Summer ERC Meeting

June 3-4, 2008

Associations/Organizations Represented at ERC Meeting

SAFECOM uses a practitioner-driven approach to improve emergency response communications. This process gathers individual practitioner input and best practices and facilitates the exchange of information between local, tribal, State, and Federal representatives. The following agencies and organizations were represented at the June 3-4 meeting (bold typeface indicates representation on the Executive Committee [EC] as well as the Emergency Response Council [ERC]):

- American Association of State Highway and Transportation Officials
- American Public Works Association
- Association of Public Safety Communications Officials Project 25 (P25)
- **Association of Public Safety Communications Officials**
- Automated Regional Justice Information System
- Boise Fire Department (Idaho)
- Cambridge Fire Department (Massachusetts)
- Canadian Police Research Centre
- Inter Agency Board (IAB)
- Chicago Fire Department (Illinois)
- **Charlottesville Fire Department (Virginia) – EC At-large Member**
- City of Virginia Beach (Virginia)
- Contra Costa County Fire Department (California)
- Douglas County Sheriff's Office (Colorado)
- Fairfax County Department of Public Safety Communications (Virginia)
- Fairfax County Fire and Rescue (Virginia)
- Federal Emergency Management Agency (FEMA)
- Delaware Department of Homeland Safety and Security
- Federal Partnership for Interoperable Communications (FPIC)
- Forestry Conservation Communications Association
- **International Association of Chiefs of Police**
- International Association of Emergency Managers
- **International Association of Fire Chiefs (IAFC)**
- International Municipal Signal Association
- Iowa Homeland Security and Emergency Management
- Jersey City Fire Department (New Jersey)
- Los Angeles County Fire Department (California)
- Michigan Department of Community Health, Emergency Medical Services (EMS), and Trauma Systems Section
- **National Association of Counties**

- National Association of Regional Councils
- **National Association of State EMS Officials**
- National Association of State Telecommunications Directors, Georgia Technology Authority
- National Association of Telecommunications Officers and Advisors
- **National Governors Association Center for Best Practices**
- **National League of Cities**
- **National Public Safety Telecommunications Council**
- National Sheriff's Association
- National Telecommunication and Information Administration Institute for Telecommunication Sciences
- Nevada State Interoperability Executive Committee
- New York City Fire Department (New York)
- New York Statewide Wireless Network
- National Institute of Justice (NIJ) Border Research and Technology Center
- National Institute of Standards and Technology (NIST) Office of Law Enforcement Standards
- NIST, Grants and Agreements Management Division
- Plainfield Fire Department (Indiana)
- San Diego Sheriff's Department (California)
- San Diego State University Research Foundation, Center for Homeland Security (California)
- San Ramon Valley Fire District (California)
- SEARCH, The National Consortium for Justice Information and Statistics
- Texas Department of Public Safety
- Tualatin Valley Fire and Rescue (Oregon)
- U.S. Department of Homeland Security (DHS) Command, Control & Interoperability Division
- U.S. DHS Office for Interoperability and Compatibility (OIC)
- U.S. DHS Office of Cybersecurity and Communications
- U.S. DHS Office of Emergency Communications (OEC)
- U.S. Department of Justice, NIJ Comm Tech
- U.S. Department of the Interior
- U.S. Environmental Protection Agency
- **Utah Communications Agency Network – EC At-large Member**
- Virginia Information Technologies Agency
- Virginia's Governors Office
- Wisconsin Office of Justice Assistance

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Message from the SAFECOM Executive Committee Chair, Chief Charles Werner

This report outlines the outcomes of the summer 2008 SAFECOM ERC meeting held June 3-4, 2008, in Washington D.C. This meeting provided the Federal Government and the emergency responder community an opportunity to collaborate and cooperate. During the meeting, the group discussed current communications and interoperability issues faced by the emergency response community. The participants of this meeting included emergency responders from various backgrounds and disciplines at the State and local level as well as representatives from numerous Federal agencies.

This meeting featured the joint efforts of OIC and OEC. It also demonstrated the SAFECOM program's continued dedication to the "Practitioner-Driven, Federally-Led" approach upon which the program was founded. Topics discussed at the ERC meeting included:

- Marilyn Praisner and the involvement of elected officials in interoperable communications activities
- The *National Emergency Communications Plan* (NECP) and how the input of the ERC was incorporated into it
- The Interoperable Emergency Communications Grant Program (IECGP) criteria and how it will be administered
- Progress made on the evaluation and implementation of Statewide Communication Interoperability Plans (SCIPs) and next steps for States and territories
- The further identification of Specific Emergency Communications Needs by Discipline
- SAFECOM tools that will soon be released

I would like to thank all who took part in the summer 2008 SAFECOM ERC meeting and for the continued commitment of OIC and OEC to this process. Together, we are all contributing to significant progress toward improved emergency communications.

On behalf of the SAFECOM program,

Chief Charles Werner
SAFECOM Executive Committee Chair
Charlottesville Fire Department

Marilyn J. Praisner Tribute

Figure 1: Marilyn Praisner Video Screen Shot

Marilyn J. Praisner served as the Chair of the SAFECOM EC from its inception in 2003 until her death on February 1, 2008. Mrs. Praisner was a mentor to EC Alternate Member Rocky Lopes of the National Association of Counties for nearly 30 years. He wrote the following tribute in her honor:

"There have been numerous tributes, accolades, and reflections written about Marilyn J. Praisner, who chaired the SAFECOM Executive Committee since its inception until her untimely death on February 1, 2008.

"I knew and worked with Marilyn for 29 years, back when she was serving as a member of the Montgomery County, Maryland, Board of Education. She was an advisor for my Master's thesis. Following the crash of Air Florida Flight 90 into the 14th Street Bridge in Washington, D.C., in January 1982, Marilyn and I had a number of conversations about how responders could or could not communicate from the various jurisdictions in the area—cities and counties in Virginia and Maryland as well as the District of Columbia.

"This incident wasn't what got Marilyn directly involved in interoperable communications, but to her—as to many of us—it made a lasting impression. Marilyn was involved in lots of issues, from childcare, public education, and economic development to managed growth and development. But she was always a steadfast supporter of first responders. When she was first elected to the Montgomery County Council in 1990, she began what grew into a commitment of lifelong service to ensuring that people who serve others were supported. And enabling them to communicate in real time, as needed, and as authorized was a top priority. However, she wasn't a push-over.

She closely scrutinized everything presented to her. She would ask for information from a large number of sources and read everything she could get her hands on. She could quickly sort out various 'solutions' and make them more comparable with each other when the rest of us were sometimes baffled by brilliant sales talk. Marilyn was never baffled—which, come to think about it, baffled the rest of us!

"Marilyn was recognized across the country for her extraordinary leadership on technology and communications issues. Marilyn brought valuable expertise, insight, and a tireless work ethic to the SAFECOM Executive Committee, which she chaired since its creation in 2003. Under her leadership, SAFECOM advanced interoperability progress for emergency responders across all levels of government. She spoke eloquently and articulately and had command of complex issues that vexed many others. While she was driven, she also wanted to listen and sometimes, when presented with fact-based details, she might even change her mind. (That didn't happen often, but she would be the first to admit it when she did!)

