Office of Emergency Communications:

Fiscal Year 2010

SAFECOM Guidance
for Federal Grant Programs

SAFECOM

U.S. DEPARTMENT OF HOMELAND SECURITY

Homeland Security

A Message to Federal, State, and Local Stakeholders

On behalf of the Office of Emergency Communications (OEC), I am pleased to present the *Fiscal Year 2010 SAFECOM Guidance for Federal Grant Programs* (SAFECOM Guidance). Like its predecessors, this document continues to evolve based upon the input of our stakeholders.

The last year has seen increased utilization of the SAFECOM Guidance by grant programs within the Department of Homeland Security (DHS). For example, the FY 2009 Transit Security Grant Program cited the SAFECOM Guidance for the first time. In addition, relevant portions of the SAFECOM Guidance continue to be used by interoperable and emergency communications grant programs outside of DHS, including the Department of Justice Office of Community Oriented Policing Services (DOJ COPS) Technology Program.

Beyond this increased usage, Federal stakeholders continue to provide valuable input into the SAFECOM Guidance. We also appreciate the input of the Emergency Communications Preparedness Center (ECPC) Grants Focus Group. I want to also thank the SAFECOM Executive Committee/Emergency Response Council (EC/ERC) and Statewide Interoperability Coordinators for their input. This forum for Federal grant writers and grant administrators represents the target audience for this document. In addition to continuing to receive their valuable input, OEC looks forward to working with these members and their colleagues on additional interoperable and emergency communication-related programs to help ensure greater consistency across Federal grant programs and make further improvements to future editions of the SAFECOM Guidance. OEC has also utilized State and local stakeholder input on a number of items in the Guidance, including its strengthened recommendations concerning narrowband conversion.

Careful readers of this year's SAFECOM Guidance will note that its scope has expanded beyond the traditional land mobile radio realm. This document shall continue to evolve along with the technologies relied upon by first responders in order to remain viable and current. While the adage "there are no silver bullets" in solving interoperability remains true, new technologies are having a real, positive impact on emergency communications, and OEC will ensure that the SAFECOM Guidance helps to support increased knowledge and usage of these new technologies through Federal grant programs.

I encourage all of our Federal, State, and local partners to continue to provide feedback so that the guidance remains a useful tool in shaping the role of Federal grants in improving emergency communications. For questions, comments, or assistance in applying these recommended grant policies, please contact my office at oec@hq.dhs.gov.

Chris Essid
Director
Office of Emergency Communications

I. Summary of Key Changes

The *SAFECOM Guidance for Federal Grant Programs* has changed for FY 2010 in some key ways from previous years. The changes are summarized below.

Stronger Recommendations
Unlike previous iterations of the SAFECOM Guidance, the FY 2010 Guidance reflects a consensus among Federal, State, and local stakeholders that Federal grant programs should target their emphasis on implementation of nationwide policies, standards and practices. Thus, the FY 2010 SAFECOM Guidance includes stronger text to emphasize these nationwide priorities.

Narrowband Conversion
The Federal Communications Commission (FCC) mandated that all non-Federal public safety licensees using 25 kHz radio systems migrate to narrowband 12 kHz channels by January 1, 2013. Feedback from Federal, State, and local stakeholders recommended that the SAFECOM Guidance highlight this upcoming deadline and direct grant support for implementation efforts.

Emerging Technologies
Stakeholders at all levels of government are turning to emerging technologies such as broadband, wireless data networks, Internet Protocol (IP)-based mobile communications devices, and location-based commercial services to meet interoperable and emergency communications challenges. The FY 2010 SAFECOM Guidance incorporates emerging technologies and their eligible activities into the planning, training, exercise, and equipment sections.

Resources on Environmental and Historic Preservation
In response to requests from stakeholders, the FY 2010 SAFECOM Guidance includes information on existing models for addressing environmental and historic preservation requirements that impact emergency communications.

II. Introduction

Title XVIII of the *Homeland Security Act of 2002*, as amended (6 U.S.C. 101 et seq.), directs the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) to establish **coordinated guidance for Federal grant programs** that fund public safety interoperable communications. In accordance with this statutory requirement, and in coordination with the Office for Interoperability and Compatibility (OIC), OEC has developed the *Fiscal Year 2010 SAFECOM Guidance for Federal Grant Programs*.

