



# **AUDIT OF THE DEPARTMENT OF JUSTICE'S IMPLEMENTATION OF THE INTEGRATED WIRELESS NETWORK**

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## **EXECUTIVE SUMMARY\***

A reliable, secure, and seamless communications network is essential to law enforcement officers, including special agents, when performing routine enforcement work, but is even more critical when performing special and emergency operations. The agencies within the Department of Justice (Department) rely on several separate land mobile radio systems, which include handheld radios, to provide this communication capability. However, an ongoing concern has been that the Department's systems are aging, with some being outdated. To address these issues, the Department began the Integrated Wireless Network (IWN) program in 1998.

The Department's Justice Management Division manages the IWN program and the Department's Chief Information Officer is responsible for the program's overall implementation. The original IWN plan, established in 2004, was intended to support over 81,000 federal agents from three agencies in all 50 states and the U.S. territories. Estimated to cost over \$5 billion, IWN was designed not only to address the Department's aging systems, but to also meet federal law enforcement requirements to communicate across agencies, allow interoperability with state and local law enforcement partners, and meet mandates to use federal radio frequency spectrum more efficiently. Beginning in 2001, the administration of the IWN program was expanded to ultimately include the Departments of the Treasury (Treasury) and Homeland Security (DHS). However, the IWN plan was never fully funded by Congress or by the Department at a level to adequately attain the goals of the program. In addition, DHS is no longer an active participant in the IWN program implementation and Treasury's continued participation is uncertain.

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\* The full version of this report contains information that is considered law enforcement sensitive, and therefore could not be publicly released. The Office of the Inspector General redacted portions of the full report to create this public version of the report.

## **Office of the Inspector General Audit Approach**

The Office of the Inspector General (OIG) performed this audit to assess the status of the implementation of the IWN program. In our previous audit, issued in March 2007, we found that the IWN program was at high risk of failing to secure an integrated wireless network for use by the Department, Treasury, and DHS. The issues contributing to the high risk of failing included: (1) uncertain funding for the project; (2) disparate departmental funding mechanisms that allowed the departments to pursue separate wireless communications solutions apart from IWN; (3) the fractured nature of the IWN partnership; and (4) the lack of an effective governing structure for the project.

The objectives of this audit were to: (1) assess the progress made in the implementation of the IWN program since our previous audit was issued in 2007, including the program's cost, schedule, and performance; (2) assess whether the Department's communications systems comply with the National Telecommunications and Information Administration's requirements; and (3) assess the Department's implementation of our previous recommendations.

To accomplish these objectives, we examined documents provided to us by Department officials including the IWN Program and Strategic Plans, Wireless Communications Board minutes and other pertinent documents. We also interviewed Department officials, including representatives from law enforcement components such as the Bureau of Alcohol, Tobacco, Firearms and Explosives; the Drug Enforcement Administration; the Federal Bureau of Investigation; and the U.S. Marshals Service, the ultimate IWN users.

In addition, we reviewed relevant U.S. Government Accountability Office reports to determine issues it identified and reported on with respect to IWN and interoperable communications. Finally, we reviewed budget documents, including those for fiscal years (FY) 2011 and 2012, to obtain the most current information available on the future of the IWN program.

### **Results in Brief**

Despite costing over \$356 million over 10 years, the IWN program has yet to achieve the results intended when the Department initially began developing it in 1998. As a result, the Department's law enforcement components are still using old and often obsolete equipment. There is limited interoperability between the components and with other law

enforcement agencies. The IWN program continues to struggle with funding limitations that have resulted in multiple revisions to the plan and a significant reduction in the planned nationwide implementation. In addition, the IWN program is no longer a joint program with the Departments of the Treasury and Homeland Security.

The IWN program was designed to replace the aging and increasingly unreliable land mobile radio (LMR) systems that were in place. The program was expected to consolidate the separate and not interoperable systems used by agents of the Bureau of Alcohol, Tobacco, Firearms and Explosives; the Drug Enforcement Administration; the Federal Bureau of Investigation; and the U.S. Marshals Service. In addition, IWN was intended to address evolving security and technical requirements designed to ensure the security and safety of law enforcement officers. These security requirements included the adoption of an upgraded encryption standard to ensure the security of the law enforcement officers' communications.

However, we found that many of the Department's radios do not meet some or all of the intended requirements. Operational communications between the Department's law enforcement components remains a challenge because of: (1) individual radio systems with limited interoperability; (2) continued use of legacy equipment (the current equipment that the agencies are using) that does not meet security encryption requirements, and are not capable of over-the-air rekeying; and (3) the reliance on different frequency ranges.<sup>1</sup>

In October 1993, the Department of Commerce's National Telecommunications and Information Administration (NTIA) established a requirement that federal agencies cut all federal radio spectrum usage in half by 2008. Expanding technology and the development of applications such as cell phones and other wireless devices requiring radio frequency spectrum has increased the demand for more efficient use of the finite spectrum. We found in our 2007 audit report that the Department was not fully compliant with this NTIA mandated narrowbanding requirement, and we found in our current audit that the Department still is not fully compliant with this requirement.

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<sup>1</sup> For example, we found that ■ percent of the DEA's and ■ percent of the FBI's land mobile radio systems do not meet Department adopted encryption standards. In addition, ■ percent of ATF base stations, ■ percent of portable radios, and ■ percent of mobile radios do not meet the updated encryption standards.

The Department planned to comply with this mandate as part of the IWN program's LMR system upgrade. However, 3 years after the conversion deadline, insufficient program funding and logistical problems continue to negatively affect the Department's ability to comply with the NTIA mandate to increase spectrum efficiency. The effects of the Department's failure to comply with the mandate have been minimal thus far because the instances of conflicts have been few in number and resolved without much difficulty.

The Department reached a revised agreement with the Departments of Treasury and Homeland Security in 2008. This 2008 agreement replaced the original agreement reached in 2004 to develop, implement, and manage a joint wireless communications system. However, we found that this agreement has not resulted in a joint pursuit of the IWN program with the Departments of Treasury and Homeland Security. Rather, the 2008 agreement allows the agencies to pursue mutual projects when viable but also allows the agencies to continue pursuing independent upgrades to meet their wireless communications requirements. As a result, the Department has yet to achieve communication interoperability with other federal, state, and local law enforcement agencies.

In 2008, the plan to implement IWN was projected to cost \$1.2 billion over 6 years and divided the nation into six regions for development. In 2009, the Department began implementing the first phase of its plan in the National Capital Region, which includes the Washington, D.C., area and is a part of the plan's Region 1. However, as a result of funding reductions that occurred in FY 2010, the Department has adopted a revised plan to continue the deployment of IWN to the remaining regions throughout the United States. Additional funding cuts in FY 2011 and the planned suspension of funding for IWN in FY 2012 will also necessitate further revisions to the Department's plan. However, the Department has yet to finalize these revisions.

## **Conclusions**

The fate of the IWN program as originally planned is uncertain. As we previously stated in our 2007 audit report, the fractured nature of the IWN partnership and the lack of a centralized funding mechanism increases the risk that the IWN program will not operate as originally envisioned. Funding delays and reductions have affected the Department's ability to implement the nationwide system as planned by 2010. As a result, the Department's law enforcement agents continue to utilize radio systems and unsecure communications equipment that are over 15 years old in the performance of

their duties. In addition, the Department's inability to deploy IWN nationwide has affected the Department's ability to comply with the NTIA narrowbanding requirement and upgraded encryption standard. The Department's proposed FY 2012 budget recommends suspending further development of IWN, thus decreasing the likelihood that the program will be fully deployed.

More than 10 years have passed since the Department began the IWN program to address the law enforcement components' aging communications systems and the 1993 mandate to use radio frequency spectrum more efficiently. In that time, technology has evolved rapidly. The President's 2012 Budget, in recommending the suspension of the IWN program, cited current technology alternatives, such as 3G and 4G Long Term Evolution (LTE) along with the National Public Safety Broadband Plan in development, which are available today and did not exist when IWN was originally conceived.<sup>2</sup> Many believe that LMR systems will be replaced by some type of secure broadband system. However, technology that will fulfill the needs of law enforcement agencies has yet to be refined. There is still a need for an improved communications system, and while IWN may no longer be the best solution, a solution is desperately needed. The Department should explore other available solutions, such as 3G and 4G LTE along with the National Public Safety Broadband Plan in development, while considering the unique needs of law enforcement personnel.

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<sup>2</sup> 3G and 4G LTE are the 3<sup>rd</sup> and 4<sup>th</sup> generation Long Term Evolution of the wireless networks and the National Public Safety Broadband plan is part of the Administration's efforts to make the internet available nationally.

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## INTRODUCTION

In 2004, the Departments of Justice (Department), Treasury, and Homeland Security (DHS) agreed to jointly develop the Integrated Wireless Network (IWN), a secure wireless, nationwide communications network to enhance the ability of federal law enforcement agencies to communicate with each other. IWN was to support over 81,000 federal agents from 3 agencies in 50 states and the U.S. territories when fully implemented. Cost and time estimates exceeded \$5 billion through 2021 with the expectation that IWN would replace aging, outdated equipment, address federal agency requirements to communicate across agencies, allow interoperability with state and local law enforcement partners, and meet mandates to use the federal radio frequency spectrum more efficiently.

In our 2007 audit report, we expressed concern that IWN was at risk to fail because of uncertain project funding and departmental funding mechanisms that allowed the Department, Treasury, and DHS to pursue separate projects apart from IWN. Other causes we noted included the fractured nature of the IWN partnership and the lack of an effective governing structure for the project. As we discuss more fully below, we found that the Department has made little progress since 2007 in implementing IWN as it was originally envisioned.

### Background

Department law enforcement agents from the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF); Drug Enforcement Administration (DEA); Federal Bureau of Investigation (FBI); and U.S. Marshals Service (USMS) must be able to communicate quickly and securely with each other to identify and apprehend criminals and to disrupt or respond to terrorist attacks. Agents must be able to communicate with other agents within the Department, with agents of other federal law enforcement agencies, and with local and state law enforcement officers and first responders.

Additionally, Department agents are facing occasions when some form of protected communication in the field is necessary. During our audit, the Department provided specific examples of where operations or agents were at risk due to problems with obtaining secure radio communications in the field. In Nashville, Tennessee, drug trafficking organizations scanned DEA agents' radio traffic. Before agents could conduct arrests and serve search warrants, drug traffickers warned their criminal associates of the DEA operation. In Grand Junction, Colorado, a DEA agent entered a bowling alley

to verify the identity of a violent felon. The DEA agent was unable to communicate through radio to the entire surveillance team that he had identified the target. A Task Force Officer unknowingly approached the suspect, and the suspect drew a gun on the officer. Before the suspect could fire his weapon, the DEA agent observed the threat and fired at the offender.

After the September 11, 2001 terrorist attacks, the mandate to improve spectrum efficiency was overshadowed by the need to develop a secure, interoperable communication system for federal, state, and local law enforcement and emergency personnel. IWN's goals included improving this interoperability, which continued to be an issue in natural disasters like Hurricane Katrina.

### *Land Mobile Radio Systems*

To accomplish its law enforcement mission, the Department employs land mobile radio (LMR) systems to provide secure and dedicated communications. LMRs are the primary means of communication among public safety personnel, and typically consist of handheld portable radios, mobile radios, base stations, and repeaters. The Department's law enforcement agents generally carry handheld portable radios. The agents also have more powerful mobile radios which are located in vehicles. These mobile radios have a greater transmission range than the portable radios. The portable and mobile radios are used to communicate with a base station or command center that are fixed locations with powerful transmitters. The signals from the radios and base stations are transmitted through a network that allows the users to communicate. Repeaters, which are generally located on towers, basically repeat the messages received allowing the message to reach its intended destination. Diagram 1 depicts the basic components of a LMR system.

Diagram 1: Basic Components of a Land Mobile Radio System



Source: OIG depiction of LMR system components

The transmission between the various elements of a LMR system consists of electromagnetic waves that travel along designated frequencies of the radio spectrum. The radio spectrum is a fixed, limited resource shared among government and nongovernment entities. This spectrum has many uses in addition to public safety communications, such as television broadcasting, AM/FM radio, mobile internet services, cell phones, and aeronautical radio navigation. The explosion of personal wireless technology devices such as cell phones has increased the demand for the limited spectrum, which has in turn increased the need to maximize the efficient use of the available spectrum.

Major frequency ranges used for public safety communications include the very high frequency (VHF) range and the ultra high frequency (UHF) range. Although the Department's components are assigned a variety of frequencies, the majority are VHF. However, the DEA's LMRs operate primarily on UHF frequencies since, according to a DEA official these were the frequencies that were available in 1972 when the agency was assigned the spectrum. Most radios are designed to operate on one frequency, making it more difficult for VHF and UHF users to communicate with each other using current equipment.

Interoperability is the ability of public safety agencies to communicate with each other. Different and incompatible radio designs with different technologies and configurations hamper such communications. In addition, assignments of frequencies in different ranges have also hampered interoperability. As a result, first responders and other public safety personnel have adopted a variety of "fixes" to help improve interoperable communications. While the most efficient form of interoperability is the use

of a common radio system among all public safety personnel, it would be very expensive to provide all public safety personnel with the same system. Such a system would generally require the purchase of new radios and transmission equipment, which for the Department and many public safety organizations has proven cost prohibitive. As a result, the Department's agents and other public safety personnel continue to use less expensive alternatives that are not the optimal solution to meet the interoperability needs, including:

- **Swapping radios:** Agencies purchase and maintain extra radios that can be distributed to users whose radios are not interoperable with theirs. This approach requires an investment in additional radios and is currently used by the Department when components conduct operations with DEA.
- **Patching:** Two or more incompatible systems connect to a central system that translates the signals so that they can be received by the other systems. This allows the agencies to continue using their existing systems but requires twice as much spectrum because each system occupies separate channels.
- **Shared channels:** Agencies set aside or identify a specific channel or channels to use during joint operations and in emergency situations. This approach provides interoperable communications; however, it requires advance coordination and identification of the channel or channels. Furthermore, these channels can easily become congested in times of emergency.

### *Rekeying and Encryption Requirements*

The Department's communications equipment must provide secure communications. Secure communications are achieved through the use of encryption that is periodically updated to ensure continued security. The Advanced Encryption Standard was adopted in 2001 to replace the outdated Data Encryption Standard. The Advanced Encryption Standard is an encryption algorithm (a mathematical formula) designed to protect sensitive information like law enforcement operations. A key is a code that is programmed into a radio to allow encrypted communications within a system. To ensure continued security, the key must be changed periodically. The key can be changed over the air (remotely) through a process known as over-the-air rekeying or manually requiring reprogramming by a technician.

Manual reprogramming is a time consuming and disruptive process. However, much of the department's legacy equipment requires manual rekeying. Merely replacing radios does not solve the rekeying problem because both the radio and the related operating system must be over-the-air rekeying capable for the functionality to work. As a result, new over-the-air rekeying capable radios on the old system will not eliminate the need for manual reprogramming.