"We all miss Marilyn in a variety of ways. From being a vocal spokesperson on behalf of county government, first responders, and other officials. From having a command of the technical jargon and being able to explain it in ways that made sense to the rest of us mortals. But most of all, for making each and every one of us who came into contact with her feel that we were her friend. Those of us who knew her for a long time cherish our relationship, our memories, and the work that we shared. But what I most vividly remember is quoted from the last e-mail that she sent to me, dated January 29, 2008, at 10:32 p.m.—right before she went into the hospital the next day for the surgery that ultimately lead to the complications that resulted in her death. The e-mail was (in part) about the video (Figure 1: Marilyn Praisner Video Screen Shot) that was shown at the summer 2008 SAFECOM ERC meeting. The e-mail read, 'Rocky, glad you like the video. I didn't realize it was coming so early in the agenda or I would have done more on greetings, but you said you want to use it for more than the Academy. I had fun doing it but would prefer to be there in person which I will do for the next one. Thank you for all you are doing to support carrying out our vision. All those folks in the SAFECOM EC/ERC group are so great. I look forward to the video being used for their purposes, too.'

"As usual, Marilyn had the last word…"

If you are interested in seeing the full 10-minute video in which Mrs. Praisner promotes interoperability to elected officials, please visit http://www.viddler.com/explore/RLopes/videos/1/. Additionally, if you are interested in finding out more about the *Marilyn J. Praisner Award for Leadership in Local Government Communications Policy*, please visit http://www.apco911.org/LeadersDinner/program_award_winners.html or contact Rocky Lopes (rlopes@naco.org) or George Rice (riceg@apcointl.org).

Federal Partner Updates

OIC and OEC have been working together to support the SAFECOM program since February 2007. Figure 2 describes the joint and separate responsibilities of the two offices. OIC and OEC will continue to coordinate on these and other initiatives to successfully achieve SAFECOM's critical mission.

2008 Shared Vision for SAFECOM Program

Initiative Areas	OEC	OIC
Stakeholder Engagement ▪ Executive Committee (EC) and Emergency Response Council (ERC)		
Overall Support ▪ SAFECOM Website ▪ NIIX EC Portal Management		
Planning and Grants ▪ National Emergency Communications Plan (NECP) ▪ Statewide Communication Interoperability Plans (SCIPs) ▪ Interoperability Emergency Communications Grant Program (IECGP)		
Federal Coordination ▪ Emergency Communications Preparedness Center (ECPC) ▪ Federal Partnership for Interoperable Communications (FPIC)		
Technical Assistance ▪Communication Unit Leader (COML) Training [OEC/OIC, transitioning to OEC] ▪Interoperable Communication Technical Assistance Program (ICTAP) [OEC]		
Technology Innovation ▪ Research, Development, Testing, and Evaluation (RDT&E) ▪ Support for Standards Development		

Figure 2: 2008 Shared Vision for SAFECOM Program

Dr. David Boyd, Director of the Communications, Compatibility and Interoperability Division—the Division that houses OIC—provided an update on OIC activities, including the P25 Compliance Assessment Program (CAP) Governing Board, Multi-Band Radio, Voice Over Internet Protocol (VoIP), P25, and Vocoder Testing.

Chris Essid, Director of OEC; Taylor Heard, Acting Deputy Director of OEC; and James Downes, Director, Federal Communications Services of OEC provided an update on OEC activities. They specifically addressed planning, policy guidance, implementation, and measurement activities related to the NECP, SCIPs, and IECGP.

For a full update on OIC and OEC activities, please see Appendices A and B respectively.

National Emergency Communications Plan (NECP) Session

OEC Director Chris Essid presented an update on the NECP to show how ERC input was translated into the NECP. Using the guiding principles document developed by the ERC in June 2007 and a working group made up of the practitioner community including ERC members, OEC worked to ensure that the interests and issues were at the forefront of the NECP. After a review of the major components of the NECP, the ERC broke out into small groups to discuss best practices, resources, and outreach needed. Given that the NECP had not yet been released at the time of the ERC meeting, this discussion was a start to the implementation conversation:

The ERC requested examples and lessons learned to use as models to achieve the objectives in the NECP. A sample of suggested examples and lessons learned includes:

- State governance structures that have been successful at including a broad range of disciplines and groups (county and city public officials and administrators in particular).
- Entities that have been successful at sharing infrastructure.
- Entities that have successfully leveraged existing databases and portals (ensuring access and security).
- Effective regional governance models.
- Entities that have been successful at backwards compatibility for new technology.
- Entities that have been successful at breaking down turf issues and practicing interoperable communications on daily basis.
- Lessons learned from the Tactical Interoperable Communications Plans (TICP) evaluation process.

The ERC generated suggestions on the resources needed to achieve the objectives in the NECP. A sample of these suggestions includes:

- Local subject matter experts and champions that can explain and justify emergency communications needs.
- Grant funding should encourage State and local agencies to choose regionalism and cooperation over stand-alone efforts.
- Funding for the NECP at the State and local level, including funding for statewide interoperability coordinator positions and non-technical aspects of emergency communications.
- A central repository for emergency response personnel that provides the same set of questions and answers, and actionable checklists for disaster communications capabilities.
- Trained personnel capable of creating a communication network out of whatever remains after a significant event.
- A data capture center to push information from the State level up instead of from the Federal level down – provides daily reports from three sources: 1) Emergency Management Agencies, 2) Fusion Centers, 3) Transportation Centers

- An education tool that explains when encryption is appropriate and why State and local agencies need to use the Advanced Encryption Standard (AES).

The ERC discussed ways to utilize the State and local emergency response community. Suggestions to engage the State and local community include the following ideas:

- Utilize existing distribution channels to promote the NECP (i.e., blast e-mails, conferences, websites, media, and newsletters).
- Establish an outreach plan to communicate the NECP to all levels of government (ex. develop videos, CD-ROMs, and other materials).
- Provide clear guidance on how the National League of Cities, the US Conference of Mayors, National Governors Association, and other associations can promote the NECP.
- Provide targeted communications to State and local elected officials about the importance of emergency communications and participation in governance structures.
- Leverage State, regional, and local associations to disseminate the message.
- Foster a network of statewide interoperability coordinators to champion the NECP.

Next Steps

Upon release of the NECP to Congress in late July 2008, OEC will schedule a conference call with the ERC to review the final version of the NECP, share outreach materials, and discuss next steps for implementation.

Interoperable Emergency Communications Grant Program (IECGP) Session

The grants session provided details on the IECGP, which is being developed by OEC and administered by the FEMA Grant Programs Directorate (GPD). Additionally, Scott Kelberg of FEMA GPD provided background on other DHS grant programs that provide funding for emergency communications.

