

**ENTERPRISE ARCHITECTURE (EA) —
A BLUEPRINT FOR CHANGE
APPENDIX F — RADIO PLAN**

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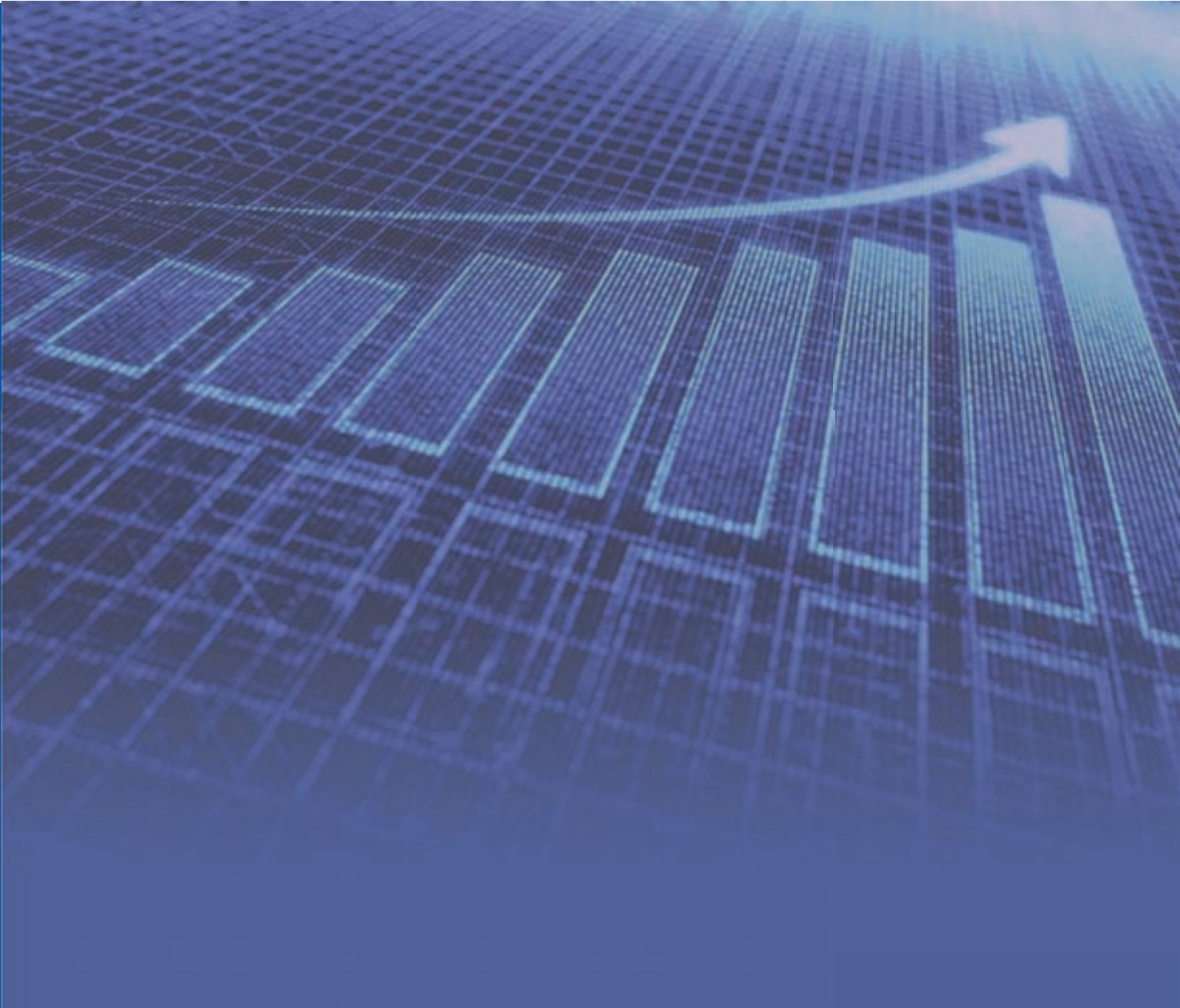
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E.

**STATEWIDE RADIO SYSTEM,
INFRASTRUCTURE, AND SERVICES PLAN**

F STATEWIDE RADIO SYSTEM, INFRASTRUCTURE, AND SERVICES PLAN

EXECUTIVE SUMMARY

A review of the State's Radio Program by the Office of Information and Management Technology (OIMT) concluded that there is insufficient funding and staff support to meet today's Radio requirements. Radio programs now include land mobile radio (dispatch) radio systems that support first responders and regular government operations, radio infrastructure such as radio sites and towers, and high capacity microwave and fiber backhaul systems. Future efforts must support the roll out of public safety LTE and other wireless technologies that will make government agencies able to operate and interoperate in a responsive and efficient manner. Most agencies do not have dedicated Radio staff, and there are inconsistent standards and non-interoperable systems used across the state.

The OIMT maintains the information technology (IT) and communications infrastructure for a large portion of the state agencies under the Officer of the Governor of the State of Hawai'i. In addition to guidance and directives regarding radio and microwave systems, infrastructure, and services the Radio Chief, under the Chief Information Officer (CIO), also provides guidance, oversight and assistance regarding Radio operations for the State.

The Radio Chief is responsible for formulating overarching State Radio policy and overseeing agency/office implementation and achieving the State's strategic goals in support of the OIMT vision for enterprise Radio performance. Value to both the customer and the public is promoted through the use of State approved standards and industry best practices.