## **Integrated Wireless Network History**

In 1993, the Department of Commerce's National Telecommunications and Information Administration (NTIA), the agency responsible for managing the allocation of radio frequency spectrum for all federal users, mandated that all federal spectrum users cut their frequency usage by one-half. In response, the Department's law enforcement components developed individual plans to replace their land mobile radio systems. In 1998, Congress directed that the Department base its narrowband conversion initiative on a comprehensive strategy to increase spectrum efficiency, to achieve communications interoperability among all Department components and with other federal law enforcement agencies, and to maximize efficiencies and savings through shared infrastructure and common procurement strategies.<sup>3</sup>

### *Creation of the Wireless Management Office*

In a July 1998 Conference Report, the House Committee on Appropriations recognized the need to meet the NTIA mandate but also recognized the continuing interoperability problems of the law enforcement communications system. In October 1998, Congress directed the establishment of a department-wide narrow band program office to conduct a baseline technical assessment of wireless communications to maximize interoperability and resource sharing. Congress also established a department-wide account to serve as the central funding source for the conversion to narrowband radio communications. In addition, Congress directed the Department's Justice Management Division to serve as the central purchasing agent for all Department communications equipment and develop an integrated, department-wide strategic plan to meet the

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<sup>3</sup> Narrowbanding for federal agencies means reducing their 25-kilohertz wideband channels in the Very High Frequency (162-174 Megahertz) and Ultra High Frequency (406.1-420 Megahertz) land mobile bands to 12.5-kilohertz narrowband channels.

narrowband conversion and interoperability requirements of the Department and NTIA.

In October 1998, the Attorney General issued a memorandum to address the Department's wireless communications issues, which directed the creation of the Wireless Management Office (WMO) within the Justice Management Division to oversee and direct the Department's consolidated approach to wireless communications and to centrally manage the consolidated wireless account. The Attorney General's memorandum directed the WMO to:

1. Oversee an assessment of component system development plans,
2. Complete departmental requirements analysis, and develop a technical design for the Justice Wireless Network,
3. Implement two pilot initiatives related to the development of the Justice Wireless Network, and
4. Develop a department-wide tool for consolidated radio purchases.<sup>4</sup>

The WMO reports to the Department's Chief Information Officer through the Deputy Chief Information Officer for Policy and Planning. The office is headed by a Program Director who is a component representative selected on a rotating basis. The current director is an FBI representative and the other components provide staff to fill other positions at the WMO. The WMO has an authorized staff level of 35, with 21 staff on board as of August 2011, and is responsible for the management of wireless communication development including planning, acquisition, financial planning, and technical services.

The Attorney General also created the Wireless Communications Board to ensure that the WMO received high-level guidance from the law enforcement components' operational community. The Department's Chief Information Officer chairs the Wireless Communications Board, which is composed of senior managers from each of the components. The Wireless Communications Board's mission is to establish and oversee the general policies of the WMO and to provide guidance for strategic policy,

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<sup>4</sup> The program was originally known as the Justice Wireless Network but was renamed the Integrated Wireless Network (IWN). For simplicity, we will refer to the project as the IWN program in this report.

management, and budget issues to encourage successful consolidation of the Department's wireless networks.

In September 2001, the Department awarded a contract to CTA Communications, Inc., (CTA) to produce a report that identified the wireless communications requirements for the Department's components, converted the requirements to a recommended plan, and developed a consolidated approach to address the Department's wireless communication needs. The IWN program was expanded beginning in 2001 to ultimately include the Treasury and DHS. In November 2001, the Department and Treasury signed a Memorandum of Understanding to merge their independent pursuit of solutions to meet the narrowband conversion mandate. Through this merger, the Department and Treasury sought to improve communications operability between themselves as well as with state, local, and other federal law enforcement agencies and to achieve cost efficiencies while also meeting the NTIA's narrowbanding mandate. This resulted in an amendment to the CTA contract to include the requirements of Treasury's law enforcement components.

The 2002 CTA final report recommended an IWN design that included a VHF, LMR design that used "trunking", a computer-controlled system that automatically allocates an open frequency from a pool of frequencies when a user initiates a radio call. Using this design, the Department awarded a contract to Motorola in November 2002 to acquire the necessary hardware, software, and services for a pilot project to demonstrate the feasibility of the proposed technology. The pilot project, called the Seattle/Blaine Pilot Project, was initiated in the Seattle, Washington, area and became fully operational in December 2004. The pilot was expanded beginning in 2005 and now covers the states of Washington and Oregon.

The Seattle/Blaine pilot provided a trunked, interoperable network that provided tactical wireless radio communications for over 600 federal users from 5 federal agencies and was interoperable with state and local law enforcement organizations. While the pilot project demonstrated the feasibility of a government owned, managed, and operated integrated wireless network and proved that the design technology it used was viable, in 2004 the Department rejected this design for nationwide use. The Department determined that while the design used in the Seattle/Blaine project would adequately address current communication requirements, it might not be flexible enough to meet changes in requirements or to integrate rapidly changing and significant advances in new technologies. Furthermore, the Department identified only one vendor capable of

expanding the project nationwide. Without competition, the Department believed that it would have sacrificed cost savings and technological advantages. As a result, in July 2004, the Department instead initiated a three-phase IWN acquisition strategy.

### *Creation of the Integrated Wireless Network Program*

After the agreement to pursue wireless communications options with Treasury in November 2001, the Justice Wireless Network Program was renamed the Integrated Wireless Network (IWN) to recognize the program's expansion outside of the Department. In addition, after the September 11, 2001, attacks, changes in the structure of federal law enforcement agencies required increased coordination among all law enforcement agencies, and this was further affected by the creation of the DHS in 2002. The formation of the DHS included the transfer of several law enforcement agencies from the Department and from Treasury to DHS. These agencies included Customs and Border Protection and Immigration and Customs Enforcement, which were expected to continue to participate in the IWN program. In addition, the ATF was transferred from Treasury to the Department during this reorganization.

As a result, in 2004, the Department, Treasury, and DHS entered into a joint agreement to develop, implement, and manage the operation of a joint wireless communications system to support federal law enforcement and homeland security operations throughout the United States. The new agreement established an IWN Executive Board and designated the Chief Information Officers of the participating departments as the co-chairs. According to the agreement, a consensus of the IWN Executive Board's three co-chairs was required for all decisions regarding the program.

Since the Seattle/Blaine pilot yielded only one vendor capable of expanding the project nationwide, the Department, Treasury, and DHS developed a three-phase strategy that envisioned selecting a single contractor as an integrator to implement IWN nationwide. Phase 1, the pre-solicitation phase, identified offerors and assessed their potential to be viable competitors. Four offerors were selected and they proceeded to Phase 2.<sup>5</sup> The four offerors submitted detailed technical, management, and cost proposals. In Phase 3, two of the four offerors were awarded contracts

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<sup>5</sup> The four offerors were General Dynamics, Lockheed Martin, Motorola, and Raytheon.



to develop detailed system designs.<sup>6</sup> In April 2007, at the completion of Phase 3, the Department awarded General Dynamics the contract to serve as the systems integrator for the nationwide implementation of the IWN program.<sup>7</sup>

The objective of the IWN contract was to deploy secure, interoperable, and reliable radio communications capabilities to Department law enforcement personnel. The contract with General Dynamics C4 Systems (General Dynamics) was designed to support 80,000 agents and support staff within the Department, DHS, and Treasury.<sup>8</sup> According to the Department, the plan was based on consolidating the existing Department infrastructure and modernizing the disparate and disconnected LMR systems across the Department's law enforcement components: ATF, DEA, FBI, and USMS. This plan was designed to improve the communications capabilities of the Department's law enforcement personnel and achieve significant improvements in operational effectiveness and agent safety. These capabilities were intended to support a wide range of law enforcement missions and enhance coordination with state and local law enforcement during crises.

In 2004, IWN was estimated to cost over \$5 billion and its capabilities, according to a Department official, were to include access to criminal databases and broadband data, which were central to DHS services. In contrast, those two requirements were not as critical to the Department because of its need for improved communications capability and not additional capabilities. Instead, the Department's goals for the IWN program focused primarily on the upgrade of the Department's aging communications systems, which it had planned to replace since 1998. Most recently, the detailed 2008 IWN program plan was still primarily focused on the Department's need to upgrade its aging systems, and was expected to cost \$1.2 billion with implementation projected to be completed by 2016.

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<sup>6</sup> General Dynamics and Lockheed Martin were awarded contracts to develop detailed system designs.

<sup>7</sup> The contract is an Indefinite Delivery/Indefinite Quantity contract, which the Department used to issue task orders for specific implementation phases. An Indefinite Delivery/Indefinite Quantity contract is used when the government cannot predetermine, above a specified minimum, the precise quantities of supplies or services they will require during the contract period.

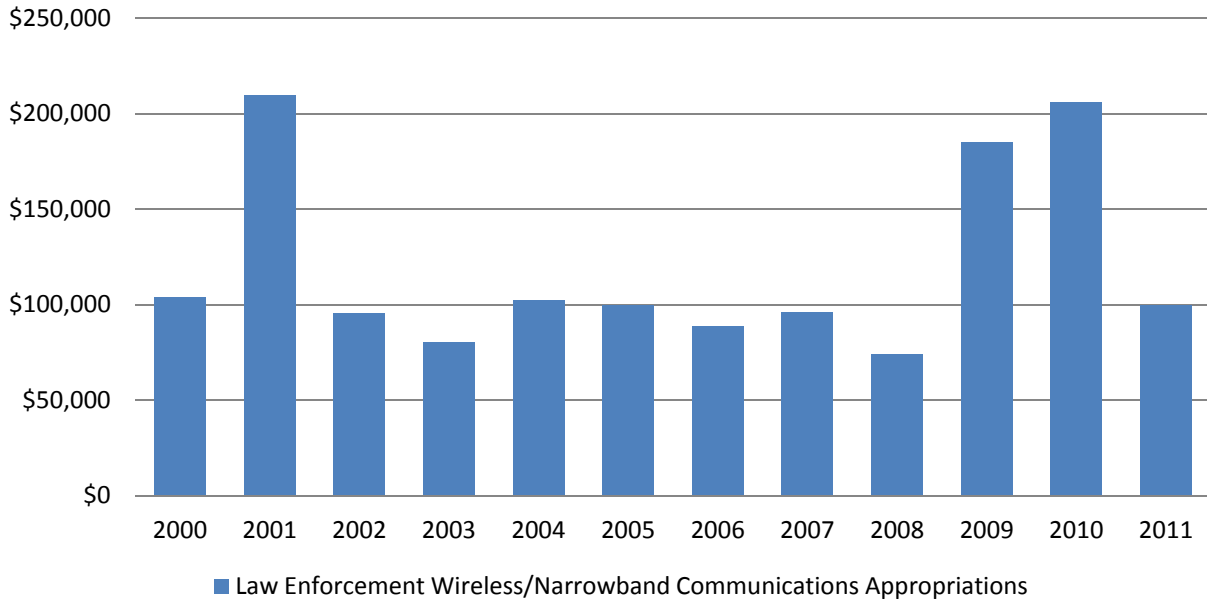
<sup>8</sup> The DHS has the ability to use the contract but to date has chosen not to do so because it is pursuing its own wireless network solution.

The Department developed this modified plan because it expected Treasury's participation to be limited, and the DHS did not plan to continue participating in the IWN implementation.

### **Law Enforcement Wireless Communications Account**

As previously discussed, the Attorney General created the WMO within the Justice Management Division to oversee and direct the Department's consolidated approach to wireless communications and centrally manage the consolidated wireless account, known as the Law Enforcement Wireless Communications (LEWC) account. The LEWC account supports the maintenance, consolidation, enhancement, and replacement of tactical radio communication systems, special projects, and the IWN program for the Department's law enforcement agencies. The LEWC account does not fund the wireless programs for the Bureau of Prisons because a budget is developed for each Bureau of Prisons facility and the facilities do not segregate the wireless funding like other Department components. In addition, according to the Department, the LEWC account does not fund the components' Blackberry or cell phone services. Exhibit 1 shows the funding for the LEWC account since FY 2000.

**Exhibit 1**  
**Law Enforcement Wireless/Narrowband**  
**Communications Appropriations**  
**(in thousands)**



Source: The WMO

According to the WMO Budget Officer, until FY 2010, the LEWC account appropriations were a lump sum without formal designation of the allotment for each of three sub-accounts: IWN, legacy system operations and maintenance, and special projects. According to Department records, through FY 2007, almost two-thirds of the appropriations were used for legacy system maintenance. Our audit found that legacy system maintenance continues to represent a large portion of the LEWC funding.

**Prior Reports**

The Department of Justice Office of the Inspector General (OIG), the National Telecommunications and Information Administration (NTIA), the Government Accountability Office (GAO), and the National Commission on Terrorist Attacks Upon the United States (9/11 Commission) have previously reported on various topics affecting the Department's implementation of the IWN program. The reports are summarized below.

## *Office of the Inspector General Report*

In March 2007, the OIG issued an audit report on the Department's implementation of the IWN program, which discussed the Department's legacy communication systems compliance with NTIA's narrow banding requirements.<sup>9</sup> The report identified issues with IWN.

The report found that the IWN project was at high risk of failing to secure an integrated wireless network for the use by the Department, Treasury, and DHS. The causes identified for the high risk of failure included: (1) uncertain funding for the project, (2) disparate departmental funding mechanisms that allowed the departments to pursue separate wireless communications solutions apart from IWN, (3) the fractured nature of the IWN partnership, and (4) the lack of an effective governing structure for the project.

The report recommended that:

1. The Department establish an agreement with the Treasury and DHS that reflects each agency's commitment to the IWN program;
2. If the departments were unable to reach agreement on a unified approach, that the Department notify Congress and the Office of Management and Budget that the IWN program is not viable as a joint project with the DHS, and that the Department and Treasury are pursuing their own IWN strategy to meet their department's wireless communications requirements;
3. If the Department was unable to reach agreement on a unified approach with the Treasury and DHS, the Department should develop and implement a departmental plan to upgrade its legacy wireless communications systems; and
4. The Assistant Attorney General for Administration ensure that an agreement is reached that allows the Department to continue its

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<sup>9</sup> U.S. Department of Justice Office of the Inspector General, *Progress Report on Development of The Integrated Wireless Network in the Department of Justice*, Audit Report 07-25 (March 2007).

wideband operations on very high and ultra high frequencies without interference.

This report includes an assessment of the Department's progress implementing the previous recommendations and resolving the concerns noted in the prior report.

*National Telecommunications and Information Administration*

In October 1993, the NTIA issued a report on its analysis of the Federal land mobile infrastructure with respect to spectrum efficiency and cost effectiveness. The NTIA found:

1. The rapid growth in the demand for land mobile services was reflected in the doubling of Federal land mobile frequency assignments between 1980 and 1992;
2. Federal mission requirements mandated by the Congress and the President have few counterparts outside the federal government, although state and local government missions and corresponding uses of the radio spectrum in support of these missions are similar in many ways; and
3. Federal LMR systems used a wide range of equipment types in a variety of geographic environments for voice and data communications.