To develop the IECGP funding goals, OEC leveraged the analysis of the SCIPs and the goals and objectives of the soon-to-be released NECP. Based on this analysis, in Fiscal Year (FY) 2008 IECGP will focus on the establishment and enhancement of formal interoperable emergency communications governance structures, common planning and operational protocols, and emergency responder skills and capabilities through training and exercises. Equipment will not be an allowable cost category this year. This decision was supported by the ERC whose members repeatedly tout the importance of dedicating resources to the people element of interoperability. Partnering with FEMA GPD, OEC made people a priority for the FY 2008 IECGP. In addition, OEC designed the program to ensure that proposed projects align with the State SCIPs and the NECP.

States and territories may apply for these funds through their State Administrative Agency by visiting http://www.grants.gov. For more information on IECGP, please visit http://www.fema.gov/grants.

The following information regarding grants was presented to ERC members and guests during the meeting:

IECGP Background

- Authorized at up to $1.6 billion for FYs 2008-2012 to "carry out initiatives to improve local, tribal, statewide, regional, national, and where appropriate, international interoperable emergency communications."
- $50 million has been appropriated for FY 2008.
- Governance, standard operating procedures, and training and exercises are considered top funding priorities. Equipment purchases will not be eligible for funding in FY 2008 under this grant program.
- The IECGP Guidance and Application Kit will be released to the public on June 20, 2008.
- The IECGP will allow for a 24-month period of performance.

Other Department of Homeland Security Grant Programs

Multiple DHS grant programs provide funding for interoperable and emergency communications, such as the Public Safety Interoperable Communications Grant program and the Homeland Security Grant program. From FY 2004-2007, 93 percent of DHS grant funding for interoperable and emergency communications, totaling over $2.4 billion, was used for equipment-related purchases. Planning was the second largest expenditure area, using 5.5 percent of available funds.

ERC Discussion

Following presentations from Taylor Heard and Scott Kelberg, the ERC provided input to OEC and FEMA GPD regarding the grant programs. The ERC stated that it is important for States and localities requesting grant funds for equipment purchases to have a plan for the operation and maintenance of that equipment. They also agreed that State and local agencies requesting funding should demonstrate how they are building a system of systems. Finally, the ERC suggested that grants should be distributed using several criteria—including international borders, land mass, and other considerations—not just population.

Statewide Planning & Implementation Session

All 56 States and territories now have DHS approved SCIPs to drive interoperability improvements across the Nation. OEC plans to provide technical assistance and grant funding to States and territories so they may implement their SCIPs. To help foster SCIP implementation, OEC is creating SCIP Implementation Reports that summarize the current status of interoperable communications for each State and territory. The reports will help OEC tailor technical assistance and grant funding to the specific gaps and needs of a State or territory.

A contingency for IECGP funding is that states and territories will submit annual progress reports on SCIP implementation to OEC. In turn, OEC will submit an annual report to Congress showing how States and territories are using IECGP grants and what progress has been made on SCIP implementation.

The following questions were discussed by the ERC:

1. What additional information should OEC include in the report?
2. What challenges do you foresee with the report?
3. What trends would you be interested in seeing in a national report?

The recommendations listed below are a sample of the responses provided by ERC members and guests. The full input can be found in Appendix C.

ERC Recommendations

- SCIP Implementation Reports should be short and concise (approximately 10 pages). Longer reports would be too burdensome on the States and territories to review.
- Updates to the SCIP Implementation Reports should be due to OEC in the fall or winter of this calendar year to avoid the busy summer season.
- A summary report representing the outcomes of all 56 SCIPs would be valuable to States and territories. It would allow them to identify best practices and collaborate on gaps and initiatives.
- Progress report requirements should be clear and specific.

OEC will be contacting ERC members and guests in the near future to determine their interest in providing input into the SCIP Implementation effort. Ideas regarding outcomes and agenda items for possible SCIP Implementation Workshops in each State and territory would be welcomed.

Communication Needs Gathering Session

Luke Klein-Berndt, OIC's Chief Technical Officer, opened the communication needs gathering session by explaining OIC's newly emphasized role in research, development, testing, and evaluation (RDT&E). OIC's RDT&E efforts will focus on existing and future communications equipment, applications, and networks. This newly emphasized role is a result of the Title XVIII legislation that created OEC. In the legislation OIC was designated as the provider of RDT&E for the SAFECOM program. Mr. Klein-Berndt explained that the needs gathered in this session will provide the framework and basis for future OIC work in RDT&E; it will also ensure that RDT&E activities continue to address the needs of stakeholders.

For this session, the group was divided into four discipline-based groups—State and Local Officials, Law Enforcement, Fire/EMS, and Technologists. Each group used a car explosion and other scenarios to identify communications needs based on their roles and their information needs based on the incident. High-level results of this session are provided in Appendix D.

OIC/OEC Tools Overview

Since its inception, the SAFECOM program has relied on the development of innovative tools such as standards, reports, and guidelines to explain and promote interoperable communications. SAFECOM tools are now developed through a collaborative relationship between OIC and OEC.

All SAFECOM tools were created with the assistance and direct input of the practitioner community. Many members and guests of the ERC have worked closely with SAFECOM personnel in the tools development process; they have provided valuable input as ideas have been vetted, modified, researched, written, and packaged into innovative final products.

Since the winter 2007 SAFECOM ERC meeting, significant strides have been made in the tools development and approval processes. Since the last meeting, SAFECOM released six new tools and is aiming to release many more by the end of the year.

Two larger tools—the Communications Unit Leader (COML) curriculum and the CAD Interoperability Project Business Case video—were shared in a plenary session.

COML Curriculum Development and Training

OIC funded SEARCH, the National Consortium for Justice Information and Statistics, to develop performance and training standards for COML Type III training. Partnered with SEARCH and several emergency responders and Federal partners—including the IAB, OEC, and the Incident Management Systems Integration Division—OIC created curriculum recommendations for a comprehensive COML Type III course.

The COML Type III Course Objectives can be found in Appendix E.

Through the end of June 2008, three COML Type III course training classes have been held in the Seattle, Washington, area. Tentative plans are being made for future class offerings.

CAD Video

The Computer-Aided Dispatch Interoperability Project (CADIP) Business Case is a video that depicts the same emergency response scenario on two different screens—one with CAD interoperability and the other without. The Business Case was a product of OIC's CADIP, which researched three regional CAD interoperability efforts across the Nation (Santa Clara County, California; Portland, Oregon; and Phoenix, Arizona).

The video highlights the Silicon Valley Regional Interoperability Project officials and emergency response agencies in Silicon Valley, California. The purpose of the tool is to demonstrate the value of CAD interoperability and show how and where time is saved in responding to an emergency. The video also explains why saving time is so critical.

The tool is in its final stages of editing and will soon be released. Once released, it will equip emergency responders with a strong business case to present to senior decision makers. This will improve the chances for CAD interoperability projects to receive funding. A screen shot of the tool is shown below in Figure 3.