With a compliment of 3 Radio Specialists identified to be hired FY2014, the OIMT Radio Communications Office will accomplish the following in FY 2015:

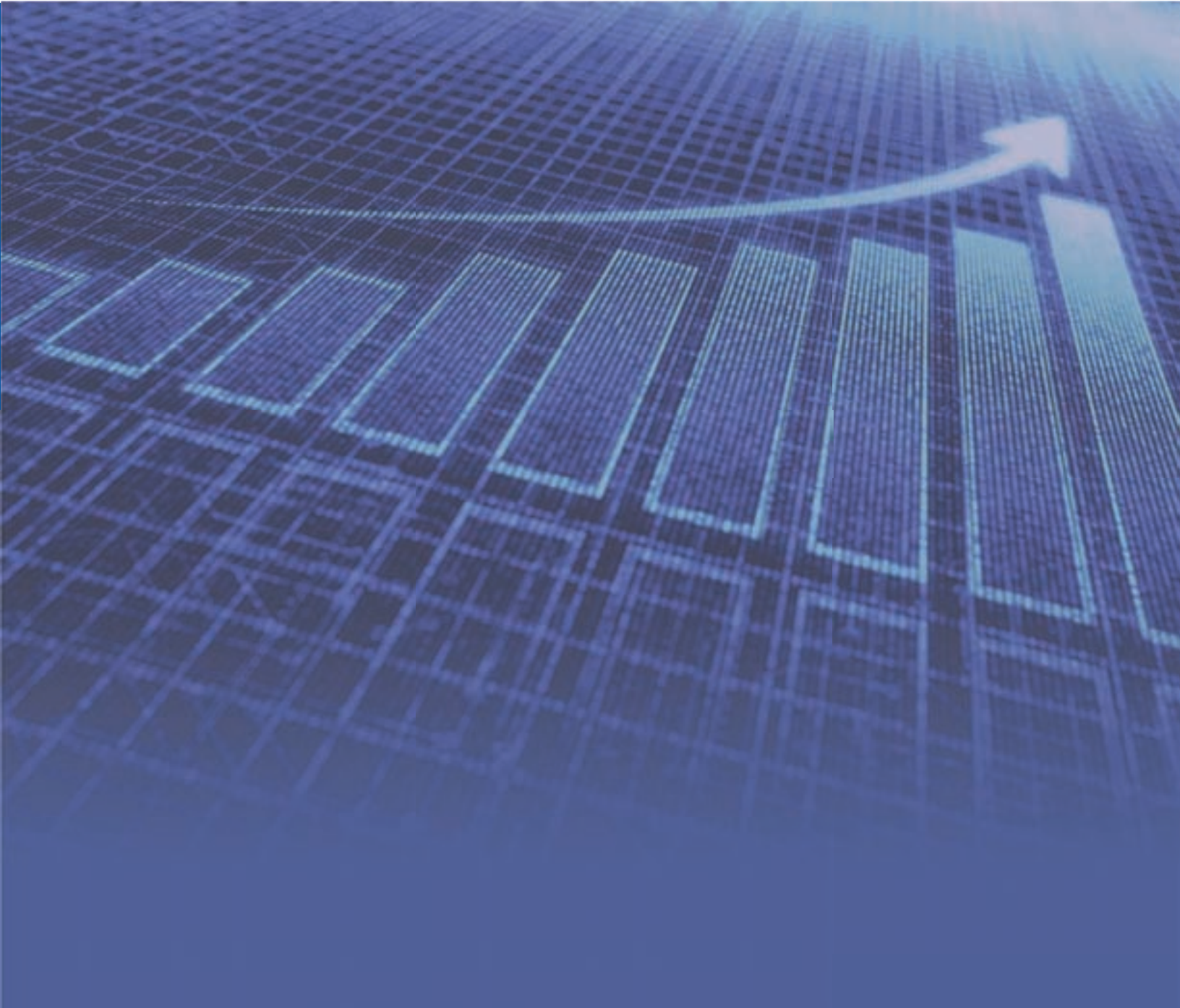
- Review existing Agency/Office licenses and notices concerning radio systems and use for accuracy and validity and correct where needed and provide guidance to Agencies/Offices
- Provide oversight and reviews of radio plans, ensuring Agency Radio Officers and/or users utilize the approved enterprise architecture and to build out common plans for future enhancement of the system based on demonstrated business needs
- Updating of the radio procedure, standards, architecture, and documentation, and the writing of new procedures and templates where needed

- Updating of the Telecommunications Request (TR) process for radio and microwave procurement

- Providing guidance to all public safety radio users in Hawai'i through the Statewide Interoperability Coordinator (SWIC)

With the hiring of one additional Radio Specialist per year until the OIMT reaches the recommended four specialists, and one Radio Officer, the Departmental Radio Office will be able to accomplish the following in addition to the above:

- Conduct Radio Technical Evaluation and Compliance Reviews including licensing for the State as well as other Agencies and Offices
- Develop Role Based Radio Training and exercises to reinforce that training
- Develop and Conduct Radio Workshops and Radio Awareness Campaigns
- Vigilantly keeping current with new Radio legislation and guidance, and promptly disseminating it and incorporating it into agency practices
- Increasing and stronger liaisons with external agencies, commissions and working groups regarding Government wide Radio policies, initiatives, and matters
- Adoption of a very pro-active stance regarding Radio guidance and implementation throughout the State to promote best practices and minimize risk while coordinating with other key programs
- Availability for providing ongoing Radio subject matter expertise for the highest offices within the State, as well as increased ongoing support for Agencies including their Radio Officers.



SECTION 1: INTRODUCTION

1.0 PURPOSE

This document will provide a framework illustrating how the State will build on successful systems and programs and continue the work necessary to build an effective, efficient, and responsive program to support the public safety wireless communications systems and services required. This document will also define the steps and governance needed to build and guide a consistent and comprehensive statewide program.

2.0 SCOPE

This document will define scope and structure for all Executive Branch agencies, including the Department of Education, using State funded radio systems such as, but not limited to, the shared State/USCG Anuenue and the Statewide Shared Blended (SSB) land mobile radio system.

