Target Capabilities & Performance Measures
3.3.1 Conduct an inventory of completed CIP assessments in the region and develop a comprehensive regional list of critical infrastructure assets and recommended protective action needs based on existing assessments	Critical Infrastructure Protection and CBRNE detection; Measures include: • One fully equipped NCR rapid response mobile lab. • Trained mobile lab response teams. • Emergency response protocols for mobile lab use and maintenance. • Purchase, installation and operation of 10 new water security monitors (biological, chemical, radiological) and stations to expand the existing water security monitoring network. • At the completion of the 06 UASI, grant 17 stations will be in continuous operation.

B. Goals and Outcomes

This initiative supports current homeland security efforts in the District of Columbia, Maryland, and Virginia to reduce the vulnerability and enhance the security and protection of critical statewide infrastructure assets. By supporting these efforts, the initiative serves to improve public safety and the ability of local jurisdictions to cooperatively respond to terrorist attacks, emergency incidents, or natural disasters by ensuring that critical water system infrastructure assets remain available to provide potable water, fire suppression capability, public sanitation, and support operation of critical facilities such as hospitals and trauma centers.

This initiative directly supports the National Preparedness Goals of protecting critical infrastructure and key resources, and strengthening CBRNE detection and response capabilities across multiple jurisdictions.

Goal	Outcomes
The ultimate TARGET GOALS of the NCR's Water Security Monitoring Network would be to provide: • 100% coverage of all raw water intakes in the Potomac and reservoirs in the NCR; • 100% coverage of the finished water as it exits from each water treatment plant; • Comprehensive monitoring coverage upstream in the Potomac River above the intakes that will add a greater early warning capability; and • Strategic coverage in the distribution systems (high populations concentrations; at strategic locations relative to buildings, etc.) • Strategic coverage of radiological events in raw and finished water	• 10 new monitors at six stations installed and operational in the NCR. Network expanded to approximately 17 stations (bio., chem., and rad.).
The ultimate TARGET GOALS of the NCR's Mobile Lab initiative would be to provide: 1. One fully equipped NCR rapid response mobile lab. 2. Trained mobile lab response teams. 3. Analytical equipment and mobile lab vehicle approval by ODP, if needed. 4. Emergency response protocols for mobile lab use and maintenance.	• One fully equipped NCR rapid response mobile lab. • Trained mobile lab response teams. • Analytical equipment and mobile lab vehicle approval by ODP, if needed. • Emergency response protocols for mobile lab use and maintenance.

The proposed water security monitoring platforms have been proven to detect and identify in real time very low concentrations of the most likely threat agents using advanced algorithms that interpret changes in basic water monitoring parameters. They also include alarm and response programs that alert utilities about potentially unsafe drinking water conditions and reliably identify contamination events. Therefore, COG and its water utility partners have the experience base on which to build a regional monitoring system, as envisioned in the Bioterrorism Act.

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 lab is not likely to remain idle as it 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 presently being developed under a separate initiative. It is expected that the lab will be frequently tested and operated to maintain a high level of personnel and equipment readiness.

C. Project Managers

James Shell   Principal Water Resources Planner, Metropolitan Washington COG

Steve Bieber   Water Resources Technical Manager, Metropolitan Washington COG

D. Project Assumptions & Scalability

1. Project Assumptions

Number	Description
1	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.

2. Scalability

This project consists of the following primary elements:

- Mobile lab: $425,000
    - This is scalable, though the region does not have a response mechanism, mobile water quality lab, to perform preliminary field screening. The region does not have a portable Gas Chromatograph/Mass Spectrometer (GCMS) to determine specific contamination constituent identification.
- 4 Radiological water quality monitoring systems: $300,000
    - This is scalable from four units down to one unit at $75,000 each, less then four will not cover each of the four major water intakes serving the NCR
- 3 Intelligent Aquatic Biomonitoring Systems, (fish bio-monitors), and 3 new chemical water quality monitoring units (reduced from 6 each): $525,000
    - This is scalable from 6 units down to one unit

The number and type of monitoring units could be changed, as needed, to meet available resources.