2.1   Purpose of the Guidance for Federal Grant Programs

This document outlines **recommended eligible activities and application requirements** for Federal grant programs providing funding for interoperable emergency communications. The recommendations are designed to ensure that Federal grant funding for interoperable emergency communications is aligned with National goals, objectives, and initiatives established in the National Emergency Communications Plan (NECP).[1] The NECP is the overarching strategy for ensuring that emergency responders can communicate (across all disciplines) as needed, on demand, and as authorized, at all levels of government. In addition, this document, which supports grantors providing increased support for technical assistance to grant program recipients, is intended to ensure that investments made by State, local, and tribal governments through Federal grant funding align to strategic and tactical plans already developed. By aligning to these National goals and building upon the strategic and tactical planning in place at all levels, grant programs across the Federal government can drive consistent and measurable progress in strengthening emergency communications capabilities nationwide. The NECP goals, objectives, and initiatives, as well as initiatives and gaps identified through strategic planning and tactical exercises, serve as the basis for the recommended eligible activities within this document.

> **Purpose**
> - **Ensure that Federal grant funding for interoperable communications is aligned with National goals and objectives**
> - **Ensure alignment of State, local, and tribal investment of Federal grant funding to statewide *and* National goals and objectives**
> - **Drive consistent and measurable progress in strengthening emergency communications capabilities**

2.2   How to Use This Document

To help Federal grant administrators align their grant programs with the NECP, this document maps the plan's interoperable and emergency communication priorities to common eligible activities, specifically:

- General Application Requirements
- Planning
- Personnel
- Training
- Exercises
- Equipment

Utilizing language from this guidance document in a Federal grant program application kit related to interoperable or emergency communications will help grant recipients support initiatives that will comply with the goals and objectives of the NECP.

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[1] The NECP is available at: http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf.

OEC continues to encourage grant administrators to offer recommendations on ways to make this guidance document more useable. For questions, comments, or assistance in applying these recommended grant policies, please contact oec@hq.dhs.gov.

III.   Application Requirements and Eligible Activities

Federal grant programs are subject to different statutory requirements and authorities. Consequently, only portions of the following recommendations may apply to any given grant program. While the primary audience for this guidance is Federal grant administrators, OEC strongly encourages grant applicants to incorporate as much of this guidance into their applications as feasible. Doing so will help ensure that Federal funding supports activities that align to the goals and objectives of the NECP and target initiatives and gaps identified in Statewide Communication Interoperability Plans (SCIP)[2] and Tactical Interoperable Communications Plans (TICP).[3]

3.1   General Application Requirements

Applicants must coordinate emergency communications investments with the statewide interoperability coordinator, the statewide interoperability governing body and the appropriate stakeholders and committees at the State, regional, local and tribal levels of government. Further, grant applicants are encouraged to submit regional (multi-State, multi-urban area) investments to promote regional collaboration and cost-effective measures. In addition, applicants must follow formal written procurement policy.

Finally, grant applications must demonstrate how the proposed investments align with the NECP, as well as other plans such as the SCIPs or the TICPs.

3.2   Planning

Planning activities help to prioritize needs, build capabilities, update preparedness strategies, allocate resources, and deliver preparedness programs across multiple disciplines and levels of government. Interoperable emergency communications planning activities may include any of those listed below.

- **Planning for the demonstration of and reporting on NECP goals.** Grant funds may be used for the preparation and assessment of NECP goals.

- **Development or enhancement of interoperable emergency communications plans.** Grant funds may be used to develop or enhance interoperable communications plans and align such plans to goals, objectives, and initiatives set forth in the NECP, including:

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[2] As of April 2008, all States and territories have a DHS-approved Statewide Communication Interoperability Plan (SCIP). All emergency communications investments should align with the goals, objectives, and initiatives identified in the SCIPs.
[3] In 2006, Homeland Security Grant Program (HSGP) recipients were required to develop and exercise Tactical Interoperable Communications Plans (TICP) in designated Urban Area Security Initiative (UASI) sites.

- o SCIPs
- o TICPs
- o Communications system life-cycle plans
- o Disaster emergency communications plans
- o Plans for narrowband conversion
- o Other regional or local interoperable emergency communications plans

- **Establishment or enhancement of interoperability governing bodies.** Grant funds may be used to establish or enhance Statewide, regional (multi-State, multi-urban area), or local interoperability governing bodies[4] as needed to conduct activities associated with planning, implementing, and managing interoperable emergency communications initiatives.