This document will not cover any elements of the deployment of Broadband LTE for Public Safety, as the requirements for this federal program will not be known until the FirstNet board issues their operational requirements and funding models. However, the document will acknowledge LTE impacts to its need of radio infrastructure.

Radio activities can be placed in two categories:

1. The back office work to plan, acquire property and permits, build, license, operate, maintain, refresh, manage, and secure the State's radio systems and their supporting infrastructure; and
2. The public face of the operation that includes user interface activities from outreach to services, allocating radio resources, establishing standards, providing subject matter expert help in radio issues, representing the State in groups that deal with frequency allocation and interoperability, coordinating MOUs relating to radio communications, and establishing and enforcing policies.

3.0 DOCUMENT OVERVIEW

This document describes the structure and method of the establishment of an Executive Branch Radio office and program structure. This document is a living document that will be kept current throughout the course of the program.

The intended audience for this document is all executive Branch Agencies and all users of State funded radio systems such as, but not limited to, the shared State/USCG 'Anuenue and the Statewide Shared Blended (SSB) land mobile radio system.

4.0 MISSION

The OIMT Radio Program mission is to ensure the effective use of radio systems funding, unify and simplify equipment purchases, and use and protect licensed spectrum, to oversee Radio compliance by the Executive Branch, and to fulfill all State and Federal legal requirements associated with Radio matters.

The operation of the wireless programs of the State of Hawaii is based on the following core assumptions and realities:

- The State has to “be there” before, during, and after emergencies and disasters when all else has failed.
- Interoperability requires pre-existing operability.
- State agency radio operations shall move to the Statewide Shared Blended (SSB) LMR system.
 - The State's voice land mobile radio system is the most fundamental and important wireless service.
 - State agencies shall be limited to either Project 25 Phase 1 digital or narrowband analog FM.
 - The SSB provides a stable, reliable, and standards based foundation for day-to-day and emergency interoperability.
- The State will operate independent systems on Oahu and work to collaborate with the rural counties to share infrastructure and systems.
- Promotion of the partnerships unique to the most isolated archipelago in the world is vital.
- The State's independent, hardened microwave back haul and its supporting radio facility infrastructure will continue to be the key element underpinning the State's wireless programs.

5.0 VISION

The OIMT must proactively develop and implement the best practices required to meet agency mission requirements. The OIMT will interpret and implement the rules and recommendations of the Federal Communications Commission (FCC), National Telecommunications and Information Administration (NTIA), National Public Safety Telecommunications Council (NPSTC), Department of Homeland Security Office of Emergency Communications (DHS OEC). The OIMT will also review and incorporate the best ideas available from other standards, guidelines, and best practices used to comply with numerous laws and reporting requirements concerning radio and our licensed spectrum.

The radio program will build out the SSB as the State radio/microwave network that will meet all agencies needs while greatly increasing interoperable communications.

The governance structures in place will be re-chartered and realigned to ensure their openness, transparency, and effectiveness. Each group will have a strong governance framework and charter that clearly defines role, members, scope, meeting requirements, and deliverables.

6.0 GOALS

The OIMT Radio Program's goal is to achieve excellence in the establishment and operation of radio and microwave systems and facilities ensuring compliance and interoperability to be able to provide the communications facilities and services necessary

to meet the State's fiducial responsibilities to its citizens and employees. Risks to be minimized involve general compliance issues with wide-ranging and very serious ramifications: we must work to ensure that first responders and government employees responsible for essential operations have the communications tools necessary to carry out their missions, to ensure interoperability among and between our agencies and partners, to earn and keep the public trust; to keep the public informed, aware, and secure in times of trouble; and to guarantee compliance with State and Federal requirements, to prevent funding issues, additional scrutiny, and loss of State or public confidence.

As the public's agent, the State has a fiduciary responsibility to "be there" before, during, and after emergencies and disasters when all else has failed (the "last man standing" requirement). This most solemn obligation to provide for the common welfare can only be met when the government can communicate with its first responders, essential employees, and partners. We will not survive a Katrina-like response to a disaster or emergency without significant consequences. We simply cannot afford a piecemeal approach to a statewide problem and maintain business as usual.

Regardless of the lure and opportunities of modern and complex technologies, the State's voice communications network, i.e. land mobile radio (LMR) system, used to support public safety and essential government operations is the most fundamental and important wireless service. Emerging technologies such as Broadband LTE have promise for the distant future. However, LTE is far from ready for production use today or in the near future and, even if successful, may never fully supplant an uncomplicated, robust, and reliable LMR system for public safety. The State needs to support the infrastructure build up and build out required to handle the Broadband LTE and in so doing will help LTE become something we can depend upon to be operational and available in dire times when it will be needed the most.

Support of communications interoperability can only occur after the State has properly taken care of the needs of its own agencies and employees, that is, operability comes before interoperability. The State cannot and should not solely rely on others to fill in the communications services gaps. Although partnerships and collaboration are important (see below), the State must have the power and ability to begin and energetically maintain a critical mass of infrastructure, systems, and services both for its own needs and to actually be able to provide resources to its partners in an equitable manner.

The Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina noted "Massive inoperability — failed, destroyed, or incompatible communications systems ... was the biggest communications problem in the response to Katrina ... The loss of power and the failure of multiple levels of government to take the initiative to adequately prepare for its effect on communications hindered the response effort by compromising situational awareness and command and control operations..."

The State cannot wait the several days it would take for the deployment of the federal communications emergency communications superstructure. The State must be prepared to step in and provide a basic level of communications and interoperability for both State users and when county systems are overwhelmed or fail. The use of ACU-1000-like field-managed cross connect systems will be deemphasized and system-to-system interconnections, from wire-line to Project 25 (P25) ISSI interconnections, will be promoted. In the field interoperability will focus on the use of standardized frequencies and procedures as developed by the State of Hawai'i SCIP and on the deployment on on-scene low-power repeater packages such as the Transportable Repeater for Interoperable Communications (TRIC) package. The State must not neglect the care and feeding of the TRIC packages and the components of State agency radio caches and must actively coordinate, test, practice using, and refresh these types of initiatives.