As a result, the NTIA recommended that policies be implemented that:<sup>10</sup>

- limit the authorizations to agencies to operate their own land mobile systems;
- require the use of spectrum-efficient and cost-effective technologies to meet mission requirements where commercial services and services obtained from other agencies cannot be used;

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<sup>10</sup> U.S. Department of Commerce NTIA, *Land Mobile Spectrum Efficiency: A Plan for Federal Government Agencies to Use More Spectrum-Efficient Technologies*, NTIA Report 93-300 (October 1993).

- withhold frequency assignments for Government land mobile radio stations that do not meet the goal of making efficient and cost-effective use of the spectrum; and
- regularly review the results of current experiments, and revise as necessary policies and procedures that permit commercial vendors access to Federal spectrum to provide land mobile services to the Federal Government.

### *U.S. Government Accountability Office Reports*

In December 2008, the GAO issued an audit report on IWN that assessed progress made by the Department, Treasury, and DHS to develop a joint radio communications solution.<sup>11</sup> The GAO reported that the three departments were no longer pursuing IWN as a joint development project primarily because they did not effectively employ key cross-agency collaboration practices. Instead, each agency had begun independently modernizing its own wireless communications systems. Specifically, GAO found that the departments (1) could not agree on a common outcome or purpose to overcome their differences in missions, cultures, and established ways of doing business; (2) had not established a collaborative governance structure with a process for decision making and resolving disputes; and (3) had not developed a joint strategy for moving forward. While GAO did not recommend any executive action, it noted that given the critical importance of improving radio communications among federal agencies, Congress should consider requiring that the Department, Treasury, and DHS employ key cross-agency collaboration practices to develop a joint radio communications solution.

An earlier GAO report issued in April 2007 identified issues with implementing a nation-wide communications plan and the standards in place at that time. The GAO assessed whether DHS funding and technical assistance had helped to improve communications interoperability in selected states, and it assessed the progress in the development and implementation of interoperable communications standards.<sup>12</sup> The GAO

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<sup>11</sup> U.S. Government Accountability Office, *Radio Communications: Congressional Action Needed to Ensure Agencies Collaborate to Develop a Joint Solution*, GAO-09-133 (December 2008).

<sup>12</sup> U.S. Government Accountability Office, *First Responders: Much Work Remains to Improve Communication Interoperability*, GAO-07-301 (April 2007).

found that no national plan was in place to coordinate the investments and ambiguities existing in the national standards, which led to incompatibilities among different vendors' products. These standards, known as Project 25 standards, are a suite of national standards intended to enable interoperability among the communication products of different vendors. The GAO also noted that the DHS had strongly encouraged grantees to purchase Project 25 radios, which were substantially more expensive than non-Project 25 radios.

*National Commission on Terrorist Attacks Upon the United States*

In July 2004, a report issued by the National Commission on Terrorist Attacks Upon the United States (9/11 Commission) also addressed communications problems, including the limited range and functionality of radios, limited access to agency wide channels, ineffective central communication, and available channels that were taxed beyond their capacity.<sup>13</sup>

The 9/11 Commission found that the radios did not function in buildings as large as the World Trade Center and that the range of the available local channels was limited to the immediate vicinity of the local command. Some radio users could not access the agency-wide channel because they either did not have the channel number or they had the wrong number. In addition, the channels were not monitored by a dispatcher who could prioritize calls or pass on information to radio users. Furthermore, there were no standard operating procedures in place to direct who should be communicating during the attacks. As a result, the available communication channel was overwhelmed, resulting in unintelligible communications.

The 9/11 Commission concluded that "The inability to communicate was a critical element at the World Trade Center, Pentagon, and Somerset County, Pennsylvania crash sites, where multiple agencies and jurisdictions responded. Since this problem occurred at three very different sites, the 9/11 Commission found that there is strong evidence that compatible and adequate communication among public safety organizations at the local, state, and federal levels is a significant problem."

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<sup>13</sup> National Commission on Terrorist Attacks Upon the United States (9/11 Commission), *The 9/11 Commission Report* (July 2004).

## **FINDINGS AND RECOMMENDATIONS**

### **I. LIMITED PROGRESS ON ACHIEVING INTERAGENCY INTEROPERABILITY**

The Department has achieved limited communication interoperability with other federal, state, and local law enforcement agencies due to frequent changes in the IWN program's development approach resulting from uncertain program funding. Beginning in September 2009, the Department, Treasury, and the U.S. Park Police participated in the deployment of the National Capital Region (NCR) module of the IWN implementation to the District of Columbia and portions of Virginia and Maryland. In addition, the Department's Wireless Management Office created a separate project called the High-Risk Metropolitan Area Interoperability Assistance Project to facilitate interoperability through dedicated channels for emergency use during a major incident. As of August 2011, 23 cities have at least 1 federally funded interoperable channel. However, the limited interoperability achieved is grossly insufficient to adequately address the communication challenges law enforcement personnel continue to face during joint operations and in emergency situations.

#### **Interoperability**

As previously discussed, in July 2004, the Department, Treasury, and DHS began a three-phase IWN acquisition strategy designed to implement IWN nationally, resulting in a contract award in April 2007 to General Dynamics as the systems integrator and in a revised agreement in 2008 to jointly develop and implement IWN nationwide. However, since that time, the DHS has not participated in the planning or implementation of IWN using the General Dynamics contract because it has chosen to pursue its own solution to its wireless communication needs. Below we describe the Department's limited progress towards achieving interagency communication operability and the current status of IWN implementation.

#### *National Capital Region Initiative*

The National Capital Region (NCR), which has the Department, Treasury and the U.S. Park Police as participants, is the first module of the



IWN project to be implemented using the results of the three-phased acquisition strategy and the revised development plan.<sup>14</sup> This module was also the first IWN implementation to use General Dynamics as the system integrator. The NCR includes the District of Columbia and portions of Virginia and Maryland. According to the Department, General Dynamic's planning for this module began in August 2007 and actual deployment began in September 2009 using Harris equipment for the infrastructure and Motorola for the radios.<sup>15</sup>

Notably absent is the DHS, which did not participate in the planning or implementation of this module because it decided to pursue its own communication solution. The NCR system is still undergoing testing and is discussed further in Finding II.

#### *High-Risk Metropolitan Area Interoperability Assistance Project and Interoperable Channels*

Seamless interoperability between federal, state, and local agencies would require each agency to be on the same system. Short of this, a common solution is to employ dedicated channels. To improve interoperability, the Wireless Management Office (WMO) created the High-Risk Metropolitan Area Interoperability Assistance Project (Project) in 2003. This Project was a \$25 million program funded by the WMO to provide federal law enforcement and homeland security agencies with basic inter-systems communication for emergency situations.

The Project was designed to facilitate interoperability through basic inter-systems communications for emergency use during a major incident, as well as to provide agents with the ability to connect with key local authorities (such as fire, police, and emergency medical services) in metropolitan areas that are the most likely attack targets. According to the Department, in order for users to have confidence in the dedicated channels, participating agencies are encouraged to use the channels for day-to-day assignments.

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<sup>14</sup> The Department of the Interior U.S. Park Police is participating in the NCR initiative because of their large presence in the area and the availability of frequency assignments.

<sup>15</sup> Harris is the selected vendor for the NCR infrastructure, which includes the components such as repeaters and base stations, but not the radios.

As of August 2011, there are 29 metropolitan cities included in the Project and 23 of the 29 cities have at least 1 interoperable channel. The remaining six cities do not have a federally sponsored interoperable channel. The 2010 revised IWN plan would continue to concentrate the Department's efforts to improve interoperability in these cities. However, with the expected reduction in WMO funds and the elimination of the Project, this program will not be expanded further.

While the Project is no longer funded, the revised IWN plan has a component that will provide for interoperable communications in high risk metropolitan areas with high concentrations of agents. However, with the expected reduction and ultimate elimination of IWN funding this component may also be eliminated.

### *The Integrated Wireless Network Is Not Integrated With Other Agencies*

Although the Department, Treasury, and DHS revised their 2004 agreement in January 2008 to implement interoperability and to share resources and resource contributions, the agreement did not mandate joint participation. The revised agreement was supposed to solidify each agency's participation in the IWN program by clearly defining the responsibilities, resources, and funding requirements for each department. However, we found that it has not resulted in increased DHS participation and Treasury's future participation in the IWN program is expected to be limited. DHS officials told us that DHS has already upgraded some of its communications systems and it plans to continue upgrading its communication systems outside of the IWN program. Currently, the primary interaction between the Department and DHS staff is their participation on federal interoperability committees to address interoperability concerns. Treasury is participating in the current IWN phase but Treasury officials told us that Treasury has no voice in the management of IWN and it will not participate in future phases.

Although IWN was originally envisioned as an integrated system, the current IWN program will not encompass the entire federal law enforcement community as originally planned. In fact, Department officials said that the original IWN system concept and implementation plan bears little resemblance to the current IWN design and approach. According to the Department's Chief Information Officer and the Program Executive, competing priorities and requirements among federal agencies proved impossible to overcome. Department officials have also emphasized that irregular and inconsistent program funding, a matter outside the Department's control, has required changes to the scope, objectives, and

deployment approaches for the IWN program. In spite of these uncertainties, the Department has deployed upgraded systems in the Northwest (Seattle/Blaine pilot expanded), is working to deploy the NCR, provide upgraded radios to all agents, and upgrade systems as the budget allows. In addition, the Department has used its High Risk Metropolitan Area Interoperability Assistance Project to provide interoperability in 29 metropolitan cities. Department and DHS officials have stated that because of different operational priorities and continued deterioration of their own legacy systems, they will continue to pursue independent solutions to their communications issues.<sup>16</sup>

Yet, the need for interoperability that IWN could provide was cited by the GAO and 9/11 Commission as a critical need for emergency and law enforcement personnel. While the delays in implementing IWN were problematic for the participating agencies, their decisions to pursue their own wireless solutions have resulted in a lost opportunity. As we stated in our 2007 report:

Failure of the IWN project will represent significant opportunities to achieve cost and spectrum efficiencies and needed communications interoperability between federal law enforcement agencies. In addition, because the Department plans to use IWN to address its narrowband requirements, failure of the program will require the Department to seek alternative solutions such as a department-wide network or a network developed by the Department and Treasury.

#### *Lack of Interoperability Plan*

The Department Investment Review Board is responsible for providing Department level oversight of major information technology investments and ensuring that component investments are aligned with the Department's strategy.<sup>17</sup> In October 2009, the Department Investment Review Board held a meeting with Department and component officials to discuss the current status and direct the future planning of the IWN program. During this meeting, the Department Investment Review Board directed the WMO to

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<sup>16</sup> Department and DHS officials told us that Congress is aware that the agencies are pursuing separate solutions to their communications needs.

<sup>17</sup> The Department Investment Review Board is a group of senior Department officials with information technology and financial management chaired by the Deputy Attorney General and vice-chaired by the Department's Chief Information Officer.

report on the plan for ensuring the IWN program is interoperable with other federal, state, tribal and local wireless systems. In the April 2010 Certification Review presentation to the Department Investment Review Board the WMO treated the interoperability issue as resolved, stating:

The IWN system is designed to ensure interoperability across federal law enforcement agencies and at the state and local level. The design incorporates open standards adoption, Project 25 (P25) and includes land mobile radio (LMR) interoperability gateways that enable any law enforcement agency, regardless of the P25 compliance of agency equipment, to connect to the IWN system.<sup>18</sup>

However, the summary of the October 2010 Department Investment Review Board meeting highlights that interoperability was a concern. As a result, the Board required the WMO to brief the Deputy Attorney General on the status of the IWN interoperability. When we asked about the Department Investment Review Board's concern, a WMO official who oversees the WMO's interoperability efforts told us that he was not aware of the Board's request; but he said he would work with other WMO officials to create a plan.

The Board's requests for briefings and an interoperability plan demonstrated the importance for Department and non-Department law enforcement officials to seamlessly communicate through wireless channels. While the WMO's original plan called for IWN to be interoperable, given the current uncertain status of the IWN project, the ability of the Department to achieve interoperability is jeopardized and alternatives must be considered.

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<sup>18</sup> Project 25 (P25) is an effort to develop industry-wide standards for manufacturing interoperable digital two-way wireless communications products that enable emergency responders to exchange critical communication using a land mobile radio (LMR) system.

## **II. STATUS OF THE IWN PROGRAM'S IMPLEMENTATION WITHIN THE DEPARTMENT**

The Department has made limited progress in upgrading the land mobile radios (LMRs) operated by its components. The current equipment used by the Department's law enforcement components to support daily operations is in many cases obsolete, unsupportable, and does not meet the requirements for operability. For example, ■ percent the FBI's and ■ percent of the DEA's systems are, on average, over 15 years old, and maintaining these systems requires increasing amounts of available funds each year. In addition, ■ percent of the DEA's and ■ percent of the FBI's land mobile radio systems do not meet the Department endorsed encryption standards. Law enforcement agents engaged in operations involving multiple components continue to communicate using separate radios, or manually reprogram currently operated radios, resulting in slower operational response times.

In addition, several concerns we raised in our 2007 audit report have not been resolved. The IWN program continues to be hampered by uncertain funding, shifting priorities, and WMO governance issues. Originally designed for completion in 2010, revised plans resulting from budget constraints and program delays call for a scaled-back version of IWN to be completed in 2016. The delays in implementing the IWN program affect not only interoperability among different agencies but also the ability of law enforcement officers within the same component to communicate with each other because of outdated and aging equipment. Furthermore, Department and WMO officials told us that current budget plans propose suspension of the IWN program, resulting in further delays in replacing the aging equipment and continuing non-compliance with security requirements.

### **Components' Land Mobile Radio Systems**

As previously discussed, the IWN program was established in 1998 in response to the Department's need to upgrade LMR systems within its law enforcement components. Thirteen years and \$356.7 million dollars later, the condition of the Department's LMR systems remains poor.

In order to achieve interoperability, the components must upgrade their LMR systems. The components will first have to replace the radios and then upgrade the radio system infrastructure such as the repeaters, antennas, and base stations. According to Department officials, this is the current focus of the Department's IWN project. While we recognize the Department's funding constraints, we believe it is critical that the Department upgrade to reliable and secure communication systems.

### *Operability Has Not Been Achieved*

According to the Department its law enforcement missions require wireless communications that: (1) provide coverage wherever agents operate, (2) must be encrypted for security, (3) are reliable, (4) are interoperable with other federal, state, and local law enforcement agents, and (5) are flexible enough to meet the different missions. According to the Department, ■ percent of FBI, ■ percent of DEA, and ■ percent of ATF LMR systems do not meet some or all of these requirements. WMO officials told us that since our 2007 audit, operational communications among individual components remains a challenge due to: (1) individual radio systems with limited compatibility and few common federal communications channels, (2) continued use of legacy equipment that does not meet security encryption requirements or industry standards and is not capable of over-the-air rekeying, and (3) components' systems reliance on different frequency ranges.

### Shortcomings of Legacy Equipment

In our 2007 report, we reported that the Department's wireless communication consisted of multiple LMR systems with infrastructure that is 15 to 20 years old. Over the years, the performance of these systems has degraded in terms of coverage, reliability and usability. During our review, we noted that ■ of the Department's ■ LMR system sites were no longer supported by the manufacturer, which means spare parts are difficult to find and maintenance is essentially a "custom service."