Figure 3: CAD Video Screen Shot

In addition to the video, a report will be released later this summer. The report documents the findings from the CADIP research in the three regions.

OIC is in the process of determining its strategy and developing next steps to address CAD interoperability issues.

Additional Tools

Other tools were presented in a Tools Fair that gave ERC members and guests an opportunity to talk one-on-one to the developers of each tool and the practitioners that worked on them. Tools reviewed during the tools fair included:

- Updated Interoperability Continuum
- *Planned Events Methodology*
- *Interoperability Business Case*
- *Data Messaging Standards Guide for Requests For Proposals (RFPs)*
- *The System of Systems Approach for Interoperable Communications*
- *Plain Language Guide*
- Governance & SCIP Implementation
- *Improving Interoperability Through Shared Channels* Version 2.0

More information related to each tool is presented in Appendix F.

Appendix

Appendix A: OIC Update

Dr. David Boyd, Director, CCI, provided the following OIC update to the ERC:

Since the winter 2007 SAFECOM ERC meeting, OIC launched two major projects—the Project 25 Compliance Assessment Program and the Multi-Band Radio Project.

Project 25 (P25) Compliance Assessment Program (CAP)
On May 21, 2008, OIC held the first public meeting of the P25 CAP Governing Board. The Board will begin reviewing laboratories for their ability to test P25 compliancy in summer 2008. Once labs are in place and approved, manufacturers will begin submitting equipment for evaluation. DHS will post each supplier's declaration of compliance and accompanying summary test reports on a central Web site. Making this information public will provide the emergency response community with a central source for identifying what equipment meets P25 standards. Practitioners can look for these forms to begin appearing in fall 2008.

Multi-Band Radio (MBR) Project
OIC will be conducting several pilots in 2009 to demonstrate the first-ever portable radio prototype that is capable of operating across all public safety bands.

OIC will test and evaluate the MBR through pilots nationwide. These pilots will focus on testing the radio's operation across multiple systems—analog, conventional, digital, and P25 trunked—and multiple agencies, including local, tribal, State, Federal, and military. During these field tests, the primary users of the new technology will likely be responders in a command and control role or those involved in special operations that need to interoperate with multiple entities. These users include incident commanders; responders across all disciplines, including battalion chiefs; and Federal officials who coordinate with local agencies.

OIC has also made strides on several ongoing projects, including:

Voice over Internet Protocol (VoIP)
OIC held its second Plugfest in coordination with NIST in April 2008. This conference provided leading technology manufacturers the opportunity to demonstrate the effectiveness of the VoIP specification for the Bridging System Interface. Cisco, Clarity, Motorola, SyTech, Twisted Pair, and Valcom participated in the event.

Project 25
At the February International Wireless Communications Expo, several vendors demonstrated P25 interoperability using the Inter-Radio Frequency Sub System Interface (ISSI). The Department of Commerce ISSI Evaluation and Test System tool was used to show the messages being exchanged between systems.

Vocoder Testing

In 2007, the IAFC Digital Problem Working Group—including emergency responders and industry—unanimously identified the vocoder as the cause of voice audio distortion that some digital radio users have experienced. The vocoder is a hardware/software component in every digital radio. The technology uses a speech analyzer to convert voice into a digital signal, and from a digital signal back to audio. While many emergency response agencies are using digital radio systems with success, field reports indicate that during light to moderate background noise, the vocoder may slightly distort voice communications. In loud background noise scenarios, the vocoder may make voice communications completely unintelligible—potentially compromising mission-critical operations.

CCI, IAFC, and NIST are working to understand how background noise affects voice communications, and to determine what technology improvements are needed to overcome background noise issues. To objectively identify technology-based problems and potential solutions, NIST is working with fire service leaders to develop and implement practical test scenarios. Held in Boulder, Colorado, these tests focused on digital radio technology's operation in the presence of firefighting noise.

The first draft of the Vocoder testing results were presented to IAFC on May 21, 2008. Test results may be viewed at http://www.its.bldrdoc.gov/pub/ntia-rpt/08-453/08-453.pdf.

Appendix B: OEC Update

Chris Essid, Director, OEC, provided the following OEC update to the ERC

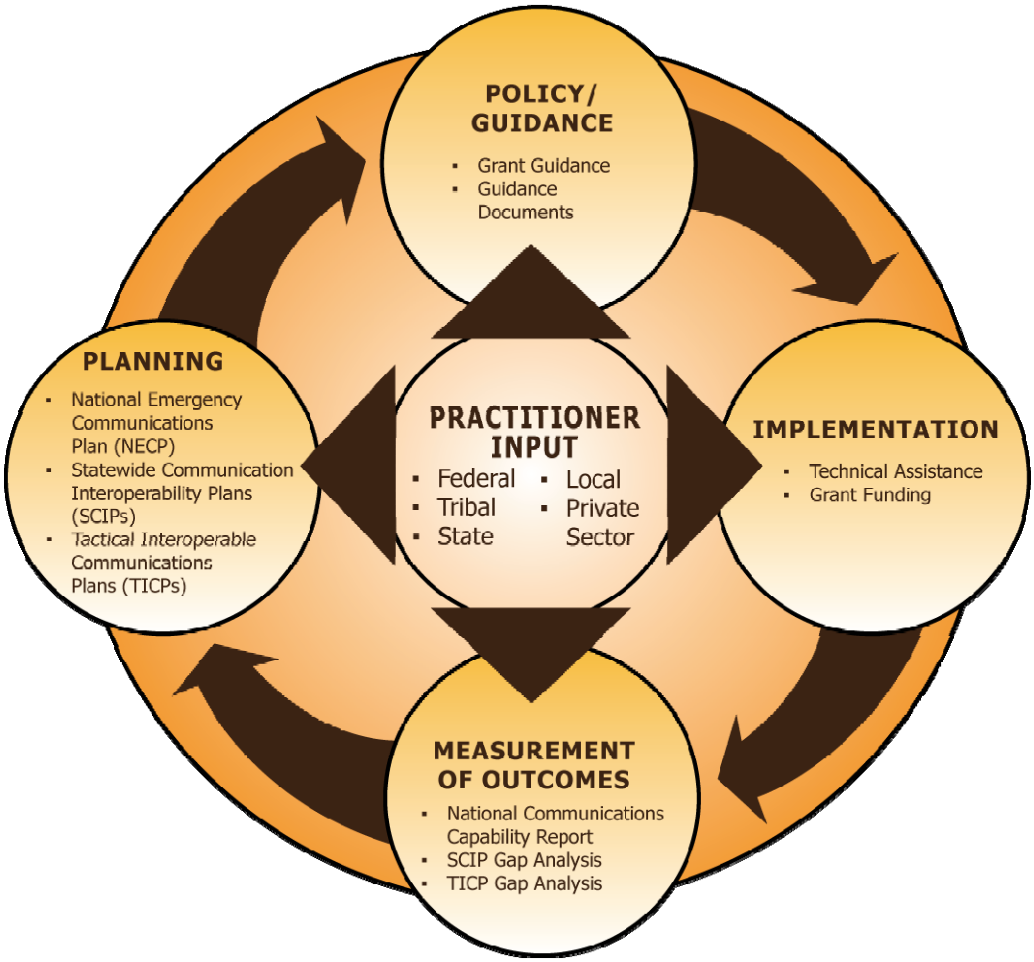

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Figure 4: OEC Cycle Graphic

Chris Essid's update focused around planning, policy guidance, implementation and measurement of activities related to the NECP and SCIPs.