- **Development or enhancement of interoperable emergency communications assessments and inventories.** Multi-agency and multi-jurisdictional partnerships should facilitate planning activities, such as assessments of:

  - o Technology capabilities, specifically the identification and inventorying of infrastructure and equipment
  - o Standard operating procedures (SOP)
  - o Training and exercises
  - o Inventory to determine narrowband compliant and non-narrowband compliant equipment
  - o Coverage changes and gaps associated with narrowband conversion
  - o Coordination and maintenance of mutual aid channels
  - o Usage

- **Development and enhancement of interoperable emergency communications protocols.** Funds may be used to enhance multi-jurisdictional and multi-disciplinary common planning and operational protocols. Activities may include:

  - o Programming interoperability channels
  - o Developing SOP's
  - o Eliminating coded substitutions (specifically, developing and implementing common language protocols)

- **Planning for emerging technologies**. Grant funds may be used to facilitate planning for emerging technologies, such as broadband, wireless data networks, IP-based mobile communications devices, and location-based services. This can include hardware, software, data, and operational policies and procedures supported by multi-purpose emergency service networks. Activities may include:

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[4] The NECP established a National milestone that Statewide interoperability governing bodies should be established in all 56 States and Territories as recommended in the Statewide Interoperability Planning Guidebook.

- o Development of SOPs related to new technology implementations
- o Development of compliance with emerging technology network best practices
- o Development of SOPs for coordination and partnerships with other stakeholders
- o Emerging technology systems contingency planning

- **Use of priority service programs**. Grant funds may be used to facilitate participation in a number of Federal priority service programs. This includes programs designed for both priority service and priority call completion. For example:

    - o Telecommunications Service Program (TSP)
    - o Government Emergency Telecommunications Service (GETS)
    - o Wireless Priority Service (WPS)

3.3   Personnel

Salaried personnel, hiring, overtime, and backfill expenses are allowable expenses if such expenditures support interoperable and emergency communications planning, training, and exercise activities. Specifically, this includes personnel associated with the interoperability coordinator function. However, applicants must identify sustainable sources of funding and integrate new staff in their budgets in future years to maintain these capabilities. Funds may not be used to hire any personnel to fulfill traditional public safety duties or to supplant traditional public safety positions and responsibilities.

- **Hiring of certain full- or part-time staff and contractors or consultants.** Full- or part-time staff may be hired to support planning, training, and exercise-related activities. This includes staff to serve in the following roles, consistent with the SCIPs:

    - o Project manager(s) for the statewide interoperability coordinator[5] function, as appropriate
    - o Subject matter expert(s) for the statewide interoperability coordinator function, as appropriate
    - o Regional, local, or tribal interoperability coordinator(s), as appropriate

    Applicants must follow formal written procurement policy.

- **Overtime and Backfil**l. The entire amount of overtime costs, including payments related to backfilling personnel, which are the direct result of time spent on the design, development and conduct of exercises, in addition to attendance at approved training courses and programs, are allowable. These costs are allowed only to the extent the payment for such services is in accordance with the policies

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[5] The NECP established a National milestone specifying that all States and Territories should establish full-time Statewide interoperability coordinators or equivalent positions by July 2009.

of the State or unit(s) of local government and has the approval of the State or the awarding agency, whichever is applicable. In no case is dual compensation allowable. That is, an employee of a unit of government may not receive compensation from their unit or agency of government AND from an award for a single period of time (e.g., 1:00 pm to 5:00 pm), even though such work may benefit both activities

3.4   Training

Communications-specific training activities must be incorporated into Statewide training exercise plans. Training must address a performance gap identified through SCIPs, TICP After Action Reports (AAR) and other assessments. Interoperable emergency communications grant funds may be used for the training activities listed below.

- **Development, delivery, attendance and evaluation of training**. Grant funds may also be used to plan, attend and conduct communications-specific training workshops or conferences to include costs related to planning, meeting space, other meeting costs, facilitation costs, travel, and training development. Communications-specific training should focus on:

    - Use of established operational protocols (such as common language)
    - Use of National Incident Management System (NIMS) Incident Command System (ICS)
    - Use of interoperable emergency communications solutions
    - Peer-to-peer training
    - Regional (multi-State, multi-urban area) training
    - Communications Unit Leader Training, Communications Unit Technician, or other ICS Communications Unit position training
    - Tests of the conversion process to narrowband
    - Use of emerging technology systems equipment
    - Use of relevant advanced data capabilities (voice, video, data, text)

3.5   Exercises

Exercises should be used to both demonstrate and validate skills learned in training and to identify training gaps. To the extent possible, exercises should include participants from multiple jurisdictions and agencies such as emergency management, emergency medical services, law enforcement, interoperability coordinators, public health officials, hospital officials, and other disciplines. Specifically, applicants are encouraged to conduct exercises to demonstrate achievement of NECP Goals 2 and 3.