State LMR systems are standards based on P25 Phase 1. State LMR operations will stay P25 Phase 1 for as long as possible. Although systems will be designed to be forward looking, e.g. P25 Phase 2 compatible, the core infrastructure will be optimized for the better voice quality available on P25 Phase 1. In addition, P25 Phase 1 is required for talk-around (subscriber to subscriber) operation when infrastructure fails or users are out of range of the system. The only permitted modes of operation for all State agencies, including the Department of Education, shall be limited to either Project 25 Phase 1 digital or narrowband-compliant analog FM. To ensure unity and interoperability, State agencies, including the Department of Education, are prohibited from using any other modulation or signaling schemes, such as, but not limited to: TETRA, ETSI dPMR, the NXDN common air interface, Icom Digital Advanced System, Kenwood Nexedge, and/or Motorola Mototrbo. We note that the University of Hawaii has pursued a non-P25 approach to their digital LMR systems at several major campuses.

The Statewide Shared Blended (SSB) provides a stable, reliable, and standards based foundation for day-to-day and emergency interoperability. State agencies currently operating independent LMR systems and stations in the UHF, 700, and 800 bands will move to and augment the SSB LMR system. Operators of VHF systems will be encouraged to move to the 700/800-based SSB where possible. However some activities, such as wilderness fire-fighting, will require some agencies to remain primarily on VHF frequencies. State agency purchases of subscriber radios, portables and mobiles, shall include the purchase to two sets of programming software and cables. One set shall be provided to the ICSD. Procuring programming capability will permit agencies to reprogram radios without waiting for or paying vendors.

Because of the criticality of the island of O'ahu to the economic engine of the State (major port, airport, medical, industry, military, and tourist facilities), the State will endeavor to operate its LMR system independently of the County of Honolulu. Although the State will build and operate independent wireless infrastructure on the neighbor islands to cover ports, airports, and major population centers, the State will, where possible, work to collaborate with the counties to share infrastructure and systems.

The State shall develop a shared 7x24 dispatch center staffed with employees accredited by the Commission on Accreditation for Law Enforcement Agencies (CALEA) Public Safety Communications Accreditation Program . The State dispatch center should be created and operated in consort with the State's law enforcement community to ensure that it has the culture and objectives necessary to support both day-to-day and emergency operations.

The State will encourage by whatever legal, political, and financial means necessary the radio infrastructure and services partnerships unique to the most isolated archipelago in the world. Hawai'i's agencies cannot get rapid mutual aid from neighboring states. Transfer of assets and personnel from island to island in times of need are often limited to what an airplane can carry. Therefore the State will actively seek and promote non-traditional partnerships with the counties, federal government agencies, the U.S. military, and NGOs that have a role to play in disaster response. The shared ICSD / USCG Auenue statewide digital microwave system and the SSB LMR system shared between the State and the County of Maui are prime examples of mutually beneficial partnerships. However, to avoid violating lease covenants and environmental constraints placed on use permits, the State will seek to minimize any partnerships with for profit entities at radio high sites and/or that involve the use of State radio systems for transport of any for-profit traffic. A notable exemption to this policy is the microwave site sharing agreement between the State and Hawaiian Electric Industries, an agreement that required the approval of the Public Utilities Commission.

The design, operation, maintenance, and acquisition of independent, hardened microwave back haul and its supporting radio facility infrastructure will continue to be the key element that ensures the survivability and viability of the State's wireless programs. Survivable and hardened State backbone and critical spur facility infrastructure and radio links will be designed to survive a Saffir-Simpson Hurricane Scale Category 4 storm, be Seismic Zone 4 compliant regardless of county of location, and be able to operate for seven days (one week) without commercial power. Geographic, cultural, environmental, view plane, and land use constraints have often caused radio facilities to group together in close proximity at the limited locations available. The detrimental result has been path congestion such that microwave frequency resources, i.e. channels suitable for systems to use for long over water paths between islands, are almost completely committed on critical paths statewide.

The State needs to expand its microwave radio interconnections wherever it can and aggressively maintain and protect its existing frequency and system resources. To ensure consistent standards of design, operation, maintenance, viability, and survivability control of high-capacity microwave radio links should be centralized, that is, independent agency back haul links should be brought into the common State system. High capacity microwave radio links should be designed for 99.9995% path reliability, i.e. no more than 158 seconds of outage per year. Emergency generators should be diesel fueled because in an emergency it is easier to deliver diesel than propane and new fuel polishing technologies can be used to