XI. Project Approach

A. Activities

Mobile Lab Preliminary Project Plan (Tasks, Resources, Deliverables, Collaborating Partners, etc.)			
Task(s)	Owner(s) or Collaborating Partners	Deliverable(s)	Target Date(s) or Level of Effort
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	Water Security Work Group RESF#3;Project	Identify mobile laboratory equipment and supply	Within 90 days of the grant award

	equipment and supplies	Management Team; utility lab staff; MWCOG	needs	
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 vehicle	Project Management Team; MWCOG	RFP's issued	Within 120 to 150 days of the grant award
6.	Issue purchase orders for equipment and vehicle	MWCOG	Purchase Orders issued	By month 5 of the grant award
7.	Install and outfit one NCR emergency mobile lab	Project Management Team; MWCOG	One 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

Monitoring Preliminary Project Plan (Tasks, Resources, Deliverables, Collaborating Partners, etc.)			
Task(s)	Owner(s) or Collaborating Partners	Deliverable(s)	Target Date(s) or Level of Effort
10. In coordination with RESF#3 and its Water Security Project Team, Develop project management plan	All NCR jurisdictions (MWCOG) and RESF3 Work Group, Water Security Monitoring Project Team	Water Security Monitoring Project Management Plan	To be completed within the first 30 to 60 days of the grant award
11. Identification and selection of new monitoring locations and participating utilities	All NCR jurisdictions (MWCOG) and RESF3 Work Security Work Group members, Water Security Monitoring Project Team	New monitoring sites selected; participating utilities agreement to operation stations	To be completed within the first 30 to 60 days of the grant award
12. Place orders for purchase of biomonitors, and water quality monitors	MWCOG staff on behalf of RESF#3	Purchase Orders developed and submitted; equipment is sole source as was previously	To be completed within the first 30 to 60 days of the grant award
13. Initiate process for ODP approval for radiation monitors	RESF#3, MWCOG staff	Support materials and meetings with ODP	To be completed within the first 30 days of the grant award
14. Place orders for	MWCOG staff on behalf	Purchase Orders	To be completed within

radiation monitors	of RESF#3	developed and submitted for radiation monitors	the first 90 to 120 days of the grant award
15. Conduct monitoring equipment (fish biomonitors, water quality, radiation training sessions	All NCR jurisdictions (COG) and RESF3 Work Security Work Group members, Water Security Monitoring Project Team	Training sessions for monitoring equipment	To be completed within the first 3 to 4 months of the grant award
16. Monitoring equipment installation	Participating Utilities, MWCOG, and manufacturer reps.	Installation of 16 new monitoring units and stations	To be completed within the 8 to 10 months of the grant award
17. Monitoring stations up and operational	Participating Utilities, MWCOG, and manufacturer reps.	Operational fish biomonitors, chemical water quality monitors, and radiation monitors	To be completed within 9 to 12 months of the grant award
18. Incorporate new stations and monitors into the regional data management monitoring network	Project Monitoring Project Team; newly participating Utilities, MWCOG	Establishment of data network connections for additional monitoring systems	To be completed within the 9 to 10 months of the grant award
19. Continuous station operation	Project Monitoring Project Team; newly participating Utilities, MWCOG	Continuous new operating monitoring stations	From month 10 to 16
20. Draft Assessment and Evaluation report	Project Monitoring Project Team; MWCOG	Draft Assessment and Evaluation Report	Month 14 from the date of the grant award
21. Final Assessment and Evaluation report	Project Monitoring Project Team; MWCOG	Final Assessment and Evaluation Report	Month 16 from the date of the grant award

B. Resources

Resource Name	Type	Responsibility	Duration
All NCR jurisdictions (MWCOG)	staff	lead project management, procurement, technical support and coordination	continuing effort during and after grant period
Manufacturer reps.	staff	technical support	grant period
Participating Utilities	staff	monitoring station operation	continuing effort during and after grant period
Water Security Monitoring Project Team	staff	technical and operational coordination and oversight	continuing effort during and after

Resource Name	Type	Responsibility	Duration
			grant period
RESF3 Work Security Work Group members	staff	project policy and oversight	grant period

C. Deliverables

Deliverables	Delivery Date	Estimated Cost
Mobile lab and water toxicity testing devices to perform initial field screening of potential contaminated drinking water to determine which consequence operations to put in place	16 months from the date of the grant award	$425,000
Water quality contaminant monitoring platforms – radiation to screen water for radioactivity, not currently done	16 months from the date of the grant award	$300,000
Water quality contaminant monitoring platforms – chemical and biological to continue to build a network of monitoring platforms to provide online early warning of a drinking water contamination event	16 months from the date of the grant award	$525,000
Total		$1,250,000

D. Next Steps

Under Title IV of the Public Health Security and Bioterrorism Response Act of 2002 (PL 107-188), 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 regional Water Security Work Group was established to guide and coordinate response capabilities resulting from contamination events in the NCR's public water supply systems.

The water security monitoring capability will continue to be coordinated through RESF#3's Water Security Monitoring Project Team, which is comprised of participating water utilities, laboratory personnel, local government and state emergency managers, EPA and others. The additional water security monitoring capability will significantly enhance the NCR's water security monitoring network's ability to detect and provide early warning of contaminants in water supplies as well as significantly increase the network coverage and citizen safety. It is anticipated that expansion of the water security monitoring network will be required and funding would be required over the next 3 to 5 years in order to provide complete comprehensive water security monitoring coverage.