Interoperable emergency communications grant funds should be used to focus on the activities listed below.

- **Design, development, execution and evaluation of exercises.** Grant funds may be used to design, develop, conduct, and evaluate interoperable emergency

communications exercises, including tabletop and fully functional exercise formats. Exercise activities should focus on–

- o Using established operational protocols
- o Using interoperable emergency communications solutions
- o Leveraging TICPs to exercise on SOPs
- o Designing and executing exercises of the new equipment purchased to facilitate the conversion process to narrowband
- o Designing and executing regional (multi-State, multi-urban area) exercises
- o Using emerging technology systems equipment
- o Employing emerging technology system SOPs and protocols
- o Demonstrating response level communications

3.6   Equipment

Emergency response providers must upgrade and regularly maintain communications systems and capabilities to ensure effective operation. Given the substantial costs and complexities associated with system design, implementation and maintenance, applicants must provide system life-cycle plans to demonstrate long-term sustainability for all communications systems purchased with grant funding. Regional operable and interoperable solutions, including shared solutions, are strongly encouraged. Grant applicants are encouraged to submit regional applications (multi-State, multi-urban area) to promote regional collaboration and cost-effective measures. Interoperable emergency communications grant funds should be used to focus on the activities listed below.

- ▪ **Design, construction, implementation, enhancement, replacement and maintenance of emergency response communications systems and equipment.** Grant funds may be used to design, conduct, enhance and maintain interoperable emergency communications systems. Equipment activities should focus on–

    - o Development of communications system life-cycle plans
    - o Migration to approved open architecture and interoperable emerging technology systems, where appropriate
    - o Leveraging of existing and emerging technologies (for example, a multi-band/multi-mode capable radio) to expand and integrate disaster communications capabilities among emergency response providers
    - o Project management costs associated with management and implementation of equipment and systems
    - o Governance, development of policies and procedures for, and the execution of, training and exercises on communications systems and equipment
    - o Procurement of technical assistance services for management, implementation and maintenance of communication systems and equipment
    - o Reimbursement of cellular and satellite user fees when used for back-up emergency communications

- **Plan, procure and deploy emerging technology systems.** Grant funds may be used to plan, procure and deploy emerging technology systems, networks, telephony and data sharing capabilities, based on open standards and systems. Activities should focus on:

  o Upgrading systems to take advantage of advanced data capabilities
  o Ensuring interface between emerging system and land mobile radios to achieve seamless digital, IP-enabled emergency communications system

- **Conversion to narrowband equipment.** The Federal Communications Commission (FCC) mandated that all non-Federal public safety licensees using 25 kHz radio systems migrate to narrowband 12 kHz channels by January 1, 2013. To assist State, regional, local and tribal levels of government in achieving this mandate, grant funds may be used for the narrowband conversion activities listed below.

  o Replacing non-narrowband compliant equipment
  o Acquiring or upgrading additional tower sites needed to comply with narrowband conversion
  o Reprogramming existing equipment to comply with narrowband conversion

IV.   Equipment Standards

When procuring equipment for communications systems, whether voice or data, a standards-based approach must be used to begin migration to multi-jurisdictional and multi-disciplinary interoperability. The applicable requirements for land mobile radio (LMR) systems, Voice over IP (VoIP) systems and data-related information sharing systems are described below. Applicants must demonstrate how their procurements will comply with these requirements as applicable.

Land Mobile Radio Systems
All new digital voice systems must be compliant with the Project 25 (P25) suite of standards. This requirement is intended for government-owned or -leased digital land mobile public safety radio equipment. This requirement does not apply to commercial voice services that offer other types of voice interoperability solutions.

To ensure encrypted interoperability, the P25 suite of standards references the use of Advanced Encryption Standard (AES) in the *Project 25 Block Encryption Protocol*, *ANSI/TIA-102.AAD*. Entities pursuing encrypted communications capabilities must be compliant with the P25 Block Encryption Protocol.