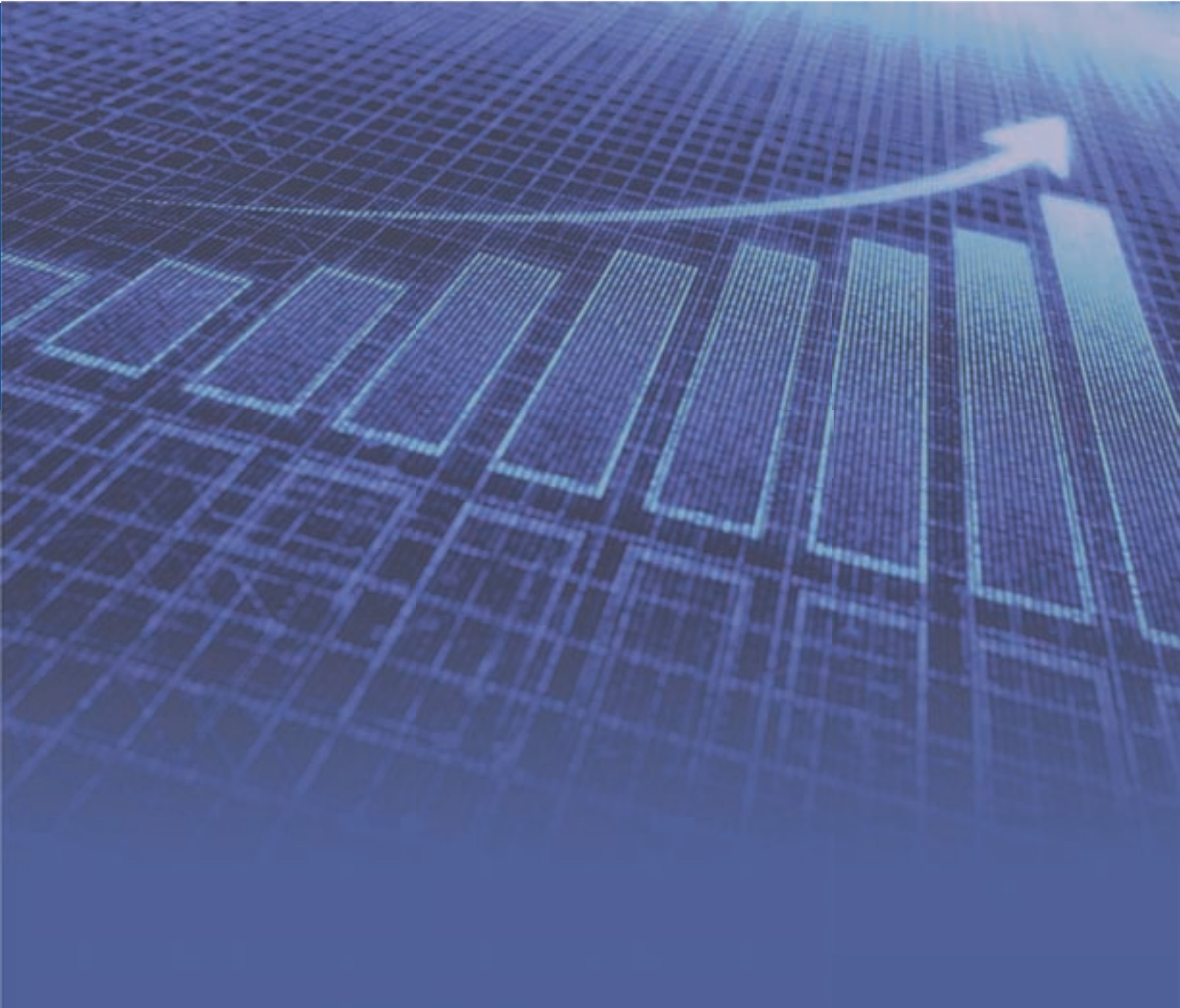
eliminate previous issues with stagnant fuel. The State's large scale emergency power systems, data center and radio site air conditioning systems, fire protection systems, and facility monitoring and alarm systems should be centrally managed based on standards and process to ensure survivability, operability, and reliability. Similarly, physical security, camera monitors, and facility alarms should be professionally monitored.

7.0 OBJECTIVES

The FTE and resources outlined in the program will be utilized to provide coordination, oversight, and comprehensive Radio program direction for all Radio matters across the State. This will support OIMT mission goals by focused use of funding, increased accountability, reduction of complexity and duplication, and enhancing functional integration and interoperability as well as the establishment of a statewide enterprise architecture. This single focus point will also permit increased alignment between State radio resources with OIMT enterprise initiatives. Support will be provided to agencies to aid in successfully complying with the various DHS-OEC reviews. The program will conduct improved oversight of the new procedures and training, which will decrease State risk and provide standardization and better interoperability. It will also provide support to all agencies on the system to comply with licensing and interoperability requirements.

The inability of public safety officials to readily communicate with one another too often results in unnecessary loss of lives and property as seen in our nation's recent experience with hurricanes Katrina and Rita and their aftermath. Collaboration and coordination between agencies and disciplines is important for government to deliver needed and life-saving services to the public and voice and data communication is integral to these cooperative efforts. The September 11, 2001 terrorist attacks on America and the delayed response in the Gulf graphically illustrate the need for interoperable radio communications between first responders, law enforcement, and emergency management officials from every level of government.

Besides emergency first responders and law enforcement, there are a number of other state, local and federal agencies that also need to be able to communicate with one another — transportation, public health, utilities, and public works to just name a few. However, across the country these entities are still plagued by communications interoperability problems. The inability to communicate is a problem that is technical (due to limited and fragmented radio spectrum and proprietary technology), political (due to agencies and jurisdictions and different levels of government competing for scarce dollars, inhibiting the partnership and leadership required to develop interoperability), and cultural (agencies natural reluctance to give up management and control of their communications systems) and must be addressed on all these levels. A well defined interoperability governance model has been proven to provide the structure needed to bring the players together and promote an environment that helps bridge the gaps created by these obstacles.



SECTION 2: ALIGNMENT WITH GOVERNMENT REGULATIONS AND REQUIREMENTS

Solutions to communications interoperability often focus solely on equipment or technology, excluding the other factors that are also critical to success. The Nation is now pursuing a multi-faceted approach to emergency communications. SAFECOM, a DHS program focused on communications interoperability, identified five interrelated elements that are essential to a foundation for seamless interoperability:

- Governance
- Standard Operating Procedures (SOPs)
- Technology
- Training and Exercises
- Usage

To help visualize the evolving interrelationship of these components, SAFECOM developed the Interoperability Continuum, shown in the figure below. As this graphic suggests, proficiency in all five of these elements is needed

to achieve the best possible interoperability and compatibility. Furthermore, the Continuum should not only be read horizontally, but vertically as well. The implementation of initiatives requires attention in each of the lanes. For example, procurement initiatives should not solely focus on the technology lane, but should encompass every lane. Governance is needed to decide on the equipment requirements, SOPs that explain the equipment’s operational use need to be developed, training must occur on the new equipment, and usage must be ensured by all relative agencies on a daily basis.