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.

XII. Project Methodology

A. Project Dependencies

Question	Yes or No (If yes, please describe how)
Does this project conflict or compete for resources with any other project?	No
Does any other project depend on this project?	No
Are there any other important dependencies that will affect this project?	No

Project Plan

Critical Infrastructure Monitoring and Protection

Contact Information

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Project Information

Period of Performance:	July 1, 2006–June 30, 2008
Grant Award:	$3,001,200 (FY06)
Related Documents:	

XIII.   Project Summary

The Critical Infrastructure Monitoring and Protection Project addresses a need for the National Capital Region to monitor and protect regional transportation assets (bridges and tunnels) currently vulnerable to terrorist attacks. These transportation assets serve a critical role in supporting the regional economy on a day-to-day basis, as well are needed to move resources to a response to an incident. This project serves three benefits:

- Safeguarding critical infrastructure by monitoring and reducing the probability of terrorist attacks

- Providing real-time traffic monitoring

- Accelerating regional responses to events

XIV.   Project Background and Goals

A. Project Background

The National Capital Region has many bridges and tunnels as critical infrastructure. Several bridges connect the District of Columbia with Virginia and Maryland. Some of these bridges and tunnels carry huge amounts of daily traffic. However, these bridges and tunnels are not sufficiently monitored and protected. These assets are currently vulnerable considering that critical bridges and tunnels in the NCR would be possible targets of terrorists. There is an urgent need to protect them as the key part of the region's infrastructure.

Needs in bridge monitoring and protection: Some critical bridges such as the Theodore Roosevelt Bridge and the 14th Street Bridge Complex in Washington DC have towers on them that are unmanned, and these unmanned bridge towers do not have intrusion detection devices that are connected to the traffic management center for monitoring. Similarly, the Woodrow Wilson Memorial Bridge and American Legion Memorial Bridge on the Capital Beltway (I-95/495) are not sufficiently monitored and protected, as well.. All of these bridges are part of a regional commuter network that supports the local economy. Additionally, they carry heavy traffic daily along the east coast of USA.

Needs in tunnel monitoring and protection: Some tunnel monitoring video devices are outdated and do not even have pan, tilt, and zoom (PTZ) control capability that limits the operators' means to scrutinize any situations inside tunnels for susceptible acts.

NCR Strategic Initiatives	DHS Target Capabilities & Performance Measures
3.3.1 Conduct an inventory of completed CIP assessments in the region and develop a comprehensive regional list of critical infrastructure assets and recommended protective action needs based on existing assessments	Critical Infrastructure Protection

B. Goals and Outcomes

DDOT's homeland security program covers many areas including updating and protecting communication network, deployment of evacuation dynamic message signs, TMC based public address system, evacuation plans, redundancy of power supplies, incident detection/management, deployment of additional CCTV cameras, and Regional Integrated Transportation Information System (RITIS). This initiative will provide DDOT with an additional capability in protecting bridges and tunnels that serve the region's transportation network. Efforts in this initiative will result in improved incident detection/management as well as support evacuations.

Moreover, the real time bridge and tunnel monitoring/detection information/alarms can be integrated into RITIS shared across the NCR.

This initiative directly addresses the National Preparedness Goal regarding "protect critical infrastructure and key resources" (page 1, section 1.B, FY-2006 Homeland Security Grant Program), and Overarching Capabilities in Expanded Regional Collaboration, National Incident Management System and National Infrastructure Protection Plan. Critical infrastructure Protection has been identified as a weakness, and this project addresses the issue.

Goal	Outcomes
Protect critical bridges connecting major transportation network corridors in the National Capital Region	• A video-based motion-detection system installed inside towers on the bridges for intrusion detection and real -time monitoring. Unexpected intrusions will trigger alarms in regional Traffic Management Centers (TMC) as well as on-site. • Additional CCTV cameras provide real time monitoring of suspicious activities near critical bridges including stopped vehicles, skeptical bags/boxes and human activities. • Enhanced communications among DOTs in this region, emergency management organizations and law enforcement agencies.
Protect important major tunnels in the National Capital Region	• Additional CCTV cameras will provide real time monitoring of suspicious activities inside tunnels including stopped vehicles, skeptical bags/boxes and human activities.
Facilitate communications among DDOT, VDOT and MDOT	• DDOT/TMC will integrate with RITIS to enable sharing incident information with MDOT and VDOT.