- **<u>Planning</u>**
  - All 56 States and territories have Federally-approved SCIPs, which they are using to drive interoperable communications initiatives.
  - OEC leveraged the needs and gaps identified in the SCIPs, along with the National Communications Capabilities Report (NCCR) and other sources, to form the foundation of the milestones and benchmarks of the NECP.

- For the first time in history, the emergency response community will have a national plan to guide the country. This plan will be delivered to Congress on July 25, 2008.
- In the future, all SCIPs and TICPs will align with the goals of the NECP.

- **Policy Guidance**
  - OEC is partnering with FEMA to develop grant guidance for the new IECGP that is consistent with the gaps and needs outlined in the SCIPs and the NECP. With increasing influence over grants, OEC is moving beyond funding technology improvements alone into addressing the other lanes of the Interoperability Continuum as well.
  - In coordination with current Statewide Interoperability Coordinators, OEC is developing tools for ideal governance structures and SCIP implementation. OEC will be piloting tools and lessons learned in the field as part of the technical assistance program.

- **Implementation**
  - OEC continues to provide technical assistance to States, territories, and Urban Areas through the Interoperable Communications Technical Assistance Program (ICTAP). For the first time, this technical assistance is being targeted to SCIP gaps and in the future will be aligned to NECP goals.
  - Since the winter 2007 SAFECOM ERC meeting, OEC has been working to provide SCIP development support, engineering support, Communications Asset Survey and Mapping (CASM) training, and other technical assistance services to cities, States, and territories.
    - Over the past three months, ICTAP has completed 29 technical assistance requests originating from cities, States, and territories.
    - The following key activities resulted from the technical assistance requests:
      - ICTAP conducted SCIP revision workshops with nine States and territories to help address peer-reviewer comments. This resulted in all SCIPs being approved by the end of April 2008.
      - ICTAP continued to roll out CASM across the Nation.
        - In the past six months, four more States and territories began using the system; four cities and six States received CASM training; and over 60 participants, representing a multitude of public safety agencies from around the country, participated in ICTAP's bi-monthly webinar sessions.
        - OEC now has 60 States and Urban Areas using CASM. This translates into over 1,100 users and 15,000 agencies which use this tool.
      - ICTAP is currently assisting in the development of a curriculum for Incident Command System Communications Unit personnel, including the COML training.

- **Measurement**
  - Finally, OEC is using the SCIP and TICP gap analysis and future versions of the NCCR to measure progress in interoperability at the local, State, and Federal levels. These efforts will ensure the strategic planning cycle leads to measureable outcomes and informs future planning.

Federal Partnership for Interoperable Communications (FPIC) Update

FPIC is a coordination body that focuses on technical and operational matters within the Federal wireless communications community. Its mission is to address Federal wireless communications interoperability by fostering intergovernmental cooperation and identifying and leveraging common synergies. Representing more than 40 Federal entities, FPIC's membership includes program managers of wireless systems, radio communications managers, information technology and land mobile radio specialists, and telecommunications engineers. State and local emergency responders participate as advisory members. OEC's Director of Federal Communications Services, Jim Downes provided the following update on current FPIC activities:

Shared Infrastructure Projects

- FPIC's Shared Infrastructure projects represent partnerships among local, tribal, State, and Federal governments and emergency response agencies to improve Federal wireless capabilities through resource sharing.
- The majority of existing government-owned wireless infrastructure that supports public safety currently exists at the State and local levels.
- By partnering with State and local agencies, Federal agencies can benefit from these improvements. Integrating Federally-owned equipment with existing/planned infrastructure, where appropriate, can improve communications operability and interoperability capabilities.
- Leveraging the work of FPIC, DHS and other Federal agencies are becoming engaged in resource-sharing initiatives with State and local agencies across the Nation.
- OEC is conducting preliminary planning with additional States to determine potential sharing or integration opportunities that may exist.
- OEC will continue to analyze current and developing statewide communications systems. In an effort to improve emergency preparedness and response for emergency response agencies, OEC will also establish a long-term strategy to forge partnerships local, tribal, State, and Federal agencies.

The Security Communications Task Group (SCTG)

- SCTG is a body that is co-chaired by OEC and consists of local, tribal, State, and Federal emergency response agencies.
- The United States-Mexico High Level Consultative Commission (HLCC) on Telecommunications was formed to identify and implement a long-term solution for cross-border security communications to combat border violence. As a result of the creation of the HLCC, the SCTG was founded.

- On January 29, 2008, the SCTG submitted a Recommendations Report and draft Action Plan to the HLCC to provide a long-term solution for cross border communications.
- The Plan recommends the establishment of 10 permanent microwave links between existing U.S. Customs and Border Protection (CBP) and Mexican Centers for Command, Control, Communications, and Computation sites.
- Six sites will be installed in the first phase of implementation; the remaining four will be installed in the second phase of the project.
- OEC anticipates beginning procurement in summer 2008.
- DHS will provide the microwave equipment to establish the U.S. links with Mexico.
- State and local public safety agencies will be responsible for their own connections to the CBP microwave facilities.

2010 Olympics

- The 2010 Olympic and Paralympics Winter Games will be held in Vancouver, British Columbia, in February and March of 2010.
- In support of these Olympic Games, OEC is providing support to the State of Washington's 2010 Olympics Security Committee. OEC will work with a Communications Interoperability Working Group to develop an Integrated Interoperable Communications Plan for the event.
- The Integrated Interoperable Communications Plan will identify and define the communications requirements and capabilities needed to support and execute interoperable communications. The Plan will develop these requirements in consideration of the local, tribal, state, and Federal agencies that would respond in the case of a mutual-aid event during the Olympic Games. The Plan ensures that requirements address the future 2010 Olympics Coordination Center located in Bellingham, Washington, about 30 miles south of the U.S./Canadian border.
- OEC is also providing pre-Olympic training and exercises for local, tribal, State, and Federal agencies. This training will test an agency's ability to apply the Integrated Interoperable Communications Plan during given scenarios.
- In addition to providing support to the 2010 Olympic Security Committee, OEC, in conjunction with OIC, is sponsoring the first COML Type III training course in Seattle, Washington.
- The COML Type III training will be provided to technical personnel who would respond in the case of a mutual-aid event during the 2010 Olympics. It will address the use and activation of interoperability solutions in various situations.