This guidance does not preclude funding for non-P25 equipment when there are compelling reasons for using other solutions. Funding requests by agencies to replace or add radio equipment to an existing non-P25 system (such as procuring new portables for an existing analog system) will be considered if there is an explanation for how such

equipment will improve interoperability or support eventual migration to interoperable systems. Absent these compelling reasons, P25 equipment will be required for LMR systems to which the standards apply.

When purchasing Project 25 LMR equipment/systems, grantees will, at a minimum, ensure the vendor has participated in equipment testing consistent with the Project 25 Compliance Assessment Program (P25 CAP). Where such equipment is covered in the *Project 25 Compliance Assessment Program Requirements*[6] document, it must be tested in accordance with applicable standards and policies of the P25 CAP, and evidence of this testing must be documented through Supplier's Declarations of Compliance and Summary Test Reports that have been posted to http://www.rkb.us.

Additionally, when P25 LMR equipment/systems are purchased with a non-standard, proprietary feature/capability and a comparable feature/capability is part of the standard, the P25 LMR equipment/systems must include the standards-based feature/capability.

For assistance in determining eligible communications equipment purchases under this section, and in determining when justification material is required, grantees can access web-based technical assistance tools at: http://www.its.bldrdoc.gov/resources/p25/OICGrantguidancetool.pdf.

The *OIC Wireless Communications Grant Guidance Tool* will also give users access to detailed information that will be helpful in selecting and procuring Project 25 equipment. In addition, this tool offers links to documents available under the P25 CAP.

Voice-over-Internet Protocol Systems
When purchasing bridging/gateway devices that have a VoIP capability to provide connectivity between LMR systems, those devices must at a minimum, implement either the Bridging Systems Interface (BSI)[7] specification or the P25 Inter RF Sub-System Interface (ISSI) as a part of their VoIP capability.

Data-Related Information Sharing Systems
Grant funded systems, developmental activities or services related to emergency response information sharing should comply with the OASIS Emergency Data eXchange Language (EDXL) suite of data messaging standards.

Compliance should include the following OASIS EDXL standards:

- Common Alerting Protocol (CAP), version 1.1 or latest version
- Distribution Element (DE), version 1.0 or latest version
- Hospital AVailability Exchange (HAVE), version 1.0 or latest version
- Resource Messaging (RM) standards, version 1.0 or latest version

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[6] http://www.safecomprogram.gov/SAFECOM/currentprojects/project25cap/
[7] The BSI is a VoIP interface between bridging or gateway devices. More information is available at: http://www.safecomprogram.gov/SAFECOM/currentprojects/voip/

More information on each of these standards and its applicability can be found at: http://www.oasis-open.org.

This guidance does not preclude funding of non–OASIS EDXL-compliant systems when there are compelling reasons for using other solutions. Absent such compelling reasons, the OASIS EDXL standards identified above are the preferred standards.

Grant funded systems, developmental activities, or services related to emergency response information sharing should also leverage the National Information Exchange Model (NIEM) for data component or element standards. More information on NIEM can be found at: www.niem.gov.

National Information Exchange Model Supporting Technology Evaluation Program
Grant funded systems, developmental activities or services related to emergency response information sharing should also comply with the NIMS Supporting Technology Evaluation Program (STEP). The NIMS STEP provides objective evaluations of commercial software and hardware products, and reports on product conformity to standards and NIMS guidelines. Findings from evaluations may be accessed through the Responder Knowledge Base (RKB) website to assist grantees in making purchases. More information on the NIMS STEP can be found at: https://www.nimsstep.org.

V.   Related Issues

Environmental and Historic Preservation
Agencies need to ensure that grant-funded projects comply with relevant environmental and historic preservation (EHP) laws. Communications-specific environmental and historic preservation concerns, such as the installation of communications towers, frequently require EHP review. Although each department and agency typically has its own EHP compliance process, agencies seeking information on current options for addressing communications-specific EHP policies can consult a number of sources, including:

- FEMA's Environmental Planning and Historic Preservation Program. More information on this Program and its resources is available at: http://www.fema.gov/plan/ehp/index.shtm.
- The Public Safety Interoperable Communications Grant Program Programmatic Environmental Assessment. More information on this resource is available at: http://www.ntia.doc.gov/psic/.
- The Border Interoperability Demonstration Project. More information on this resource is available from the OEC at: oec@hq.dhs.gov.
- The FCC Wireless Telecommunications Bureau. More information on this resource is available at: http://wireless.fcc.gov/siting/environment.html.