During our audit, we found that the LMRs operated by the Department's components have not been fully updated to meet the compliance standards established by the National Institute of Standards and Technology and NTIA. Additionally, we found that both the FBI and DEA rely

significantly on legacy systems that are considered obsolete.<sup>19</sup> We found that both the FBI and DEA utilize systems that are, on average, over 15 years old. WMO officials told us that maintaining these systems requires increasing amounts of the available Law Enforcement Wireless Communications account funds each year.

We also found that the ATF, DEA, and FBI relied on systems in which communications made during operations were unsecure due to unencrypted communications equipment or the inability to periodically change the encryption key to ensure its security. Specifically, we found that [REDACTED] of the ATF's systems met the Advanced Encryption Standard adopted by the U.S. Government in November 2001 to protect sensitive information, due to the fact that not all of their radios are capable of supporting the Advanced Encryption Standard.<sup>20</sup> ATF continues to use the Data Encryption Standard on their systems to provide some level of protection for sensitive information. The new standard adopted by the Department recommends voice message encryption and the encryption key to be changed frequently for increased security. We found that [REDACTED] percent of the DEA's and [REDACTED] percent of the FBI's LMR systems did not meet that standard.

We also found that many of the LMR systems used by the ATF, DEA, and FBI could not perform over-the-air rekeying, the process where the encryption key in the system is changed remotely to allow continued security.<sup>21</sup> Without this feature, a technician must manually rekey the radios. As Exhibit 2 shows, the existing LMR equipment is outdated and suffers from significant functionality issues. A detailed discussion of the status of these components' LMRs follows.

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<sup>19</sup> For purposes of this audit, obsolete systems are systems that are no longer supported by the manufacturer or the manufacturer is unable to supply spare parts.

<sup>20</sup> Advanced Encryption Standard is an algorithm capable of using cryptographic keys of 128, 192, and 256 bits to encrypt and decrypt data in blocks of 128 bits. It is considered more secure than Data Encryption Standard, which it replaced.

<sup>21</sup> Over-the-air rekeying would allow a law enforcement agent to receive an updated encryption code rather than requiring manual reprogramming by a radio technician.

**Exhibit 2**  
**Current Condition of Components' LMR Systems**  
**As of August 2011**

Component	Percent of Systems that are Obsolete	Percent of Systems Lacking Advanced Encryption Standard	Percent of Systems Lacking Over-the-air Rekeying
FBI			
DEA			
ATF			

Source: The ATF, DEA and FBI

*Federal Bureau of Investigation.* According to FBI officials, the FBI has approximately 3,000 LMR system sites, more than any other Department component, and the average age of the FBI sites is 15 years old.<sup>22</sup> Approximately [REDACTED] of the FBI's LMR system sites are not supported by the manufacturer. According to FBI officials in charge of the tactical communications systems, [REDACTED] percent of FBI radios are based on the Data Encryption Standard implemented by the National Institute of Standards and Technology in 1977.<sup>23</sup> However, as discussed above, the Department no longer endorses Data Encryption Standard because Advanced Encryption Standard provides better communications security. We believe the FBI should be using Advanced Encryption Standard because of its increased security. In addition, the [REDACTED] sites that are not supported by the manufacturer also either lack the Advanced Encryption Standard or over-the-air rekeying capability or both.

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<sup>22</sup> LMR system sites are anything but the radios. They include the base stations, repeaters, and towers. They are the basic backbone of the system and encompass all the things that make the radios work.

<sup>23</sup> Data Encryption Standard specifies a cryptographic algorithm for encrypting (enciphering) and decrypting (deciphering) binary coded information. The algorithm described in this standard specifies both enciphering and deciphering operations, which are based on a binary number called a key. A key consists of 64 binary digits ("0"s or "1"s) of which 56 bits are randomly generated and used directly by the algorithm.



U. S. Marshals Service. The USMS Deputy Assistant Director for Information Technology stated that the radios the USMS agents use are not interoperable. He said that the delays in implementing IWN impact investigations because the aging equipment is outdated and could fail during a critical stage in the investigation. He told us that the USMS has purchased radios without WMO approval because emergent needs for the equipment require the Marshals Service to buy it when necessary.

While the ATF, DEA, and FBI have their own legacy systems, the USMS primarily uses the FBI LMR system sites. However, the consolidation of USMS systems with FBI systems is not complete and continues to lack updated management documentation. USMS officials said that the FBI and USMS must rely on 10-year-old guidance to reach agreements in each USMS district and FBI office. According to USMS officials, a drawback to this consolidated system is that if the FBI believes it is being inconvenienced because the USMS is using its system, the FBI can prevent the USMS from using it. For example, a USMS official recounted a situation in Virginia, where the USMS and FBI share a LMR system. The FBI Telecommunications Manager required the USMS to ask permission each day the USMS needed to use the system. Ultimately, the FBI disabled five USMS radios because it said there was too much traffic. The USMS Chief Inspector for the Tactical Operations Division said that the USMS does not have another option and the current arrangement jeopardizes the safety of USMS agents. According to the FBI, several attempts were made by the FBI to identify the users and radios were only disabled after the USMS users failed to properly identify themselves.

Drug Enforcement Administration. The DEA currently has 800 LMR system sites in the United States, with an average age of 15.8 years. In addition, the DEA operates almost exclusively on ultra high frequency (UHF), which requires its personnel to use multiple radios or dual banded radios to communicate with agents from the other components who operate on a very high frequency (VHF). However, when excluding the three DEA LMR systems that were updated in 2009 as a result of the Hurricane Katrina natural disaster, the average age of its LMR systems jumps to over 18 years. Over two-thirds of the DEA's LMR systems are obsolete, operating on an analog rather than a digital frequency. Additionally, according to a WMO Assistant Deputy Director, the maintenance of DEA LMR systems is becoming increasingly difficult because even the system's manufacturer has difficulty finding parts to repair the systems.

According to DEA officials, three major DEA field offices - Chicago, Detroit, and St. Louis - are operating with systems over 25 years old. These three systems are still operating with analog equipment, which uses a continuous stream of electrical signals that are easily disrupted by storms and other atmospheric disturbances. While about one-third of the DEA's LMR system sites are digital, not all of the radios used to communicate with those LMR systems work because the DEA equipment is not compliant with the industry standard allowing interoperability between different radio and system manufacturer's equipment. DEA officials told us that in some offices, DEA agents have to carry three radios so that they can communicate with other agents from within the DEA and from other federal agencies because their differing UHF and VHF radio frequencies and equipment are incompatible. As a result, agencies working on joint operations with the DEA often have to lend radios for joint operations with the DEA. For example, ATF officials explained that when they work with the DEA, the ATF must lend radios to DEA agents because the DEA's radios are UHF and the ATF's radios are VHF. The current plan is for the DEA to transfer to VHF, but this transfer could take years and will require parallel systems until the transition is complete.

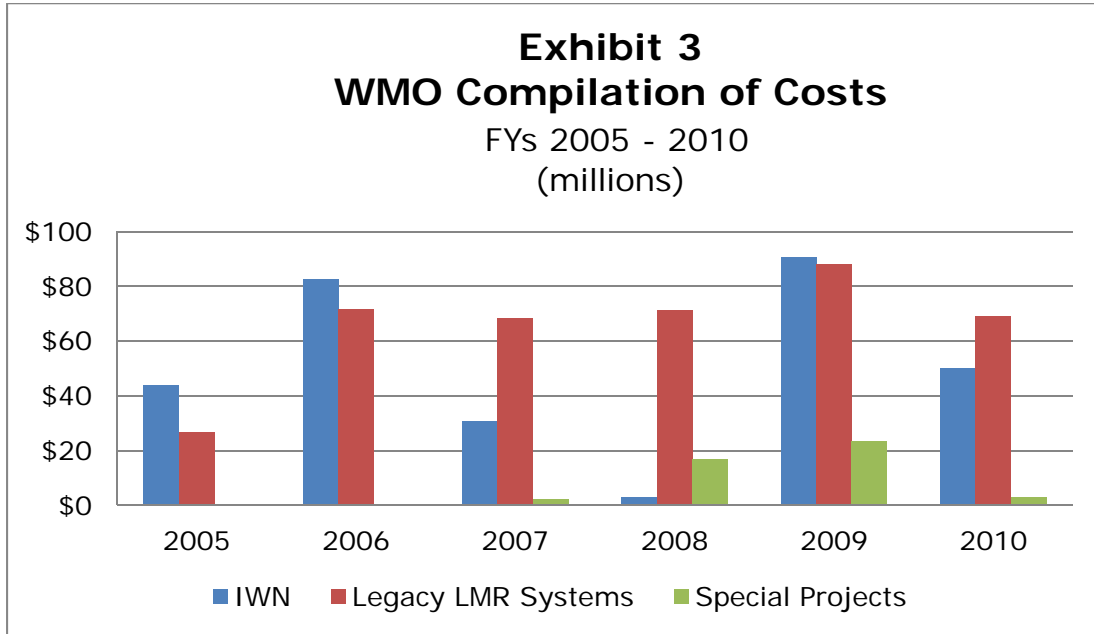
Bureau of Alcohol, Tobacco, Firearms and Explosives. The ATF maintains 300 LMR system sites. According to the ATF, ■ percent of ATF base stations, ■ percent of portable radios, and ■ percent of mobile radios do not have the Advanced Encryption Standard capability.

According to ATF officials, when the FBI and ATF collaborate on cases, they share radios or would have to reprogram radios to the other component's frequency and also share encryption keys to establish secure communications. In contrast, the IWN program envisioned that radio capabilities would allow the agents to automatically establish secure talk groups. In other words, if the ATF needed to communicate with the FBI, both would be able to access a specific shared frequency and encryption key and communicate without exposing their conversation to unauthorized access, which happens when the communication channels are unencrypted.

### Purchasing and Maintaining Legacy Systems

A large portion of the funding provided to the WMO is used to maintain the existing legacy LMR systems. While the plan is to eventually replace these legacy systems, the Department's law enforcement agents require functioning and reliable equipment now. We found that since FY 2005 the WMO has disbursed an increasing amount of the Department's wireless

equipment funds to the components to maintain their legacy systems rather than to replace their systems with updated equipment. Exhibit 3 shows the WMO's breakdown of the LEWC account spending by category since FY 2005.



Source: The WMO

While the 2007 IWN plan projected spending \$200 million per year on IWN implementation, FY 2009 was the only year the LEWC budget reached that amount. However, in FY 2009 less than half of the funds were used for the IWN project. In contrast, since FY 2005 funds spent on legacy LMR systems accounted for more than half of the total spending. In fact, in 2008 the expenditures on legacy systems were 79 percent of available funds. As the legacy systems age, the cost to maintain them increases. This expense will continue because legacy systems will be required for operational reasons until the new system is operational nationally.

### **Implementation of the National Capital Region (NCR) Module**

The NCR is part of the IWN nationwide implementation. The NCR Module's system is being deployed by General Dynamics, the systems integrator, who was awarded the contract in April 2007. Harris Corporation provides the infrastructure equipment, such as the base stations and repeaters, and Motorola supplies the radios. The IWN system in the NCR did not receive government acceptance until January 31, 2011, although originally planned for October 29, 2010, because of conflicts between the Harris Corporation infrastructure and Motorola radios identified during

Systems Acceptance Testing, and the re-introduction of the Operational Test and Evaluation period into the IWN program schedule.<sup>24</sup> The additional tasks extended the time required for IWN implementation for the NCR.

According to the Project Manager, during the October 2010 Systems Acceptance Testing, testing showed a system anomaly between the Harris Corporation infrastructure and Motorola radios. The Harris Corporation network was broadcasting different signal formats from the signal formats the Motorola radios use, which resulted in significant performance issues such as lost radio transmission signals. The WMO initially refused acceptance of the system. However, the WMO ultimately accepted the system after Motorola and Harris Corporation resolved the technical issues. The Project Manager told us that there remain insignificant technical issues, such as incomplete site security assessments and inability to perform local vulnerability scans, which are still being resolved.

The WMO Project Manager explained that the WMO removed the Operational Test and Evaluation period from General Dynamics's bid on the NCR deployment task in order to reduce costs. The WMO Project Manager told us that although the WMO engineering staff believed this was a bad idea, the Wireless Communications Board concurred with the decision. According to WMO project officials, the Wireless Communications Board's decision to perform the Operational Test and Evaluation in-house was made to reduce costs and allow objective testing of the contractor-developed system. WMO officials do not believe the decision to perform the Operational Test and Evaluation in-house affected the identification of the technical issue discovered during the week of the planned Initial Operational Capability. However, the project was delayed while Motorola and Harris Corporation worked to devise and implement their respective solutions to resolve the technical issue.<sup>25</sup> In March 2011, the WMO began placing test users from each of the user organizations onto the system for a planned Operational Test and Evaluation period. As of October 2011, the system is

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<sup>24</sup> Systems Acceptance Testing is often the final step before rolling out a system. The focus is on testing the functionality and usability of the system in the operational environment.

Operational Testing and Evaluation is the formal testing conducted by technical users prior to deployment to evaluate the operational effectiveness and suitability of the system with respect to its mission.

<sup>25</sup> Initial Operational Capability is the first time the intended users are able to effectively use the system.

still undergoing testing and resolution of technical issues identified during the testing.

The WMO Project Manager said he considers the IWN portion of the system to be fully operational because the interoperability issues between the Harris Corporation infrastructure and the Motorola radios have now been resolved. However, we do not believe that the NCR IWN can yet be considered fully operational because the Department is still testing NCR IWN and it has not yet been deployed to all users to ensure it performs as expected.

### *Users' Concerns about the National Capital Region's Design*

During our audit, the components and the WMO expressed concerns about the design of the IWN system implemented in the NCR. Their concerns ranged from the lack of redundancy, which would allow continued usage in case of a partial system failure, to the absence of a consolidated dispatch center. In addition, some components told us that coverage issues have not been completely addressed. According to WMO officials, most of these design concerns result from the design decisions made by the Wireless Communications Board as a result of funding constraints and other considerations.

According to the Operations and Maintenance Section Chief, the WMO did not build circuit redundancy into the NCR sites, meaning that if a circuit was lost the system would have no backup plan. According to WMO officials, the NCR was instead designed with overlapping towers to allow for such redundancy, rather than relying on circuit redundancy. Again, this decision was made due to financial constraints as the Wireless Communications Board opted for the overlapping tower coverage, which was determined to be cheaper than circuit redundancy. In addition, the Operations and Maintenance Section Chief also told us that licenses, leasing sites, and funding were all constraints to implementing the optimal IWN system. He explained that local authorities approve licenses to put equipment on a tower or establish a base station. Since the government does not generally own towers, it must negotiate leases for the use of the towers and installation of other equipment. These leases can be very expensive and some sites have been eliminated due to funding concerns. The FBI's Radio Systems Development Unit Chief explained that redundancy and other similar measures are features that allowed some communications systems to continue to work during the September 11 attacks.