Appendix C: Statewide Communication Interoperability Plans (SCIP) Session Outcomes

The following information was recorded during break-out groups of the ERC meeting. Split into three groups, participants provided responses to the following questions:

- What additional information should OEC include in the SCIP Implementation Reports?
  - Non-Urban Area Security Initiative (UASI) areas in addition to the Urban Areas
  - Day-to-day dealings with local, State, and Federal agencies in the Standard Operating Procedure (SOP) Section
  - Accomplishments and challenges, including the approach to dealing with challenges in the State Overview Section
  - Input from localities that received and used funds referenced in the Governance Section
- What challenges do you foresee with the SCIP Implementation Reports?
  - Vague requirements resulting in inconsistent reports; OEC should make sure to explain what is specifically needed
  - Adherence to the Paperwork Reduction Act: OEC will need to ensure compliance
  - Burdensome to States and territories; OEC should consider making this an online form with specific questions
- What trends would you be interesting in seeing in a national SCIP report?
  - Trends across regions – Aggregate results by FEMA regions so that individual States are not called out. This approach will still allow States to compare themselves with the rest of the U.S.
  - Trends in technology migration – Include solutions, dead ends, missteps, cost effectiveness, etc.
  - Trends in usage – Demonstrate where States are situated on the Usage lane of the Interoperability Continuum. This will be a good measure of success.
  - Trends in planning for ongoing maintenance

The ERC also gave the following suggestions in relation to the SCIP session:

- A factual summary of SCIPs would help States identify and collaborate on the problems they are facing
- Best practices from SCIPs would be helpful

Appendix D: Results of Communications Needs Gathering Session

There are more detailed requirements that are not included in this high-level report. These detailed requirements have been documented and are being integrated into OIC's formal requirements development process.

Table 2 presents the communications needs for State and local officials, law enforcement, fire/EMS, and technologists. These needs were identified by four groups that were broken out by discipline.

Table 2: ERC-Identified Communications Needs

Group	Communications Need	Time/Frequency
State and Local Officials	State and local officials require the initial information related to a major incident. This information should be provided by the initial command staff on scene. Officials will use the core information known at that time to interact with the media. Information should be time stamped and make no assumptions about the incident.	Close to immediate
State and Local Officials	State and local officials need to know how a situation is developing over.. The information that is needed will vary based on the incident.	Regular intervals
State and Local Officials	State and local officials need several mechanisms for disseminating information about an incident to the public. (They are responsible for managing public fear and providing information to the public)	Regular intervals
State and Local Officials	State and local officials need to be able to communicate incident information to officials across national and state borders.	As needed
State and local Officials	State and local officials need to be able to communicate with the Mayor or Governor.	First 72 hours
Law Enforcement	At the scene of the incident, law enforcement requires information—available via data, video, and voice communications—from the EOC and/or Fusion Center.	Throughout the incident
Law Enforcement	Law enforcement needs the ability to communicate with security guards and other "for hire" responders at an incident.	As needed
Law Enforcement	Law enforcement requires priority on cell phone networks during major incidents.	Throughout the incident

Group	Communications Need	Time/Frequency
Law Enforcement	Law enforcement needs to monitor personnel location and status at the scene of an incident.	Throughout the incident
Law Enforcement	EOCs need to communicate directly with CAD operators and other EOCs so they can regularly update the availability of resources. Direct communication will improve situational awareness.	Throughout the incident
Law Enforcement	Incident Command Posts (ICPs) must be able to clearly communicate to the EOC that the ICP is established.	As soon as an ICP is established
Law Enforcement	ICP needs to communicate incident resource needs to the logistics team.	Throughout the incident
Law Enforcement	After resource requests and anticipated needs are accounted for, the logistics team needs to communicate assigned tasks to resources.	Throughout the incident
Law Enforcement	The first people on the scene need to communicate the incident type and resource requirements to the EOCs as soon as they can make an assessment.	Upon arrival at the incident scene
Law Enforcement	ICPs need to communicate to EOCs for more resources, when necessary.	Throughout the incident
Law Enforcement	Fusion Centers need to communicate to ICPs information that helps ICPs understand the incident more fully, such as plume modeling. Fusion Centers also needs to communicate whether there are a series of similar activities that may imply a larger coordinated attack.	Throughout the incident
Fire/EMS	Fire/EMS EOC requires situational awareness of the incident via data, video, and voice communications.	Throughout the incident
Fire/EMS	Fire/EMS needs sufficient communications resources and talk groups so they can communicate with the appropriate functional teammates and commanders. Communications should be available in various configurations (e.g., one-to-one, one-to-many, team-to-team).	Throughout the incident
Fire/EMS	Fire/EMS needs easy-to-use, scalable, data-driven patient tracking from triage to hospital on a continual basis.	Throughout the incident

Group	Communications Need	Time/Frequency
Fire/EMS	Fire/EMS needs to automate the process for creating and clearing temporary flight restrictions.	As needed
Fire/EMS	Fire/EMS needs to know the location/availability of proper treatment services based on patient needs; this information should be data driven.	Throughout the incident
Fire/EMS	Fire/EMS wants a continuous flow of information among all responders to an incident. Responders include, but are not limited to, fire/EMS, law enforcement, Federal, and public health personnel.	Throughout the incident
Fire/EMS	Fire/EMS requires information related to the building or buildings involved in an incident immediately.	Throughout the incident
Technologists	Response requires a single unified device that allows hands-free communications. This device should integrate all necessary technology so that responders are more efficient, there is less complexity and distraction, and responders can better share information with little to no verbal communication.	Day-to-day
Technologists	Response requires a mobile device with mapping and location capabilities for greater situational awareness in the field.	Day-to-day
Technologists	Response requires an automated process to credential and assign responsibilities to responders when they arrive at an incident.	Throughout the incident
Technologists	Response requires more bandwidth to support greater access to various data sources, including GIS and other decision-support information that can support and enable an efficient response.	Day-to-day
Technologists	When purchasing equipment, the purchaser must understand the capabilities of current communications technologies and know what is available.	Day-to-day

Group	Communications Need	Time/Frequency
State and Local Officials	State and local officials need to know how a situation is developing over time – they also don't need to be the first to know. The information that is needed will vary based on the incident.	Regular intervals
State and Local Officials	State and local officials are responsible for managing public fear and providing information to the public – they therefore need several mechanisms and redundancy for disseminating information about an incident to the public.	Regular intervals
State and Local Officials	State and local officials are responsible for talking across borders and with other States and countries, if necessary—therefore, they need to receive information from an incident that will prompt them to reach out to others.	As needed
State and local Officials	State and local officials will determine when and what information should go up the chain to the Mayor or Governor. These officials will need the information as well as a process or mechanism to do so.	First 72 hours
Law Enforcement	At the scene of the incident, law enforcement requires information—available via data, video, and voice communications—from the EOC and/or Fusion Center.	Throughout the incident
Law Enforcement	Law enforcement needs the ability to communicate with security guards and other "for hire" responders at an incident.	As needed
Law Enforcement	Law enforcement requires priority on cell phone networks during major incidents.	Throughout the incident
Law Enforcement	Law enforcement requires backup and supplemental communications over a system that does not get overloaded.	Throughout the incident
Law Enforcement	Law enforcement needs to monitor personnel at the scene of an incident.	Throughout the incident
Law Enforcement	EOCs need to communicate directly with CAD operators and other EOCs so they can regularly update the availability of resources. Direct communication will improve situational awareness.	Throughout the incident