Achieving interoperability across the five lanes requires all agencies to participate in Public Safety Statewide Communications Interoperability Plan (SCIP) initiatives. Therefore, every SCIP initiative should leverage the stakeholders that are coordinated by the statewide governance system.



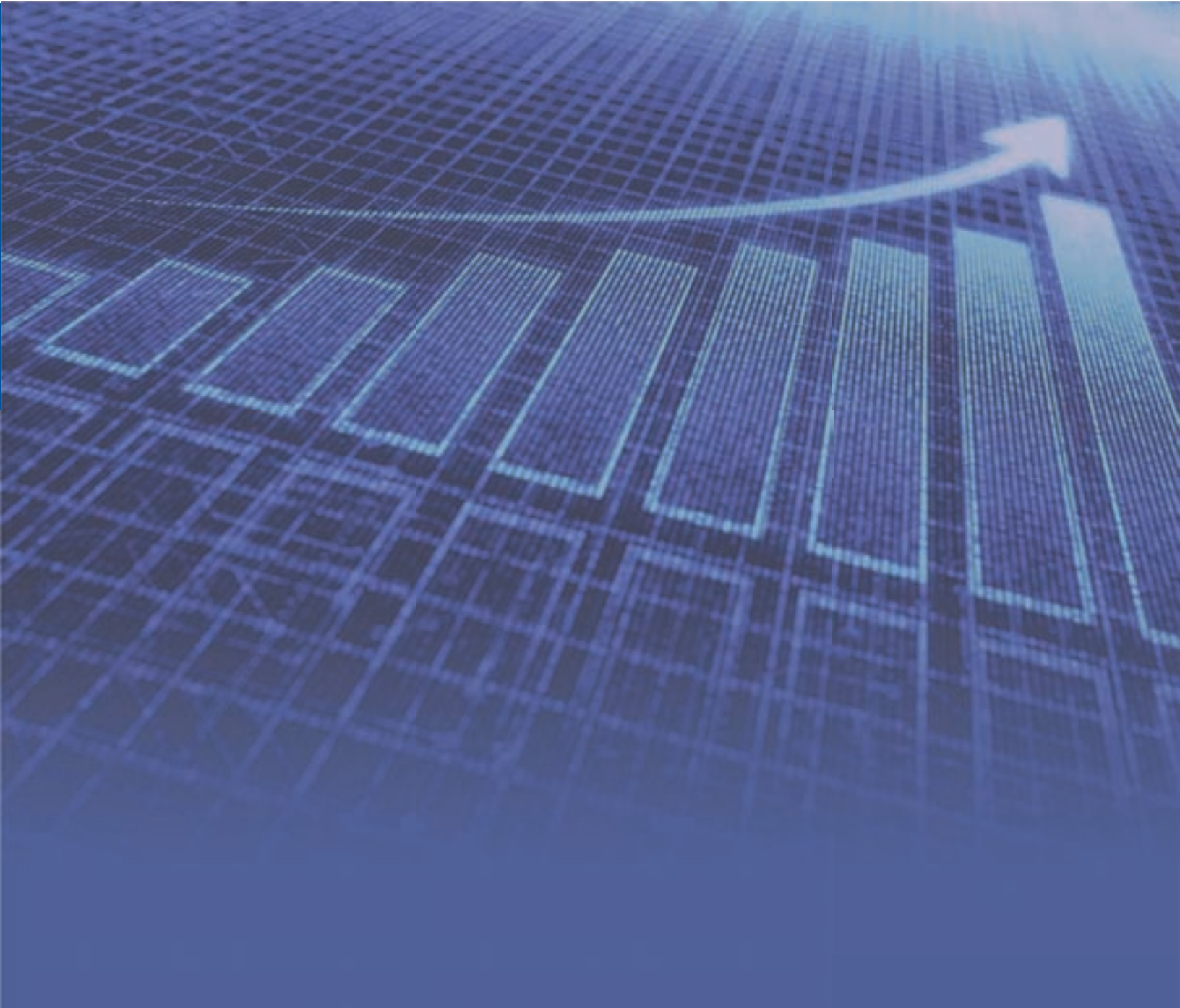
Figure 1: SAFECOM Interoperability Continuum

SAFECOM suggests that states consider the following seven components of statewide governance systems in order to maximize statewide buy-in and consensus for interoperability decisions. The names of the fundamental components listed below are generic terms:

- **Stakeholder Resource Pool**
The State does have this in place across the various existing groups, but membership in the groups should be reviewed ensuring that there is appropriate representation
- **Statewide Interoperability Coordinator’s Office (SWIC)**
The State does have a SWIC, which is currently in the SCD and is being moved into the Office of Information Management and Technology, which aligns closely with the recommendations of SAFECOM .
- **Statewide Interoperability Governing Body (SIGB)**
The States does have a form of this in the existing HWIN, but the existing scope is different and should be better aligned.

- **Intrastate Regional Interoperability Committees (RICs)**
This has been established through HWIN with four Regional Planning Zones: Hawai’i, Kaua’i, O’ahu and Maui.
- **State Agency Interoperability Committee**
This was established as the SHRUG, which has not met in many months and needs to be re-formed with new governance and mission and lead by the SWIC.
- **Initiative Working Groups (IWGs)**
This function is informally occurring in the SCIP meetings.
- **Federal Partnerships**
This function is occurring at both the HWIN, and the Auenue Executive Council levels.