FBI and USMS officials and the WMO engineer also stated that IWN does not have a consolidated dispatch center. A consolidated dispatch center is especially useful for communicating with large numbers of users instantly and in emergency situations. The USMS National Program Manager for Radio and Communications stated that the lack of a consolidated dispatch center is a problem because of increases in violence committed against agents in recent years and a crucial need for better communication capabilities. He stressed the importance of a consolidated dispatch center as part of the communications solution in that it provides access to multiple agents and increases the likelihood of prompt response in an emergency situation. Members of the WMO Project Management Team told us they agreed that this feature is required for successful interoperability solutions. The consolidated dispatch center issue was discussed during the November and December 2010 Wireless Communications Board Meetings when several issues regarding cost and security of individual components' radio transmissions were raised. According to WMO program officials, the Wireless Communications Board determined that the consolidated dispatch center was too costly and, given the limited funds available, will not be incorporated into the NCR module. They also cited the availability of individual component centers that they believe will fulfill this function.

A USMS official stated that there are many uncertainties with the NCR module because this is the first system Harris Corporation has built for the IWN project. ATF officials expressed concerns that agents in the NCR will use unsecured technology if radios become ineffective as ATF Washington Field Division's territorial boundaries extend beyond the area covered by the NCR. For example, agents driving out of radio range could end up using non-secure communication (cell phones). Similarly, the USMS National Program Manager for Radios and Communication told us that his biggest concern with the NCR's operability is uncertainty about how agents or others from outside of the NCR will be able to communicate with agents stationed within the NCR. This official said that as a result, the USMS has requested more radios than needed for its staff located in the NCR.

In addition, the components are not committed to transition to IWN within the NCR. According to the WMO, DEA, and USMS officials, the DEA and USMS are waiting to learn whether IWN will be built in the areas surrounding the NCR. USMS officials told us that the USMS will not transition if the areas of coverage are not better than their current coverage. The FBI's Radio Systems Development Unit Chief also told us that the FBI does not plan to transition for approximately 2 years, or sometime in 2013.

As a result, both the IWN and legacy systems will need to be maintained and operated.

We understand the components' reluctance to commit to the new system until they are sure that it is functioning properly and is providing acceptable geographic coverage. The NCR operational area does not coincide with the operational boundaries of the components. Therefore, the usefulness of the NCR portion of IWN will be limited until the remaining portions of Region 1 are completed. However, we believe that the components' reluctance to commit to the new system is not affecting the progress of the program's implementation because the staggered transition to the new system was part of the IWN program plan.

The Omnibus Appropriations Act of 2009 required IWN to be certified by the Department Investment Review Board before funds were made available for FY 2009. The process required the Department Investment Review Board (Board) to certify that the program had appropriate program management and contractor oversight mechanisms in place, and that the program was compatible with the Department's enterprise architecture. The Board has certified the NCR portion of IWN with qualifications because currently there is no comprehensive funding model, contract strategic plan, or Disaster Recovery Plan, even though, according to the Board minutes, the Board first requested these items in October 2009. According to WMO officials, those items are currently in draft.

In March 2010, the Wireless Communications Board also requested that the WMO conduct and report on the results of contingency planning at each WCB meeting. Such contingency planning would demonstrate the Department's ability to deploy IWN without a systems integrator because program costs and budget constraints have made that necessary. According to the Wireless Communications Board, the contingency plan should demonstrate the Department's ability to deliver IWN solutions to the field working directly with LMR vendors. We found no evidence that the contingency plan was addressed at the later meetings, but we were told by the WMO's Chief of the Operations Section that a contingency plan is in draft.

Contingency planning reasonably anticipates future events that are not expected to occur but are possible. Should those events occur, a plan of action to respond effectively should be in place. Since the current plan is to continue IWN development without the systems integrator, we believe that it

is critical for the Department to demonstrate that it is capable of performing the functions previously performed by the systems integrator.

### **Other Issues Affecting the IWN Project**

Other management and project development issues plague the IWN program's implementation including: (1) frequent management turnovers at the WMO that have disrupted program development and resulted in confusion over program priorities and (2) funding delays that have extended the program timeframes and caused significant program changes. While the goal remains clear—to create a secure, interoperable communication system—how to accomplish this goal is anything but clear. These issues were also addressed in our 2007 report and continue to present challenges to the successful completion of the IWN program.

#### *Governance Issues at the Wireless Management Office*

Since 1998, staff turnover at the WMO has presented a challenge to the IWN program. According to the WMO Budget and Finance Section Chief, there have been four Program Executives, eight Program Directors, three Deputy Directors (between 1998 and 2001 and again from 2003 to 2009, there was no Deputy Director), and four Assistant Deputy Directors.<sup>26</sup> The Program Executive also serves as the Deputy Chief Information Officer for Policy and Planning. As the IWN Program Executive, he provides high-level guidance and serves as the liaison for the IWN program within and outside the Department. The Program Director is responsible for the day-to-day management of the WMO and the IWN program. The Program Director position is rotated between the components every 18 months.

Department component officials expressed concern about the frequent changes in leadership at the WMO. Component officials told us that they were not always sure who was in charge at the WMO. Those same officials also stated that the lack of WMO oversight and structure was detrimental to the implementation of IWN. According to the USMS's National Program Manager for Radio and Communications, changes in key positions at the WMO resulted in a change in the direction of the program and administrative interaction between the components and the WMO.<sup>27</sup> For example, after one

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<sup>26</sup> The Assistant Deputy Director position was added to the new structure in 2010.

<sup>27</sup> Examples of administrative interaction include the process for requesting funding by the components and allocation of components' budgets and Operations and maintenance costs.



change in leadership, a decision was made to request vendor proposals for the development of the IWN plan. After competing the IWN development contract for 3 years, General Dynamics was selected as the system integrator. Recently, due to ongoing budget constraints, the Department issued stop work orders on two task orders to General Dynamics and the use of a systems integrator has now been abandoned.

We found that the frequent changes at the WMO affect program continuity and direction. As a result, we believe the long-term planning for the IWN program has suffered and has been exacerbated by the components' frustration with the lack of leadership at the WMO.

### *Extended Timeframes and Project Delays*

In our 2007 report, we found that the lengthy IWN development and implementation process had left the components waiting for upgraded communications equipment. We found that 3 years later, the components continue to wait. Although the original CTA plan recommended an aggressive implementation schedule that would complete IWN's implementation in 2010, this plan was not adopted. The Department's 2010 IWN plan currently estimates a scaled back implementation to be completed in 2016. Despite these issues, the Department's law enforcement agents' need for reliable communications equipment is now over 13 years old.

According to the Department's Chief Information Officer, the Department considers the IWN program a high priority, yet funding limitations have contributed to implementation delays. Although the cost to implement IWN was estimated at \$5 billion in 2003, the Department has only received about \$375 million for implementation. In addition, the cost of maintaining the components' aged legacy LMR systems further strains the Department's ability to adequately fund the IWN program. Since FY 2005, the Department has spent over \$395 million to maintain legacy LMR systems.

### *Changing Plans and Priorities*

We determined that since the initial project began in 1998, there have been a number of plan changes and shifts in priorities. As we found in our 2007 audit, establishing the requirements and designing a system that met the needs of a diverse group of users proved troublesome and time consuming because the users had conflicting priorities and all users believed that their needs were the most important. We found that little has changed

since our 2007 audit. In addition, we found that the WMO's lack of a stable management structure further contributed to an inability to manage the shifting priorities for the program and an unclear chain of command.

In addition, we found that while the operability of the Department's existing legacy systems are declining, the conditions of the legacy systems varied by geographic area, which resulted in different priorities for IWN implementation. For example, the DEA considers the cities of Chicago, Detroit, and St. Louis to be priority geographic areas for upgrades because the LMR systems were installed in 1985 and have not received upgrades. However, the FBI, ATF, and USMS's systems in the same areas are in better condition. As a result, differences in priorities among the components continue to play a major role in the delays in development of the revised IWN program. The WMO as part of JMD has no operational responsibility or authority over the components. As a result, the WMO is placed in a position to plan and implement a program for four components that may each have very different ways of doing things and different priorities. The components are accustomed to designing and funding their own LMR systems and some of the components have continued to resist the WMO efforts to create a unified communication system for the four components. We believe that the resistance of some of the components has contributed to the Department's slow development and implementation of IWN, which has increased the likelihood that the Department will not be able to successfully implement IWN as planned.

#### *Incomplete IWN Plans for Deployment*

During its history, the WMO has partially implemented two IWN deployment plans. As discussed above, the WMO implemented the first deployment plan beginning in 2009 across the NCR, which is part of Region 1. As we discuss below, as a result of the funding reductions that occurred in FY 2010, the WMO has adopted a revised plan to continue the deployment of IWN throughout the United States.

#### IWN Implementation Across the Nation

In 2008, the IWN implementation plan was projected to cost \$1.2 billion over 6 years, and it divided approximately 2,400 total radio system sites across the nation into six regions as shown in Exhibit 3. According to the IWN plan, each region was to be segmented into modules, with an average of 14 modules per region. The deployment of IWN was projected to occur in a concurrent and overlapping manner, with the last

module completed by approximately 2015. However, the NCR is the only module deployed since the Seattle/Blaine pilot project due to the lengthy IWN development and implementation process undertaken after the pilot project.

**Exhibit 4**  
**The Department's Projected Cost to Implement IWN Across the Nation as of 2008**

Region Identifier	Region Name	Included States	Planned Budget (millions)
1	Mid-Atlantic and Midwest <sup>28</sup>	District of Columbia, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Virginia, West Virginia, Wisconsin, Kentucky, Iowa	\$304
2	West	American Samoa, California, Guam, Hawaii, Nevada, Northern Mariana Islands	\$149
3	Northeast	Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont	\$177
4	Southwest	Arizona, New Mexico, Oklahoma, Texas	\$187
5	Southeast	Alabama, Arkansas, Florida, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, US Virgin Islands, Georgia, Tennessee	\$223
6	Northwest	Alaska, Colorado, Idaho, Montana, Oregon, Washington, Wyoming, Utah	\$80
	National Elements and Training <sup>29</sup>		\$29
	Integrator Program Management <sup>30</sup>		\$51
	Total		\$1,200

Source: The WMO LEWC Budget

<sup>28</sup> The National Capital Region is a part of Region 1.

<sup>29</sup> The IWN plan designated National Elements and Training costs to cover the development of items such as test plans, systems operations centers, regional management centers, test labs, operations support, etc., at a national level.

<sup>30</sup> Integrator Program Management costs are designated to cover General Dynamic's program management support in the design and deployment of the IWN system, which includes subject matter expertise in areas of program management, engineering, operations, and logistics support.

We found that since its inception, the IWN program has not received adequate funding to complete the planned implementation. Our 2007 audit found that through FY 2006 approximately \$772 million was appropriated to the Law Enforcement Wireless Account. However, nearly two-thirds of the \$772 million was spent on legacy system maintenance. When the Department developed the plan in 2008, with an expected cost of \$1.2 billion, it expected funding of about \$200 million per year for IWN alone to adequately fund the implementation. Instead, the Department received approximately \$100 million for IWN implementation in FYs 2009 and 2010. As a result, in early 2010, the Wireless Communications Board determined that, with the funding available, IWN's implementation would follow a 12 to 15 year development plan. However, the IWN Program Executive disagreed, stating that this timeframe was too long. As a result, according to the Department's Chief Information Officer, the Department's components developed an alternative plan, discussed in the following section, to maximize available funding for the most important geographic areas.

IWN funding cuts continue in FYs 2011 and 2012. The Department's FY 2011 budget request included \$208 million for IWN, legacy equipment, and special projects, which was cut in half in the Department's final \$100 billion budget. The President's proposed FY 2012 budget includes \$103 million in funding designated for legacy equipment maintenance only. The Administration proposes suspending the IWN program development, and it has concluded that the Department's current reexamination of its communication requirements and gaps will serve as the basis for assessing whether different alternatives can address the Department's communication needs. The President's 2012 Budget, in recommending the suspension of the IWN program, cited current technology alternatives, such as 3G and 4G Long Term Evolution (LTE) along with the National Public Safety Broadband Plan in development, which are available today and did not exist when IWN was originally conceived.<sup>31</sup> Many believe that LMR systems will be replaced by some type of secure broadband system. However, technology that will fulfill the needs of law enforcement agencies has yet to be refined.

As part of the Department's response to the FY 2011 budget cut for the IWN program and the proposed suspension of funding in FY 2012, the Department has issued a stop work order on two task orders under the

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<sup>31</sup> 3G and 4G LTE are the 3<sup>rd</sup> and 4<sup>th</sup> generation Long Term Evolution of the wireless networks and the National Public Safety Broadband plan is part of the Administration's efforts to make the internet available nationally.

General Dynamics contract. The Department's Chief Information Officer told us that the current plan is to continue with a scaled down version of the IWN program concentrating primarily on completing implementation in the area around the NCR and replacing law enforcement agents' radios.

### Alternative IWN Implementation Solution

As previously stated, the initial implementation plan required annual funding of \$200 million for implementation. However, the WMO never received this level of funding and the Wireless Communications Board decided to revise the plan. The Program Executive said that since early 2010, a new approach for IWN's implementation has been under development by the Wireless Communications Board and the components to explore various implementation plans to obtain "the most bang for the buck".

According to a June 2010 Department report to Congress, the WMO was revising the IWN cost model depicted in Exhibit 4 to address funding and implementation schedule scenarios that go beyond the originally contemplated 6 year plan. Given budget constraints, the Department's components proposed spending \$100 million annually over 6 years (initially) on an alternative IWN solution to address high priority issues that include:

1. Providing new radios to field agents that are secure (with Advanced Encryption Standard), digital, and backward-compatible with legacy radio systems; will function on both conventional and trunked narrowband systems; and support interoperability with state and local law enforcement. The budget for the new radios is \$240 million.
2. Completing the narrowbanding of remaining conventional FBI wideband sites across the United States and upgrading radio channel capacity to accommodate DEA and ATF users, where needed (USMS personnel predominantly already use FBI radio systems). The budget for the narrowbanding and additional capacity at the FBI LMR sites is \$60 million.
3. Continuing the design and development of a nationwide trunked LMR system, consistent with the first module implemented in the National Capital Region, by focusing first on high-risk, major metropolitan areas with higher concentrations of agents. The

current budget for the upgraded trunked LMR system at selected metropolitan areas is \$300 million.

The WMO has presented the approach to the Department Investment Review Board on multiple occasions. During its October 2010 meeting, the Department Investment Review Board provided certification with qualifications, but required the following program support for final certification. Specifically, the Department Investment Review Board required that the WMO:

1. Develop a Risk Mitigation Plan that identifies component-level resource dependencies and obtains component commitment to provide those resources.<sup>32</sup>
2. Report quarterly to the Department Investment Review Board on the status of the use of incentive-based task orders and the financial impact of these task orders.<sup>33</sup>
3. Brief the Deputy Attorney General regarding the interoperability of the IWN solution with state and local law enforcement and first responders, and the costs and sources of funding to implement and support the interoperability links.