Group	Communications Need	Time/Frequency
Law Enforcement	ICP needs to communicate incident resource needs to logistics.	Throughout the incident
Law Enforcement	After resource requests and anticipated needs are accounted for, logistics needs to communicate assigned tasks to resources.	Throughout the incident
Law Enforcement	The first people on the scene need to communicate the incident type and resource requirements to the EOCs as soon as they can make an assessment.	Upon arrival at the incident scene
Law Enforcement	ICPs need to communicate to EOCs for more resources, when necessary.	Throughout the incident
Law Enforcement	Fusion Centers need to communicate to ICPs information that helps ICPs understand the incident more fully, such as plume modeling. Fusion Centers also needs to communicate whether there are a series of similar activities that may imply a larger coordinated attack.	Throughout the incident
Law Enforcement	The Dispatch Center needs to transmit to radios the data that radios receive. Dispatch also needs to automatically adjust transmission or reception parameters to ensure voice communications are given particular constraints surrounding an incident.	Throughout the incident
Law Enforcement	Communications volume needs are greater when resources arrive on the scene of an incident or when secondary factors—such as fires, earthquakes, wind shifts, flooding, and displaced people—are involved.	Throughout the incident
Law Enforcement	Resource managers need to know the expected peak traffic times to plan appropriately and to make decisions on staffing, resource management, and radio system capabilities.	Throughout the incident
Fire/EMS	Fire/EMS requires situational awareness from the incident to the EOC, including data, video, and voice communications.	Throughout the incident
Fire/EMS	Fire/EMS needs sufficient communications resources and talk groups so they can communicate with the appropriate functional teammates and commanders. Communications should be available in various formats (e.g., one to one, one to many, team to team).	Throughout the incident

Group	Communications Need	Time/Frequency
Fire/EMS	The availability of resources, location of responders, and assignment information needs to be transmitted between the EOC and the command post and graphically displayed on a continual basis. Information needs to be centralized.	Throughout the incident
Fire/EMS	Fire/EMS needs to automate the process for creating and clearing temporary flight restrictions.	As needed
Fire/EMS	Fire/EMS needs to know the location/availability of proper treatment services based on patient needs; this information should be data driven.	Throughout the incident
Fire/EMS	Fire/EMS wants a continuous flow of information among all responders to an incident. Responders include, but are not limited to, fire/EMS, law enforcement, Federal, and public health personnel.	Throughout the incident
Fire/EMS	Fire/EMS requires information related to the building or buildings involved in an incident immediately.	Throughout the incident
Technologists	Response requires a single unified device that allows hands-free communications. This device should integrate all necessary technology so that responders are more efficient, there is less complexity and distraction, and responders can better share information with little to no verbal communication.	Day-to-day
Technologists	Response requires a mobile device with GIS capabilities for greater situational awareness in the field. This device needs to allow the responder to customize/query specific situational awareness concerns.	Day-to-day
Technologists	Response requires an automated way to credential and assign responsibilities to responders when they arrive at an incident.	Throughout the incident
Technologists	Response requires more bandwidth to support greater access to various data sources, including GIS and other decision-support information that can support and enable an efficient response.	Day-to-day

Group	Communications Need	Time/Frequency
Technologists	When purchasing equipment, the purchaser must understand the capabilities of current communications technologies and know what is available.	Day-to-day

Appendix E: COML Type III Course Objectives

The following COML Type III Course objectives were presented to the ERC by Chris Suter, retired Deputy Chief and current Communications Coordinator for the San Ramon Valley Fire District in California. These objectives, listed below, were developed by the multi-discipline COML working group and were used to design the COML Type III course:

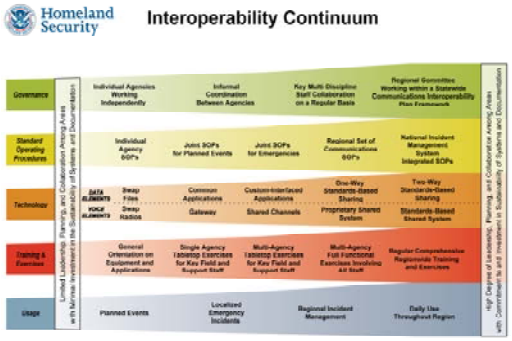
1. To confirm knowledge of the Communications Unit Leader roles and responsibilities and the organization, function, and positions within the Communications Unit
2. To be able to define interoperable communications and confirm knowledge of the SAFECOM Interoperability Continuum
3. To confirm knowledge of the different radio systems in use today, multiple frequency bands utilized, licensing and frequency coordination responsibilities, and interference issues
4. To confirm knowledge of where the Communications Unit Leader obtains incident information, knowledge of command and tactical nets, and solutions to consider for establishing an incident radio communications system
5. To confirm knowledge of the development and completion of Incident Command System (ICS) Form 217A (the Communications Resource Availability Worksheet) and ICS Form 205 (the Incident Radio Communications Plan)
6. To confirm knowledge of the Communications Unit Leader roles and responsibilities and the organizational development of establishing an Incident Communications Center
7. To confirm knowledge of determining personnel requirements; conducting Communications Unit briefings; and promoting team work, personnel welfare, and documentation related to personnel management
8. To confirm knowledge of the Communications Unit Leader's role and responsibility to coordinate with general staff, local and regional communications coordinators, responding State and Federal resources, and off-site operations centers when establishing working frequencies or talk groups
9. To confirm knowledge of the Communications Unit Leader roles and responsibilities for demobilization from the incident
10. To confirm knowledge of the additional available resources to assist with preparing for and completing the function of the Communications Unit Leader

Appendix F: OIC/OEC Tools Fact Sheets

SAFECOM tools and methodologies are guidance documents distributed to the emergency response community to assist in their efforts to improve communications interoperability. The tools and methodologies provide the emergency response community with best practices for improving interoperability in the areas of governance, SOPs, technology, training and exercises, and implementation of the SCIPs.

Interoperability Continuum - Version 2

Purpose: The Interoperability Continuum - Version 2 is designed to help the emergency response community and local, tribal, State, and Federal policy makers address critical elements for success as they plan and implement interoperability solutions.
Intended Audience: All emergency responders.
How to Use the Tool: The Interoperability Continuum - Version 2 should replace all older versions of this tool. Version 2 addresses both data and voice interoperability in the Technology element. Emergency response organizations can use this tool to assess their current level of interoperability and determine what lanes are lacking or need further development.



History of the Tool: The Interoperability Continuum - Version 2 was developed in accordance with the SAFECOM Program's practitioner-driven philosophy and its practical experience in working with local governments across the Nation.