Hawai’i does already have some of these similarly tasked entities and calls those entities by another name. Further alignment should take place ensuring that our existing groups are scoped with all the tasks as outlined in SAFECOM.



SECTION 3: PROVEN BEST PRACTICES

The following compendium of recommendations and best practices was compiled from FCC guidance, the SAFECOM Governance Guide (US Department of Homeland Security, December 2008), and best practices from other States, and is provided to promote the rapid start-up and successful operation of an effective Hawai'i SIEC.

1.0 WORK FROM THE BOTTOM UP

A successful governance program relies heavily on State and local emergency response practitioners for input and guidance as it works to define and implement interoperability solutions.

2.0 ACTIVELY ENGAGE STAKEHOLDERS

The governance system should represent the full range of emergency response interests that are affected by the interoperability challenge. This helps ensure that solutions address community needs and incorporate diverse perspectives.

3.0 LEVERAGE ASSOCIATIONS/STAKEHOLDER GROUP REPRESENTATIVES

Because associations can help amass broad practitioner input and build support for the decisions made by the governing body, it is important to ensure that they are well incorporated into the governance system.

4.0 PROMOTE SHARED DECISION-MAKING WITHIN EACH GOVERNANCE COMPONENT

It is important to maintain accountability while supporting shared decision-making. Strong leadership and clearly defined roles and responsibilities are essential to achieving an effective balance.

5.0 PROMOTE TRANSPARENCY

The membership, operations, and actions of the governing body must be clearly articulated and understood, not only within the entity itself, but also among the public.

6.0 ESTABLISH AND ARTICULATE A SHARED UNDERSTANDING OF GOALS

A shared vision is the foundation of an effective undertaking, while common goals provide momentum to move forward. Both are essential to any long-term group effort. In the case of interoperability-related governance, the diversity of the disciplines and jurisdictions involved makes agreeing on these common goals even more critical; as this issue encompasses so

many stakeholders, it is essential to maintain commitment to the goals as time progresses.

7.0 DEVELOP BYLAWS AND/OR A CHARTER

These are typically the first documents developed by a SIEC. It is recommended that Hawai'i review bylaws and charters developed and implemented by other States and utilize them as a model in developing their bylaws and charters. Additionally, the SAFECOM publication "Creating a Charter for a Multi-Agency Communications Interoperability Committee" provides direction and a template for the creation of a charter.

8.0 SECURE SUFFICIENT FUNDING

Federal grant funding, usually from the Department of Homeland Security, is a major source of support for most SIECs. Funding is critical to the day-to-day operations of the SIEC to include: hiring sufficient staff/support personnel to manage and operate the SIEC; publishing and disseminating educational and meeting information; and paying for the travel expenses of voting members to attend SIEC meetings. In addition, a formalized funding plan must be developed to secure the long-range funding needed to sustain the SIEC and related interoperability efforts.

9.0 SCHEDULE SIEC MEETINGS ON A REGULAR BASIS

A SIEC meeting calendar should be developed at the start of each year. At a minimum the SIEC should meet once a quarter. An agenda and read-ahead materials should be provided to attendees prior to each meeting and the meeting outcomes documented and posted on the State interoperability website.

10.0 ESTABLISH VOTING PROCEDURES

Clear voting procedures are necessary for conflict resolution. Procedures should specify issues requiring voting versus non-voting participation, specific levels of agreement required (for example, simple majority vs. consensus) and procedures for breaking tie votes. In addition, procedures for e-voting should be established.

11.0 MAINTAIN A MANAGEABLE VOTING MEMBERSHIP

Leverage national best practices and the State's individual requirements to determine the appropriate stakeholder representation and voting membership for the SIEC. SIECs should keep their voting membership manageable to operate more effectively. SIECs typically designate 20 voting members.

12.0 STIPULATE SIEC CHAIR SELECTION PROCEDURES

The selection of the SIEC Chair and (potentially) the Vice Chair positions is sometimes established in the Executive Order or legislation; but if not, these procedures should be stipulated in the Bylaws or Charter. Some states determine these positions through an election by the SIEC membership, usually with some level of state executive approval. The SIEC should also address succession planning and membership rotation.

13.0 ENSURE REPRESENTATION FOR ALL FIRST RESPONDERS

While it is critical that SIECs are representative of public safety agencies at the local/county/regional/ tribal/state levels as well as leadership of first responder and public safety support organizations throughout the state. It is equally critical that the representatives nominated by first responder and support organizations (e.g., fire or police chief associations) represent all of the constituents of those organizations rather than just the organization itself, so as not to disenfranchise those who may not be members of the particular organization. In addition, the SIEC must ensure that personnel selected to represent various jurisdictions, disciplines, associations, or other entities have been authorized and empowered to do so in writing by the administrative body of the entity they represent.

14.0 ESTABLISH REGIONAL INTEROPERABILITY COMMITTEES (RICS)

In many states RICS serve as the primary mechanism for practitioners to communicate their needs, requirements and input to the State SIEC. SIEC officials should leverage appropriate governing bodies and county executives to reach out to regional and local policymakers to determine their interest in establishing a RIC, and, as appropriate, the SIEC should leverage existing State Homeland Security Regions or State Mutual Aid boundaries to determine its regional boundaries. Currently, each Hawai'i County acts as a RIC.

15.0 FORM WORKING GROUPS

SIECs typically establish standing working groups (e.g., operations, technical and financial/ management) to manage ongoing activities of the SIECs between meetings or appoint ad-hoc or initiative working groups to address particular issues or problems of limited scope and/or timeframe.