These qualifications were addressed in the June 9, 2011, Department Investment Review Board meeting and closed. However, according to the Investment Review Board's meeting minutes, there are continuing concerns about significant project issues. The Investment Review Board expressed concern with the effort that has been required to address the technical problems with the NCR deployment, perception on the Hill that this project is a sole-source procurement, and inaccurate time estimates for key milestone completion.

## **Issues with IWN Oversight**

In addition to the implementation issues with IWN, we determined that the IWN program oversight is deficient. While there are a number of

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<sup>32</sup> Since the Department has increased its reliance on the components to provide expertise and personnel to complete the IWN program, the Department Investment Review Board wanted to ensure that these resources were available and committed.

<sup>33</sup> The WMO plans to use performance based contracting where appropriate and recognize the quality and timeliness of the contractor's performance through incentives.

oversight mechanisms in place to ensure that program development and implementation are monitored, these mechanisms did not function as planned. The oversight mechanisms that were in place for the IWN program included the Earned Value Management (EVM) review, the federal IT Dashboard, the Independent Validation and Verification (IV&V) and the independent baseline review. We discuss each of these below.

### *Earned Value Management*

The EVM process is required by the Office of Management and Budget for major information technology projects. EVM is designed to help manage project risks by evaluating progress, and allowing the analysis of project cost and schedule performance trends. EVM compares the current cost and schedule status of a project to the established cost and schedule baselines. In July 2010, the Department's EVM Manager conducted the annual Surveillance Review of the IWN program. During the review, the Department's EVM Manager reviewed the WMO's EVM documentation to determine compliance with all 32 American National Standards Institute/EIA – 748 EVM Guidelines. As of August 2010, the WMO was in compliance with the guidelines. According to the Department EVM Manager, a formal report is not issued unless there are compliance issues. If compliance issues are identified, the Department's EVM Manager issues a corrective action request and the component must then develop a plan to resolve the outstanding issues.

The Department EVM Manager stated that all personnel costs that have a direct impact on IWN development should be reflected in the performance baseline. This includes all contractor and government program management personnel costs. There are other costs, such as "level of effort" program management activities that also should be captured in the performance baseline. However, the Section Chief for the WMO stated that the WMO has not yet totaled the costs of staff and contractor labor. As a result, even though IWN was reported as being compliant with the EVM requirements, it has not been in compliance with respect to financial reporting.

### *Accurate Cost Data Not Available*

As of April 2011, the total cost of the IWN program since its inception in 1998 was not available. Cost information provided by the WMO contained expenditure data beginning in 2005, but the program planning and pilot



program occurred prior to 2005.<sup>34</sup> In addition, we determined that the classification of costs did not accurately capture total IWN expenditures. According to WMO officials, they have changed the classification categories to improve the way they capture IWN expenditures.

The Department's Law Enforcement Wireless Communications (LEWC) account supports the operations and maintenance of the Department's legacy LMR systems, special projects, and the IWN program. Exhibit 5 illustrates summary data provided by the WMO for expenditures from 2005 to 2010.

**Exhibit 5**  
**WMO Compilation of Expenses**  
**2005-2010**  
(millions)

Year	IWN	Legacy LMR Systems	Special Projects	Total
2005	\$ 43.8	\$ 26.7		\$ 70.5
2006	82.7	71.7		154.4
2007	30.7	68.4	\$ 2.1	101.1
2008	2.9	71.3	16.8	91.0
2009	90.8	88.0	23.2	202.0
2010	50.1	69.0	2.9	122.0
<b>Total</b>	<b>\$301.0</b>	<b>\$395.1</b>	<b>\$45.0</b>	<b>\$741.1</b>

Source: WMO Cost Tracking Spreadsheets

The WMO's classification of expenses does not provide an accurate picture of actual IWN expenditures to date. Although the LEWC account classifies expenditures for each of the categories in Exhibit 5, IWN cost data can be included in more than one category. For example, special projects included expenditures for the legacy systems as well as for IWN-compatible radios. In addition, all personnel and program management costs were categorized as legacy systems expenses, even though many of these costs were IWN related. According to our analysis of IWN expenditures, Exhibit 6 presents a more realistic account of the costs by category. However, in our judgment this still does not reflect actual IWN costs.

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<sup>34</sup> According to the WMO, the Cost Tracking Spreadsheets we reviewed were prepared by the WMO to augment the Department's Financial Management Information System data reports.

**Exhibit 6**  
**OIG Compilation of Expenses**  
**2005-2010**  
(millions)

Year	IWN	Legacy LMR Systems	Special Projects	Personnel/ Program Management	Total
2005	\$ 43.8	\$ 24.6		\$ 2.2	\$ 70.6
2006	82.7	55.4		16.3	154.4
2007	31.1	66.4		3.6	101.1
2008	9.9	71.2		9.9	91.0
2009	103.0	57.4	\$23.0	18.6	202.0
2010	50.1	58.5	2.9	10.5	122.0
<b>Total</b>	<b>\$320.6</b>	<b>\$333.5</b>	<b>\$25.9</b>	<b>\$61.1</b>	<b>\$741.1</b>

Source: WMO Cost Tracking Spreadsheets

In addition, the WMO is unable to quantify the amount of funding spent on IWN by the individual components. As the manager of the Department's funds for wireless communications, the WMO is also responsible for providing the components with the funds needed to maintain the legacy systems. In this capacity, the WMO transfers these funds to the components but has no oversight over the actual expenditures. As a result, the components may be using these funds to purchase radios that are IWN compliant and related equipment.<sup>35</sup> If the components are purchasing radios that are IWN complaint and equipment with legacy systems funds then the IWN spending is understated, while the legacy LMR systems spending is overstated.

We found cost discrepancies when comparing special project costs reported by the WMO and the Special Projects Section Chief. When we reported these discrepancies to the Section Chief, he stated that the discrepancies relate to how he and the WMO define special projects. The Special Projects Section Chief said that special projects are related to interoperability, reconstitution of damaged equipment, augmentation of systems in perceived high threat regions, and special event preparation. For example, he explained that the costs reported by the WMO most likely reflect radio and equipment purchases outside of what he considers a special

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<sup>35</sup> Radios that are IWN compliant refer to the radios the Department purchased that are P25 compliant and designed to operate on the new IWN system. These radios are generally Motorola radios due to the Department's requirement that the radios be backward compatible with the existing legacy systems.

project. As a result, there are IWN costs being included in the special projects category as well.

We concluded that based on the account descriptions, many of the accounts could have costs related to the IWN program. For example, modular subscriber expenses are for radios used in the IWN system. Funding for Program Management and IWN operations and maintenance also include costs that are part of maintaining IWN. In addition, special projects costs include radios used for agents. We requested the WMO's accounting policies and manuals that explain the cost categories for the LEWC or how costs are to be entered. We were told that such policies or manuals do not exist. Therefore, there is no clear separation of IWN expenses from other LEWC expenses. As a result, it is impossible to determine the true cost of the IWN program.

For example, the WMO Section Chief for Program Management told us she is the lead person responsible for capturing costs for the NCR with the help of contractors and that they are working to identify costs not previously captured. She also told us that the WMO is unsure of the true costs of NCR at this point because the information reported only included contractor costs. Contractor costs are not considered true costs because the systems integrators were doing more than NCR work. During our audit, the WMO was still trying to determine NCR costs, including capturing costs of staff time not been previously identified. The Section Chief also stated that, as a very early estimate of the cost of NCR, the WMO spent \$32 million on the systems integrator and \$32 million on equipment. However, this \$64 million total does not include government or contractor labor, which the WMO has yet to compile.

Inadequate tracking of IWN costs can mislead and misinform stakeholders. Costs from other WMO accounts can easily be confused with IWN expenses. The WMO should establish and adhere to an accounting policy and develop a manual explaining how costs should be entered into its accounting system. In addition, the WMO should exercise more oversight over the component's expenditures for the legacy systems to ensure that the costs are properly categorized.

### *Dashboard Reporting*

As part of the government's transparency initiative, the government created an online report for major information technology programs called "The IT Dashboard." The IT Dashboard is a government wide report

designed to show the current status and cost of information technology projects. It displays information on cost, schedule and performance information. After a program is entered onto the IT Dashboard, agency Chief Information Officers are responsible for updating cost, schedule and performance data on a monthly basis.

The IT Dashboard indicates that \$99.4 million has been expended on the IWN program since its investment start date, October 1, 2008. However, IWN's development actually began 10 years earlier. Therefore, program costs incurred prior to October 1, 2008 are not reported in the IT Dashboard report. In addition, the costs reported on the IT Dashboard only shows costs beginning in 2008 and do not approximate the costs reported by the WMO as previously shown in Exhibit 5.

We also found that the IWN program was re-baselined in 2008. Re-baselining usually occurs when a project's progress – cost and schedule – deviates significantly from the original plan and the remaining time and funds are not sufficient to complete the project. The Department EVM Manager stated that if the WMO plans to implement its new approach, they would need to re-baseline the project again. This re-baselining of the IWN program is irrelevant since the IWN program was eliminated from the IT Dashboard report on May 25, 2011, because the investment was eliminated from the FY 2012 budget request.

#### *Independent Verification and Validation Recommendations Implementation Delayed*

In September 2009, Booz Allen Hamilton was awarded a \$1.6 million contract to perform an IV&V of the NCR implementation plan. The goal of the IV&V contract was to ensure that the design and deployment of the NCR would meet the users' needs and was well engineered. The contract consisted of a comprehensive review of the stakeholder and user requirements, system design, and system deployment to ensure that the system is complete, encompassing, and meets all of the requirements.

In July 2010, the Booz-Allen Hamilton IV&V team delivered its Final Design Report for the NCR. The report noted that there was no slack time in the schedule, and Booz Allen Hamilton officials said in the report that the schedule was likely to get more compacted as implementation proceeded

due to unexpected issues and delays.<sup>36</sup> The implication was that previously planned tasks would either be omitted or pushed into future phases, deleted or revised so less was delivered, or implementation would be delayed. During implementation of a major project, there are usually unforeseen problems or developments that can cause delays or require adjustments. Therefore, time is usually built into the project to resolve these issues without delaying the delivery of the final product. The Final Design Report contained approximately 200 program and technical recommendations. The report also identified design issues including a lack of redundancy and backups to ensure communication in case of a partial system failure.

A WMO official stated the WMO formally responded to the recommendations from Booz Allen Hamilton in an email accepting the recommendations. However, according to the official, the WMO did not inform Booz Allen Hamilton that the WMO had no plans to incorporate the recommendations into the NCR plan because the WMO believed that many of the recommendations were related to program management, rather than technical issues.

Failure to implement the critical risks identified by the IV&V contractor may be detrimental to the IWN program. The IWN program could fail to deploy due to bottlenecks or serious constraints that were overlooked. Therefore, we believe the WMO should coordinate with Booz Allen Hamilton to resolve the critical recommendations identified in the IV&V report.

#### *Integrated Baseline Review and Risk Tracking Not Conducted*

According to the Federal Acquisition Regulation 34.202, when an EVM is required, the government will conduct an Integrated Baseline Review. The purpose of the Integrated Baseline Review is to verify the technical content and whether the related performance budgets, resources, and schedules are realistic. The Integrated Baseline Review is intended to provide a mutual understanding of the inherent risks in offerors' or contractors' performance plans and the underlying management control systems.

The Integrated Baseline Review should provide enough information to assist in developing a plan to handle these risks.<sup>37</sup> The WMO did not

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<sup>36</sup> Slack time is time built into a project to cover unexpected delays without delaying the project delivery.

<sup>37</sup> The Integrated Baseline Review is a joint assessment by the offeror or contractor, and the government, of the — (1) Ability of the project's technical plan to achieve the

conduct an Integrated Baseline Review for the NCR because WMO representatives said that other meetings were held that eliminated the need for a formal review.

While we were told during our audit that risks were not formally tracked, the WMO has re-implemented risk management for the IWN program. The WMO has also issued a formal Risk Management Plan, dated August 4, 2011, which is intended to identify and manage program, project and operational risk that could negatively impact the cost, schedule, or performance of the projects the WMO manages. We believe that these efforts are a positive step in risk management for the IWN program.

#### *Deficient Contract Used to Purchase Radios*

An integral part of the IWN program was consolidating the purchase of tactical communications equipment within the Department to eliminate duplication of effort and achieve cost savings. In October 1998, the Attorney General created the WMO within the Justice Management Division to serve as the central purchasing agent for all Department tactical communications equipment.

According to the Chief Information Officer, the Department chose to purchase radios for the IWN program from Motorola rather than pay the systems integrator, General Dynamics, an 8.5 percent markup.<sup>38</sup> Consequently, in 2009 and 2010, the WMO relied on the DEA to use an existing contract with Motorola to purchase radio equipment for all Department components.

Unlike the WMO's contract with General Dynamics, which was the product of a competitive bidding process and was negotiated specifically for the IWN program, the DEA contract identified Motorola as the sole supplier of maintenance services and associated equipment to ensure the continued

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objectives of the scope of work; (2) Adequacy of the time allocated for performing the defined tasks to successfully achieve the project schedule objectives; (3) Ability of the Performance Measurement Baseline to successfully execute the project and attain cost objectives, recognizing the relationship between budget resources, funding, schedule, and scope of work; (4) Availability of personnel, facilities, and equipment when required, to perform the defined tasks needed to execute the program successfully; and (5) The degree to which the management process provides effective and integrated technical/schedule/cost planning and baseline control.

<sup>38</sup> These radios were purchased specifically for the NCR implementation, which is the current region being deployed under the IWN program.

operation of DEA's existing LMR systems. The DEA contract, awarded in FY 2009 and valid for 5 years, had an estimated value of \$500 million. In total, under the Motorola contract the DEA purchased radios at a cost of \$58,080,335 for the entire IWN program in FY 2009, and the WMO transferred \$28,175,087 to the DEA to purchase IWN radios under this same contract for FY 2010. A WMO Deputy Director told us that the DEA would continue to have the responsibility to procure future radio purchases for the IWN program because there is enough money on the contract to make all future purchases.

In addition, a WMO official told us that the DEA contract was used because the WMO Contracting Officer would not have been responsible for the radio purchases in FY 2010. According to the Chief Engineer, most of the radio purchases made for FY 2010 were for new agents and these purchases were made by the components rather than the WMO. Further, the purpose of the contract—to obtain support for DEA legacy networks—did not include the procurement of IWN related equipment for DEA and other Department components. Nevertheless, the DEA contract was used to purchase radio equipment specifically for the IWN program.

Although the radios purchased under the DEA contract were dual compatible and could be used for either IWN or legacy systems, the radio purchases for the IWN program, specifically the NCR, were not used to maintain the legacy network, which was the purpose of the original DEA contract.

According to meeting minutes, the Wireless Communications Board also agreed to have DEA purchase radios for the components; however, we did not find any documentation from Wireless Communications Board directing the DEA to purchase radios for other Department components. The WMO Assistant Deputy Director told us the Wireless Communications Board agreement occurred without written direction because the WMO was running out of time to obligate funds before the end of the fiscal year. He also stated that the WMO planned to use the DEA contract for future radio purchases so it made sense to continue using the existing DEA contract.

In addition, WMO staff and component officials cited administrative problems with the DEA contract with Motorola, including that it lacked appropriate signatures for authorization and therefore was not properly executed.