Release Date: This tool was posted to the SAFECOM Web site in June 2008 and will be printed as a brochure in August 2008

Interoperable Communications for Planned Events

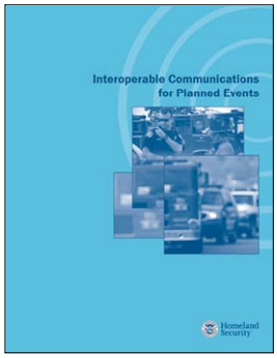
Purpose: This guide is intended to assist emergency response officials responsible for designing and executing interoperable communication plans for planned events. This tool provides a comprehensive and explicit process for successful communications during planned events.

Intended Audience: Communications and operations officials involved in planning a special event.

How to Use the Tool: *Interoperable Communications for Planned Events* is a checklist for communications officials to use as they work with operations to establish the communications for specific events in their community. The guide provides key insights and actions to help officials more efficiently plan communications.

History of the Tool: The tool was originally proposed by MetroSafe in Louisville, Kentucky, after assisting with communications for the Thunder Over Louisville event. The tool was also backed by ERC and EC members.

Release Date: This tool was posted to the SAFECOM Web site and printed for release in November 2007.



Interoperability Business Case: An Introduction to Ongoing Local Funding

Purpose: This document assists emergency response officials in establishing the need for ongoing local interoperability funding within their community. The document provides information about why interoperability is important as well as key considerations and steps for emergency response officials as they develop their project plan.

Intended Audience: Elected and emergency response officials.

How to Use the Tool: Four success stories were provided from communities across the United States. The agencies in these communities were able to achieve buy-in from elected officials as well as the community and establish dedicated funds through different mechanisms for interoperability projects.

History of the Tool: The tool was suggested by EC and ERC members.

Release Date: This tool was posted to the SAFECOM Web site and printed for release in March 2008.

Data Messaging Standards Guide for Requests for Proposals (RFPs)

Purpose: This document assists emergency responders and procurement officers in developing appropriate request for proposal (RFP) language requiring data messaging standards when purchasing emergency response-related systems.

Intended Audience: Procurement officers and anyone making procurement decisions for emergency response-related systems.

How to Use the Tool: This guide should be used as a reference document for procurement officers during the development of RFPs. The guide contains specific RFP language for systems that require the use of data messaging standards.

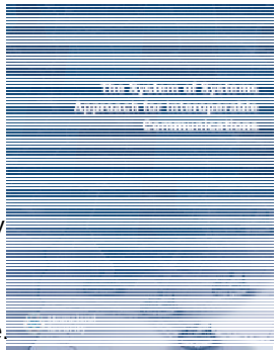
History of the Tool: This document was developed in coordination with the OIC Practitioner Steering Group (PSG). The PSG provided an end-user perspective to OIC on data communications.

Release Date: This tool was posted to the SAFECOM Web site in May 2008 and is scheduled to be printed for release in July 2008.

ERC

The System of Systems Approach for Interoperable Communications

Purpose: This brochure is designed to help the emergency response community, as well as local, tribal, State, and Federal policy makers understand the system of systems concept, the benefits of applying this concept, and how it can aid agencies in achieving interoperability.



Intended Audience: Emergency responders and local, tribal, State, and Federal policy makers.

How to Use the Tool: This brochure describes effective technology planning for implementing a system of systems approach. It also provides real-life examples of how a systems of systems methodology has improved interoperability.

History of the Tool: This brochure was assembled using a practitioner-driven process, leveraging the knowledge and years of experience of public safety and public service practitioners nationwide.

Release Date: This tool was posted to the SAFECOM Web site in June 2008 and is scheduled to be printed for release in July 2008.

Plain Language Guide

DRAFT TOOL

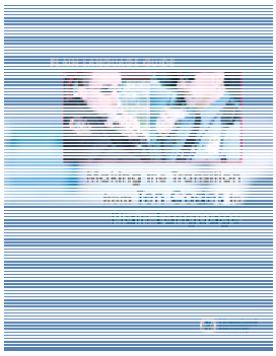
Purpose: This brochure helps emergency responders transition from the use of 10-codes to plain language during radio communications. Furthermore, it demonstrates how plain language improves interoperability amongst agencies; explains the value in using plain language; and documents the effort, resources, and actions required to implement plain language in an agency, region, or State.

Intended Audience: State and local emergency responders and CAD operators/dispatchers interested in transitioning from coded language to plain language.

How to Use the Tool: The brochure offers a plan for emergency response agencies, localities, and States to replace coded language radio transmissions with plain language.

History of the Tool: This tool was requested by the ERC at the conference in San Diego, California, in December 2006.

Release Date: This tool is scheduled to be posted to the SAFECOM Web site and printed for release in July 2008.



Governance & SCIP Implementation

DRAFT TOOL

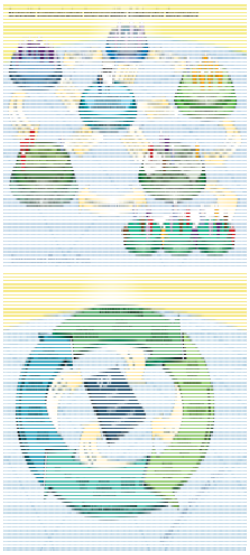
Purpose: This document demonstrates a methodology to implement SCIP strategic initiatives by leveraging a collaborative Statewide governance system. The guide presents operations, roles, and responsibilities for various governing bodies charged with improving communications interoperability Statewide.

Intended Audience: All State and territory Interoperability Coordinators and Committees.

How to Use the Tool: Without establishing a mandate, this national guide assists States with leveraging stakeholders for SCIP implementation by developing or refining their Statewide governance methodologies and systems.

History of the Tool: This document was created as a result of the 2008 SCIP peer review process. After reviewing all 56 State and territory SCIPs, OEC learned that many States were still searching for guidance that could assist them in establishing robust, practitioner-driven Statewide governance systems. This guide was developed with collaboration and input from several State Interoperability Coordinators.

Release Date: This tool is scheduled to be posted to the SAFECOM Web site and printed for release in September 2008.



Improving Interoperability through Shared Channels - Version 2

DRAFT TOOL

Purpose: *Improving Interoperability through Shared Channels* is intended to assist emergency response officials understand the level of effort, resources, and key actions necessary to implement a shared channel solution.

Intended Audience: Emergency response officials charged with improving interoperability within their agency.

How to Use the Tool: This guide should be used as a reference tool for emergency response officials when deciding which technology solution or solutions should be used to improve interoperability in their agency.

History of the Tool: The first version of this guide provided practitioners with an overview of the process, obstacles, and challenges faced in implementing a shared channel solution. Version 2 builds on this knowledge by presenting best practices and lessons learned from three case studies of actual regions that have used shared channels as a primary method for solving their interoperability problems.

Release Date: This tool is scheduled to be posted to the SAFECOM Web site and printed for release in June 2008.