C. Project Managers

Soumya Dey, P.E.   Deputy Associate Director, District Department of Transportation/TSA

D. Project Assumptions & Scalability

1. Project Assumptions

There are no assumptions associated with this project.

2. Scalability

The project's design and implementation will consider scalability of the system by balancing the funding level and future expansion anticipated. Wherever feasible, the project will consider the following.

   a. The communication network will accommodate growth in bandwidth

   b. Hardware and software will adapt to additional cameras and intrusion detectors by straightforward configurations

   c. Use compatible hardware and software to upgrade functions seamlessly

In addition to system design's scalability, this project is scalable in its execution. The following table lists specific bridges and tunnels proposed, together with an estimated camera coverage proposal. Starting with about $400,000 (cost of purchasing necessary hardware and software base on which cameras are integrated), the project will cover tunnels and bridges as indicated in the table. The bridges identified on the left portion are more important critical-infrastructure that should be protected with higher priority.

DDOT determined that the four tunnels and six bridges have the highest priority for critical infrastructure protection, which requires 25 cameras with the software/hardware support system. Additional cameras as listed can be installed in a phased manner.

Critical Transportation Infrastructure Projection Plan

Tunnels		Software & Systems	Cameras						
1	3rd Street		8						
2	9th Street		1						
3	12th Street		1						
4	E-Street		2						
Bridges									
1	American Memorial Legion			6					
2	Chain Bridge					1			
3	Key Bridge				1				
4	Theodore Roosevelt Bridge			2					
5	Arlington Bridge						1		
6	George Mason Bridge			1					
7	Rochambeau			1					
8	14th Street			2					
9	Francis Case Bridge				2				
10	Frederic Douglas Bridge S. Capt				2				
11	11 Street Bridge				2				
12	Kevin J. Welsh Bridge					1			
13	John Phillip Sousa Bridge			1					
14	Whitney Young Bridge					1			
15	Benning Bridge					1			
16	Woodrow Wilson Bridge								6
Total Cameras			**12**	**13**	**7**	**4**	**1**	**6**	Overall Cost
Cost		**$400K**	**$360K**	**$390K**	**$210K**	**$120K**	**$30K**	**$180K**	**$1.69M**
Cumulative Cost		**$400K**	$760K	$1,150K	$1,360K	$1,480K	$1,510K	$1,690K	
		Priority Level	1	2	3	4	5	6	

High Priority   ←-------------------------→ Low priority

XV. Project Approach

A. Activities

- Departments of Transportation (DOT) in the District of Columbia, Maryland and Virginia jointly develop program plans, communication plans and define the scope of work.

- Study and assess major bridges and tunnels in the NCR that are vulnerable for being attacked. Each DOT is responsible to do the study of its own bridges and tunnels. The study result will be combined into a single study report.

- Develop system requirements specification and concept of operations

- Design CCTV camera systems and intrusion detection and monitoring systems for bridges and tunnels

- Procure, install, integrate and test the CCTV camera systems and intrusion detection systems that are centralized to each state's TMC, respectively.

Activity	Delivery Date	Estimated Cost
Task 1: The scope of work; program plans; and communication plans.	2 months from activation date	80(hours)@$100 = **$8,000**
Task 2: Report outlining the needs in protection or bridges and tunnels in the NCR.	2.5 months after Task 1 is complete	100(hours)@$100 = **10,000**
Task 3: Concept of operations	1 months after Tasks 1 and 2 are complete	40 (hours)@$100 = **$4,000**
Task 4: Plan, Specification and Estimation (PS&E) final systems	8 months after tasks 1, 2, and 3 are complete.	580 (hours) @$100 = **$58,000**
Task 5: Core Computer software and hardware for camera integration	4 months after tasks 1, 2, 3, and 4 are completed	**$320,000**
Task 6: Camera system	6 months after task 1,2, 3, 4, and 5 are completed	Number of cameras times **$30,000***

* Notice the camera cost has included installation, camera, communication expansion, video switches expansion, and software integration with TMC and RITIS.

B. Resources

Resource Name	Type	Responsibility	Duration
DDOT	People		
MDOT	People		
VDOT	People		

C. Deliverables

Deliverable	Delivery Date	Estimated Cost
Core Computer software and hardware for camera integration		$400K
Priority Level 1 (High) Cameras/Protection		$360K
Priority Level 2 Cameras/Protection		$390K
Priority Level 3 Cameras/Protection		$210K
Priority Level 4 Cameras/Protection		$120K
Priority Level 5 Cameras/Protection		$30K
Priority Level 6 (Low) Cameras/Protection		$80K
	Total Cost	**$1.69M**

D. Next Steps

XVI.   Project Methodology

A. Project Dependencies

No project dependencies have been identified.