In the course of our audit, in December 2010, we issued a Management Advisory Memorandum to Justice Management Division officials because we were concerned that the WMO had purchased over \$86 million in IWN equipment through a deficient DEA contract that lacked the appropriate Department signatures and did not authorize the purchase of IWN equipment. In addition, we were concerned that the WMO may be violating procurement regulations by not using fair and open competition to procure radios. We also were concerned that by using the DEA contract with Motorola, the WMO is not centrally managing program spending, as mandated.

In its response to our Management Advisory Memorandum, the Department conceded that the contract was in fact deficient, but that the WMO was not aware of the deficiency and thus the use of a deficient contract was not intentional. They also indicated that the contract deficiencies have been remedied and the contract continues to be used for radios purchased for the IWN program. We believe that as long as the WMO gives the DEA this procurement responsibility for radio purchases, the WMO, which is responsible for fiscal oversight of IWN funds, will not have the necessary oversight and control that it needs to monitor IWN funds.



### **III. STATUS ON DEPARTMENT'S COMPLIANCE WITH THE NTIA NARROWBANDING MANDATE**

The Department is not fully compliant with the National Telecommunications and Information Administration (NTIA) mandated narrowbanding requirements and faces increasing difficulty maintaining access to wide band frequencies. Insufficient funding and logistical issues plague the Department's implementation of the NTIA mandate. The effects of the Department's failure to meet the mandate have been minimal thus far. However, the Department may face increasing difficulty utilizing its assigned frequencies if narrowbanding is not completed.

#### **NTIA Narrowbanding Mandate**

In October 1993, the NTIA mandated all federal radio frequency spectrum users enhance spectrum efficiency usage within the increasingly congested land mobile bands by transitioning their land mobile radio (LMR) channels to narrower, more efficient channels. By reducing channel bandwidth, the NTIA expected to double the available spectrum and encourage the development and use of new technologies that will further promote efficient spectrum use, be less susceptible to interference, and provide enhanced capabilities. This process is commonly known as "narrowbanding."

The NTIA concluded that efficiency could nearly double spectrum availability under the narrowbanding process. Under the mandate, very high frequency (VHF) operations had until January 1, 2005, and ultra high frequency (UHF) operations had until January 1, 2008, to convert from wideband (25 kHz channels) to narrowband (12.5 kHz channels). The NTIA's Office of Spectrum Management oversees the federal portion of the mandate.

According to a Department representative on the NTIA's Inter-department Radio Advisory Committee (IRAC), the status of the Department's compliance with the mandate is of concern to NTIA because the Department is one of the few federal agencies that is not fully narrowbanded.<sup>39</sup>

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<sup>39</sup> The IRAC is a committee within the NTIA that helps the Assistant Secretary of Commerce assign frequencies to U.S. Government radio stations; and develops and

## Spectrum Management

As previously stated in our 2007 report, the IWN program incorporated the NTIA requirements. However, the Department has not fully complied with the mandate. The WMO Chief Engineer who oversees the Department's compliance with the NTIA mandate cited as problem areas both funding and logistical issues. He told us that the Department is the largest land mobile band user in the government. To fully comply, the Department needs to replace the radios as well as the LMR systems. He noted for example, a case in Mexico that affected 6,000 radios when the Department needed to switch frequencies. The Department told the users when the new frequency would become operational and provided instructions on how to reprogram the 6,000 radios to the new frequency.

The Department's IRAC representative believes that the components are not yet compliant because they do not have the funding to upgrade their systems. He also told us that he believes the way to achieve compliance is through IWN since the IWN program will include the narrowband requirement. The IRAC representative said that within the Department, the ATF is compliant because it was part of Treasury when Treasury fulfilled the mandate. He also told us that the FBI is the least compliant with the NTIA mandate because it has the most overall wideband assignments among the Department's components.

Department officials stated that the Department is the least compliant of all federal departments but acknowledged that it has more VHF channels to convert to narrowband than other federal agencies. Our 2007 report noted that of the 24 agencies with over 64,000 VHF channels, the Department had 23 percent of these licenses. The IWN program grew out of the Department's need to comply with the narrowband mandate. However, the delays in the IWN program have resulted in significant delays in complying with the NTIA mandate. Exhibits 7 and 8 summarize the Department's overall and major components' progress in meeting the VHF and UHF narrowband requirements, respectively.

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executes policies, programs, procedures, and technical criteria pertaining to the allocation, management, and use of the spectrum.

**Exhibit 7  
VHF Narrowband Status  
As of August 25, 2011**

<b>Bureau</b>	<b>Narrowband Assignments</b>	<b>Wideband Assignments</b>	<b>Total Assignments</b>	<b>Percent Narrowbanded</b>
ATF	█	█	█	█
DEA	█	█	█	█
FBI	█	█	█	█
USMS	█	█	█	█
Other <sup>40</sup>	█	█	█	█
<b>TOTAL</b>	█	█	█	█

Source: The WMO[LES]

**Exhibit 8  
UHF Narrowband Status  
As of August 25, 2011**

<b>Component</b>	<b>Narrowband Assignments</b>	<b>Wideband Assignments</b>	<b>Total Assignments</b>	<b>Percent Narrowbanded</b>
ATF	█	█	█	█
DEA	█	█	█	█
FBI	█	█	█	█
USMS	█	█	█	█
Other	█	█	█	█
<b>TOTAL</b>	█	█	█	█

Source: The WMO[LES]

The NTIA allows agencies 180 days to resolve a conflict between a narrowband agency and a wideband agency attempting to operate on the same frequency. The IRAC representative told us that it is up to individual radio users to resolve communications problems, such as interrupting each other's conversations when attempting to use the same frequency, between narrowband and wideband users. However, the IRAC representative said the onus is on the wideband agency to resolve the issue because after the 180-

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<sup>40</sup> The "Other" category includes channels for designated Law Enforcement Incident Response, the High-Risk Metropolitan Area Interoperability Assistance Project, and non-operational use. We also included IWN Northwest, IWN San Diego, Bureau of Prisons and Justice Management Division assignments in this category.

day period, the NTIA can order the wideband agency to cease operations on the narrowband agency's frequency.

We were advised that since 2007, only one conflict over a narrowbanding issue between the Department and another agency has not been resolved. The IRAC representative told us that in this case, the DEA was operating on a wideband frequency and the Department of Defense was operating on the same frequency in narrowband. He said the Department of Defense did not follow the policy to use alternative frequencies if they were available. However, the dispute went to the NTIA and IRAC. The NTIA met with the Department and the Department of Defense to resolve the issue and ruled that the Department of Defense could not use its equipment on the frequency until 2011. The IRAC representative said that he was informed that the Department will be narrowbanded on that frequency by 2011 but he told us he still has doubts because of limited funding for the IWN program.

## **Conclusion**

Our 2007 report concluded that the IWN program was facing significant challenges and there was a high risk that the IWN program would not be implemented as originally envisioned. We noted that after more than 6 years of development and an investment of more than \$195 million, the Department had received little more than one pilot system. The causes of the program's high risk for failure included uncertain funding to complete the program, disparate departmental funding mechanisms, a fractured IWN partnership, and the lack of an effective governing structure for the program. Four years later, the successful completion of the IWN program is still uncertain. While there were four causes of the possible IWN program failure in 2007, the primary cause now is the lack of funds to complete the IWN implementation in a reasonable period. The Department continues to react to funding uncertainties and cutbacks by revising the IWN plan to meet the available funding and program priorities. Through FY 2011 despite the fiscal uncertainties and resulting plan changes, the Department has implemented the IWN concept in the Seattle/ Blaine area (the Northwest) and is in the process of deploying the NCR.

It remains critically important that the Department's law enforcement officers and agents have a reliable, safe, secure, and efficient way to communicate. Yet, the Department has not achieved communication interoperability with other federal, state, and local law enforcement agencies even though the IWN program has been underway for over 10 years. Joint

development of IWN with the Treasury and DHS has not been successful and there is no longer a pursuit of an "Integrated Wireless Network" outside the Department. Although the agencies did develop a new agreement in 2008 to resolve the issues we identified in our prior report, we found that the 2008 agreement has not accomplished the intended goal of an integrated system. As a result, the Department and DHS are pursuing their own solutions to their wireless communication needs.

The Department continues to rely on the IWN program to upgrade the disparate and aging LMR systems in the Department's four law enforcement components. This upgrade is intended to provide a unified and functional system for the Department's law enforcement agents. In addition, the upgrade would address security concerns by upgrading the current system to the required Advanced Encryption Standard and allow for over the air re-keying encryption to ensure continued security of agents' communications. However, we determined that the Department has made minimal progress in implementing IWN, primarily because of inconsistent funding and shifting priorities. While planning and development of IWN began over 10 years ago, the Department has only been able to implement the Seattle/Blaine pilot project and is implementing the National Capital Region module as of September 2011, leaving most of the Department's law enforcement agents operating on legacy LMR systems.

We also found that the Department is still not fully compliant with the NTIA's narrowband mandate. The Department planned to incorporate the narrowband requirements as part of its upgrade of the aging LMR systems, however, delays in upgrading the LMR systems have also delayed the Department's implementation of the NTIA's narrowband mandate.

In addition, the planned suspension of the IWN program due to FY 2012 funding cuts further jeopardizes the planned upgrades to the Department's aging LMR systems and the nationwide implementation of the IWN project. As a result, law enforcement and emergency personnel will continue to use inadequate, incompatible, and outdated equipment, resulting in slower operational response times and potentially jeopardizing the lives of law enforcement and emergency personnel and the people they have sworn to protect.

## Recommendations

We recommend that the Department:

1. Develop a detailed Interoperability Plan that establishes the Department's role and plan for ensuring that federal, state, and local agents and first responders are able to communicate effectively.
2. Accurately track and identify the costs associated with the IWN program and accurately reflect these costs in program reporting.
3. Ensure that the WMO provides more oversight over all tactical communication purchases, as directed by Congress, to ensure the costs are properly categorized.
4. Review and resolve the critical findings and recommendations identified in the Booz Allen Hamilton IV&V report.

## STATEMENT ON INTERNAL CONTROLS

As required by the Government Auditing Standards, we tested, as appropriate, internal controls significant within the context of our audit objectives. A deficiency in an internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to timely prevent or detect: (1) impairments to the effectiveness and efficiency of operations, (2) misstatements in financial or performance information, or (3) violations of laws and regulations. Our evaluation of the Justice Management Division Wireless Management Office's (WMO) internal controls was not made for the purpose of providing assurance on its internal control structure as a whole. WMO management is responsible for the establishment and maintenance of internal controls.

As noted in the Findings and Recommendations section of this report, we identified deficiencies in the WMO's internal controls that are significant within the context of the audit objectives and based upon the audit work performed that we believe adversely affect the WMO's ability to accurately track costs and risks. The WMO is unable to quantify the amount of funding spent on IWN by the individual components. The WMO oversees and directs the Department of Justice's consolidated approach to wireless communications and centrally manages wireless communications funds. The WMO is also responsible for providing the components with the funds needed to maintain the legacy systems. In this capacity, the WMO transfers these funds to the components but has no oversight over the actual expenditures. As a result, the components may be using these funds to purchase radios for the IWN program and related equipment. If the risks are not tracked, the WMO may not be aware of the major risks and therefore cannot take the appropriate steps to avoid any risk triggers.

Because we are not expressing an opinion on the WMO's internal control structure as a whole, this statement is intended solely for the information and use of the WMO. This restriction is not intended to limit the distribution of this report, which is a matter of public record.

### OBJECTIVES, SCOPE, AND METHODOLOGY

#### Objectives

The objectives of the audit were to: (1) assess the progress made in the implementation of the Department of Justice's Integrated Wireless Network (IWN) program since our last audit, (2) assess whether the Department of Justice's (Department) communication systems comply with the National Telecommunications and Information Administration's (NTIA) requirements, and (3) assess the Department's implementation of our previous recommendations.

#### Scope and Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

To assess the implementation of IWN, we examined documents provided to us by Department officials, including the memorandums of understanding between the Department, Departments of Treasury and Homeland Security; IWN Program and Strategic Plans; Wireless Communications Board minutes, Department Investment Review Board Meeting summaries, quarterly reports to Congress, and other pertinent documents.

We conducted fieldwork at the Department's Wireless Management Office in Fairfax, Virginia, and at other various offices of the Justice Management Division in Washington, D.C. We interviewed officials from the Bureau of Alcohol, Tobacco, Firearms and Explosives; the Federal Bureau of Investigation; the U.S. Marshals Service; and the Drug Enforcement Administration who serve on the Wireless Communications Board and the Wireless Working Group. We also interviewed representatives for the Departments of Treasury and Homeland Security. In addition, we met with an Office of Management and Budget representative to discuss the Administration's National Broadband Plan.



We assessed the progress of the National Capital Region IWN implementation and the plans for continued nationwide implementation. We also assessed the Department's compliance with the NTIA narrowbanding requirements and revised security requirements.

## APPENDIX II

### ACRONYMS

ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
DEA	Drug Enforcement Administration
DHS	Department of Homeland Security
EVM	Earned Value Management
FBI	Federal Bureau of Investigation
FY	Fiscal Year
GAO	Government Accountability Office
IRAC	Interdepartment Radio Advisory Committee
IV&V	Independent Verification and Validation
IWN	Integrated Wireless Network
LEWC	Law Enforcement Wireless Communications
LMR	Land Mobile Radio
NCR	National Capital Region
NTIA	National Telecommunications and Information Administration
OIG	Office of the Inspector General
UHF	Ultra High Frequency
USMS	United States Marshals Service
VHF	Very High Frequency
WMO	Wireless Management Office

## APPENDIX III

# DEPARTMENT OF JUSTICE RESPONSE TO THE DRAFT AUDIT REPORT



U.S. Department of Justice

Washington, D.C. 20530

DEC 30 2011

### MEMORANDUM

TO: Raymond J. Beudet  
Assistant Inspector General for Audit

FROM: *For* Lee Lofthus *Michael H. Allen*  
Assistant Attorney General for Administration

SUBJECT: Response to Draft Audit Report of the Department of Justice's Implementation of the Integrated Wireless Network

This responds to the Draft Audit Report, *Audit of the Department of Justice's Implementation of the Integrated Wireless Network* (Report). While we concur with the recommendations and much of the Report's discussion of the facts, we provide the following general comments and concerns.

The Report states that the Integrated Wireless Network (IWN) program has not achieved the results that the Department originally intended when the Department began developing it in 1998, comparing the Department's achievements to the original goals established then. The original IWN objective was a nationwide interoperable broadband voice and data network servicing the Departments of Justice, Treasury and Homeland Security, with an estimated total cost of \$5 billion. However, as the report acknowledges, changing circumstances have required the Department to significantly change the scope and deployment approaches for the IWN program. What has not changed is the Department's commitment to implementing a reliable, secure, interoperable Land Mobile Radio system for its tactical wireless communications.

It is important that the IWN project be measured against its current objectives rather than an initial – but not finalized - plan no longer being pursued for both technological and funding reasons. Despite the challenges to the project noted in the Report, the Department has achieved significant improvements in the wireless communications capabilities delivered to our law enforcement agents. The Department has expanded the Northwest communication system from a pilot to an operational system in use by the states of Washington and Oregon. In addition, the West coast system provides voice communications in San Diego and in the Imperial Counties in southern California, and deployment of the system within the National Capital Region is underway. All three of these systems support users from the Department of Justice and elements of the Department of Homeland Security. In addition, the High-Risk Metropolitan Area Interoperability Assistance Project provides 29 metropolitan cities with interoperability channels for use by federal law enforcement and homeland security agencies.

The Report opines on various deficiencies in the Department's tactical wireless communications systems and related issues, without clarifying whether the deficiencies were attributable to the conduct of the project or to broader external circumstances. (*E.g.*, "The Department has made limited progress in upgrading the Land Mobile Radios (LMRs) operated by its components," Report at 21.) The Department acknowledges and agrees that there are many issues with its wireless communications systems that it is addressing. Nonetheless, it is important to note that the project from its outset was sweeping in terms of its organizational dimensions (i.e. crossing agencies as well as levels of government), had significant technical complexity, and would require an extended multi-year timetable for implementation. Moreover, the project does not exist in a static environment – it faced, and still faces, the aforementioned complexities in an extremely dynamic environment in terms of significant technology changes, evolving law enforcement demands, and fiscal constraints. The inherent complexities of the project and its changing external circumstances have been the major factors influencing the project's progress to date.

I am concerned the report contains statements attributed to WMO staff or individuals outside the WMO suggesting that key processes were not performed or that critical system capabilities were arbitrarily left out. As one example, the Report indicates that "FBI and USMS officials and the WMO engineer also stated that IWN does not have a consolidated dispatch center." Report at 29. This was an intentional configuration decision, as we informed you previously, based on an evaluation of risk, cost and the in-house dispatch capabilities available. There are multiple ways a system can be configured, and rather than make it appear as though the project team erred, the OIG Report should have recognized this was a deliberate configuration decision pursuant to a rigorous change management process. Another example is the Report's discussion of the fact that the operational test and evaluation of the NCR systems was removed from the contractor's proposal and was instead performed in-house against the views of engineering staff. Report at 28. Again, this was a sound, deliberate decision: the in-house team was able to perform operational testing that more accurately reflected real-life law enforcement conditions than the test script proposed by the contractor. Finally, the report also cited a manager's statement that the WMO did not build circuit redundancy into the NCR sites, meaning that if a circuit was lost the system would have no backup plan. Report at 29. In fact, as the report later mentions, NCR was designed with overlapping towers to allow for such redundancy, rather than relying on circuit redundancy. The Wireless Communications Board opted for the overlapping tower coverage because such coverage was determined to be more than adequate and offered tremendous cost savings when compared to circuit redundancy. This critical fact is lost in the Report.

As a general matter, given the large number of possible technical solutions and configuration decisions routinely encountered with systems such as IWN, it is not unexpected that individuals at different levels of the project may prefer one technical solution versus another. I fully expect our senior Project managers will weigh alternatives and make configuration choices throughout the IWN project. Thus, it would have been valuable for the auditors to discuss the aforementioned decisions in depth with the Director of the WMO. Further, we note

that while the report included the differing views on the project decisions, it did not demonstrate shortcomings with the decisions made by the Department.

Similarly, I have concerns with the Report's commentary about the Department using the DEA maintenance and equipment contract with Motorola, rather than the systems integration contract with General Dynamics, for the purchase of radios for the Department. For example, the Report notes that the General Dynamics contract was the result of competition, while the Motorola contract was a sole source, which seems to suggest that the Department may have paid more than necessary for the Motorola radios.

In fact, using the DEA contract, which was a valid procurement option for the Department, saved approximately \$9 million over a two year period. In addition, as General Dynamics itself recognized, only Motorola radios are currently capable of meeting the Department's requirements. General Dynamics, like the DEA, would have been required to negotiate a sole source contract with Motorola had we pursued the radio purchase under the General Dynamics contract.

In addition, the Report makes observations and draws conclusions regarding particular radio buys based on its assessment of whether the transaction involved the purchase of "IWN radios." The Department only purchases radios that are interoperable with both the newer P-25 infrastructure (such as the IWN system within the NCR) and legacy systems. In other words, every LMR subscriber radio the Department purchases can be used on either IWN or legacy systems. There is no IWN-specific radio.

As a related point, the Report indicates the DEA contract was only to be used for legacy system radios, implying that the purchase of radios that would be, or could be, used also on the IWN system was not within its scope. This is not accurate. The DEA Contract's Scope of Work states clearly that it is available to be used for upgrades and new technology, stating, "P25 is evolving and the Government reserves the right to procure available compatible products." The fact that radios purchased under the DEA contract for use in legacy systems also could be used on the IWN system does not mean the radios were outside the contract's scope.

Finally, the Report commented upon the WMO's responsibility to oversee, control and monitor funds, and questions the WMO's use of a law enforcement component's existing contract, or the issuance of an order by another component's contracting officer. As we noted in response to the OIG's *Management Advisory Memorandum*, the salient point is that the WMO's management authorizes, oversees, and is responsible for *all* radio purchases, regardless of the contractual vehicle or component in which the contracting officer is assigned, and no expenditure of funds is made without WMO management's approval and oversight.

#### **Response to Specific Recommendations**

Below are our responses to the Report's four recommendations.

**Recommendation 1:** Develop a detailed Interoperability Plan that establishes the Department's role and plan for ensuring that federal, state, and local agents and first responders are able to communicate effectively.

**Response:** The Department always has had an interoperability plan, and is currently using a number of interoperability plans and approaches depending on the technical environment of the site and other factors. We concur that an updated and consolidated plan would be beneficial and will prepare an updated single Interoperability Plan by the end of the third quarter of FY2012.

**Recommendation 2:** Accurately track and identify the costs associated with the IWN program and accurately reflect these costs in program reporting.

**Response:** The Department accurately tracks and identifies the costs associated with the overall IWN program using its integrated financial system consistent with the business rules required by that system. The WMO also tracks costs at an even more granular level. This ability to accurately track and identify IWN costs will be documented in the IWN procedures update that will be completed by the end of the second quarter of FY2012.

**Recommendation 3:** Ensure that the WMO provides more oversight over all tactical communication purchases, as directed by Congress, to ensure the costs are properly categorized.

**Response:** Concur. The WMO recognizes that categorization of certain costs is a matter of business judgment. The WMO will update its current and existing operations and maintenance (O&M) governance document to provide further clarification on its practice on categorization of such purchases. The WMO will also expand the O&M governance document to address categorization practices regarding non-O&M related items, such as equipment for new systems development and consolidated radio procurements. The document will be updated by the end of the second quarter of FY2012.

**Recommendation 4:** Review and resolve the critical findings and recommendations identified in the Booz Allen Hamilton (BAH) IV&V report.

**Response:** The BAH IV&V Report was completed this year. It is not possible to implement all of its recommendations in the current funding environment and therefore the Department must make business choices regarding which recommendation to implement. However, the WMO concurs with the overall recommendation to implement appropriate improvements and is committed to implementing the BAH recommendations as project funding permits.

Once again, thank you for the opportunity to comment on the report. We do share your views on the importance of making continued progress on wireless interoperability. Should you have any questions or concerns regarding this response, please contact [REDACTED]

## APPENDIX IV

### OFFICE OF THE INSPECTOR GENERAL ANALYSIS AND SUMMARY OF ACTIONS NECESSARY TO RESOLVE AND CLOSE THE REPORT

The Office of the Inspector General (OIG) provided a draft of this report to the Department of Justice (Department) for its review and comment. The Department's response is incorporated as Appendix III of this report. The following provides the OIG analysis of the Department's response and a summary of the actions necessary to resolve and close the report.

#### **Analysis of the Department's Response**

In response to our report, the Department concurred with our four recommendations, but later indicated that recommendation 2 is already being implemented. We disagree with the Department's statement that costs associated with the Integrated Wireless Network (IWN) program are accurately tracked and identified and thus we disagree with the Department's statement that it has already implemented recommendation 2. We discuss this further below in the summary of actions necessary to close the recommendations. In addition, the Department provided comments that were not directly related to our recommendations. As we discuss in more detail below, we do not agree with certain statements in the Department's response. Before discussing the Department's responses to each of our recommendations, we provide the following reply to statements not related to specific recommendations.

In its response, the Department said that the OIG report "states that the [IWN] program has not achieved the results that the Department originally intended . . . in 1998, comparing the Department's achievements to the original goals established then." This statement is an incomplete recitation of our findings. This report assesses the current status and the progress made in the implementation of the IWN program since our previous audit report was issued in 2007; the Department's compliance with National Telecommunications and Information Administration requirements; and the status of the Department's implementation of our previous recommendations. In our 2007 audit report, we determined that the IWN program was at high risk of failing primarily due to uncertain funding and the fractured partnership between the Departments of Justice (Department),

Treasury, and Homeland Security (DHS). This report provides the current status of the joint program and recognizes the changes that have occurred since our last report.

We recognize throughout the report that the IWN program of today is significantly different from the program that the Department originally envisioned. In fact, the program of today is essentially a Department project without the originally planned integrated involvement of federal law enforcement from other Departments, including DHS. This report also recognizes the deployment of the Northwest system in Washington and Oregon and the Southern California system, and both systems were also included as a part of our prior 2007 report. With respect to the IWN project's deployment of the National Capital Region (NCR), the expected operational date was October 2010. However, this system has yet to be fully implemented as of January 2012. In addition, while we agree that DHS participates in the Northwest and Southern California systems, DHS was not involved in the development of the NCR. Instead, DHS involvement with the NCR was strictly after the fact and has been limited to an expression of interest in using the system that the Department developed and funded.

The Department's response further stated "The Report opines on various deficiencies . . . without clarifying whether the deficiencies are attributable to the conduct of the project or to broader external circumstances." The example cited in the OIG report is that the Department has made limited progress upgrading the Land Mobile Radios (LMR) operated by its components. The example cited is based on data provided by the components on the status of the LMRs and the components' ability to meet security and interoperability requirements. In our report, we recognize that funding for the IWN project has not been sufficient to implement the necessary upgrades. However, we believe that it is also critical to recognize the current status of the components' LMRs regardless of the cause, and the planned upgrades to the LMRs have been in the planning/implementation stages since 1998.

The Department's response also expressed concern that the report contains statements attributed to Wireless Management Office (WMO) staff or individuals outside the WMO regarding key processes and critical system capabilities. Our discussion of the key processes highlighted two areas – a consolidated dispatch center and circuit redundancy – that were considered by the 9/11 Commission and others to be significant issues affecting communications during the incidents on September 11, 2001. As the



Department's response properly acknowledges, the OIG report recognized the differing views about whether these key systems have been properly addressed, but it did not state that there were deficiencies or shortcomings with respect to these processes in the IWN system. It also recognizes the technical and other reasons for the decisions that were made by program managers. Contrary to the Department's response, we discussed these reasons in depth during several meetings with the Director of the WMO and component technical representatives. In addition, consistent with what we state in our report, the NCR system is not operational at this time, and any effect of these and other decisions is yet to be fully understood.

The final topic of concern in the Department's response is our discussion of the Department's use of a Drug Enforcement Administration (DEA) maintenance and equipment contract with Motorola. We did not perform a comprehensive review of the costs accrued under this contract and thus we do not comment as to whether the sole source contract utilized by the Department resulted in increased costs to the Department. The report also includes the Chief Information Officer's opinion that using the Motorola contract saved the Department money. Rather, the report discusses concerns regarding the use of sole source contracts and continued reliance on a single vendor.

With respect to the term "IWN radios", we noted in our report that radios for the IWN program are P25 compliant and compatible with legacy systems. With respect to the use of the DEA contract when discussing radios for the IWN program, the majority of the radios purchased by the WMO were not for legacy systems as specified in the DEA's Justification for Other Than Full and Open Competition for the Motorola contract. Instead, the majority of radios purchased using this contract were specifically for the implementation of the NCR IWN system. While we recognize language from the contract's Scope of Work section may provide some flexibility in purchasing P25 compliant and legacy system compatible components, we do not believe it is appropriate to ignore the justification for the limited competition.

The Department's response also discussed the fact that WMO's management authorizes, oversees, and is responsible for all radio purchases. We do not disagree with this point, however, our audit found that radios were purchased using a deficient contract in the past. This substantiates our concerns regarding the effectiveness of this oversight. While the use of a deficient contract may have been unintentional,

government contracting requirements have evolved over the years to protect government funds and prevent abuse of all kinds, whether intentional or not, and we believe that the potential for future problems remains.

### **Summary of Actions Necessary to Resolve and Close the Report**

- 1. Resolved.** The Department concurred with our recommendation to develop a detailed Interoperability Plan that establishes the Department's role and plan for ensuring that federal, state, and local agents and first responders are able to communicate effectively. The Department stated in its response that an updated and consolidated plan would be beneficial and it will prepare an updated single Interoperability Plan by the end of the third quarter of fiscal year (FY) 2012.

This recommendation can be closed when the Department provides the updated single Interoperability Plan.

- 2. Unresolved.** The Department concurred with our recommendation to accurately track and identify the costs associated with the IWN program and accurately reflect these costs in program reporting. The Department stated in its response that it accurately tracks and identifies the costs associated with the overall IWN program and the WMO also tracks costs at an even more granular level. It also stated that the ability to accurately track and identify IWN costs will be documented in the IWN procedures update that will be completed by the end of the second quarter of FY 2012.

After considering the Department's response, we do not believe the proposed actions adequately address our finding. As discussed in our report, we found that the WMO was unable to accurately track and identify the costs specific to the IWN program, and particularly noted that the entire cost for the NCR was not being tracked.

Therefore, this recommendation is unresolved. This recommendation can be resolved when we receive evidence that the Department's system is able to accurately reflect the total cost of the IWN program since its inception in 1998.

- 3. Resolved.** The Department concurred with our recommendation to ensure that the WMO provides more oversight over all tactical

communication purchases, as directed by Congress, to ensure the costs are properly categorized. The Department stated in its response that the WMO recognizes that categorization of certain costs is a matter of business judgment and that the WMO will update its current and existing operations and maintenance governance document to provide further clarification on its practice on categorization of such purchases. The response also stated that the WMO will expand the operations and maintenances (O&M) governance document to address categorization practices regarding non-O&M related items, such as equipment for new systems development and consolidated radio procurements and that the document will be updated by the end of the second quarter of FY 2012.

This recommendation can be closed when the Department provides the updated O&M governance document that shows the categorization of purchases to properly reflect their identity as IWN-related costs and not O&M or Special Projects.

- 4. Resolved.** The Department concurred with our recommendation to review and resolve the critical findings and recommendations identified in the Booz Allen Hamilton Independent Verification and Validation (IV&V) report. The Department stated in its response that, while it is not possible to implement all of its recommendations in the current funding environment, it is committed to implementing the recommendations as project funding permits.

This recommendation can be closed when the WMO provides the completed Booz Allen Hamilton (IV&V) report, including the Department's resolution of the recommendations to implement appropriate improvements.