16.0 DETERMINE MANAGEMENT FOCUS

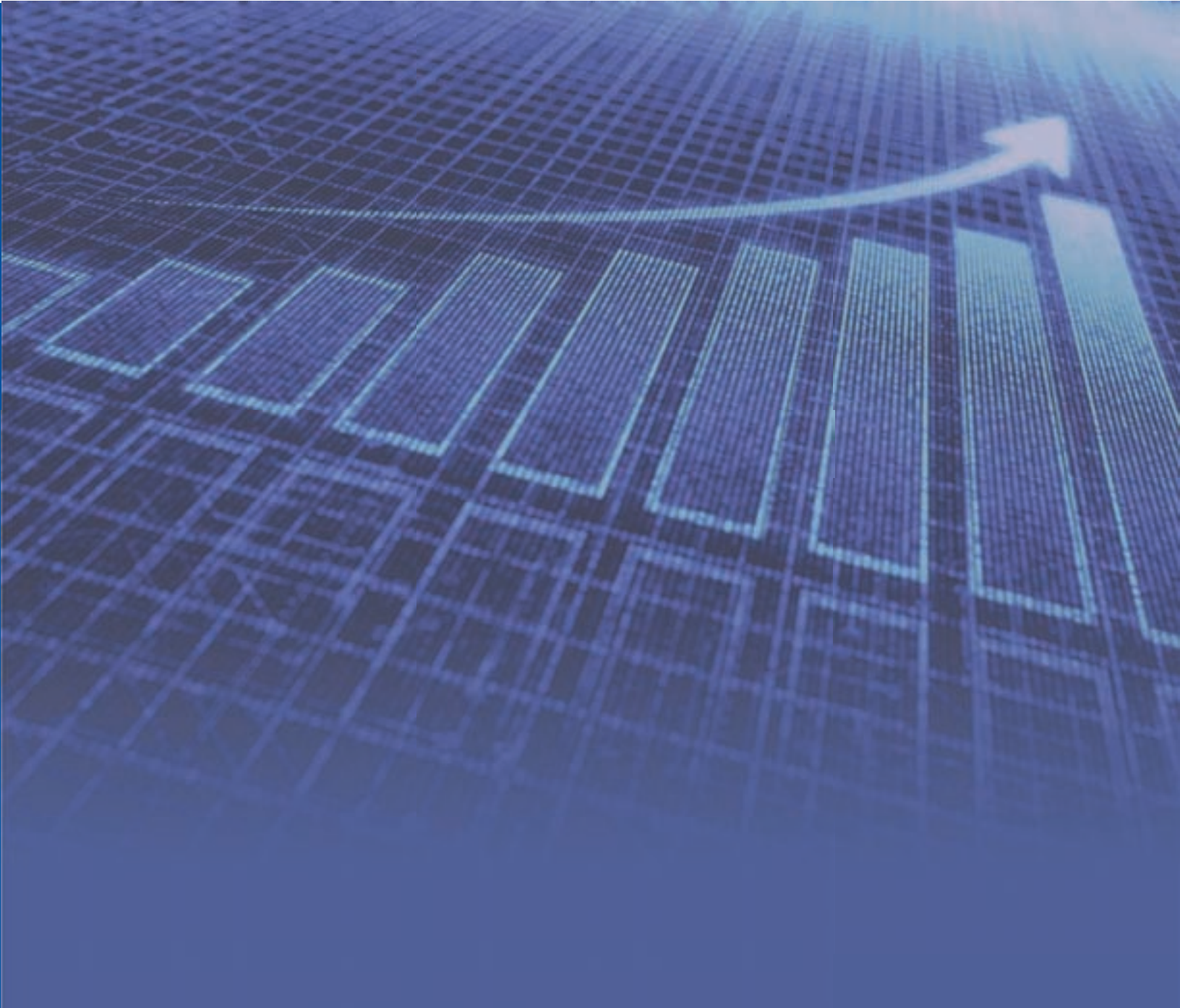
SIECs are responsible for conducting outreach, overseeing SCIP implementation, reviewing grant applications, and measuring the State's interoperability efforts. SIECs oversee interoperability initiatives throughout the state to ensure a coordinated and consistent statewide approach and to promote the interoperability needs of the State's public safety agencies and first responders. During the initial standup and first year(s) of operation, it is important for SIECs to focus on spectrum management and the Interoperability Channels. Then once those issues have been addressed and the SIEC is well established, the focus should be more on education, operational and training responsibilities.

17.0 WORK CLOSELY WITH THE STATEWIDE INTEROPERABILITY COORDINATOR (SWIC)

Along with practitioners, the SWICs and their staffs serve as key players and the focal point of the state's interoperability efforts. The SWIC also plays an important role within most SIECs, serving as chair in some states, and in many states having management oversight for the day-to-day activities of the SIEC and its subcommittees and working groups.

18.0 RECOGNIZE AND DEAL WITH TECHNOLOGICAL LIMITATIONS

SIECs must continually deal with technology limitations in the course of their activities, to include interoperability challenges between neighboring agencies, across and between regions, and across multiple levels of government. Even those states with a single statewide system continue to experience challenges when communicating with the Federal government and neighboring states. In order to mitigate these issues, SIECs are continually tasked with formulating and implementing solutions to maintain needed communications, to include the use of gateways and shared channels.



SECTION 4: GOVERNANCE

Although incompatible and aging communications equipment and the availability of radio spectrum are key reasons why public safety agencies can't easily talk to each other, these technical elements cannot be adequately dealt with until the larger issues of limited funding, lack of planning, and the lack of coordination and cooperation are addressed. Interoperability requires more than equipment — open systems standards, critical incident management, training, and operational policies and procedures that govern interoperable communication systems need to be firmly in place as well.

The principles of shared decision-making, accountability, business applications, and infrastructure must be part of the architecture. Interoperability must also be addressed as part of a coordinated, multi-jurisdictional response plan that involves law enforcement, firefighters, emergency medical services (EMS), emergency management, public utilities, transportation, and public health.

The state should begin by ensuring formalized interoperability oversight duties to coordinate efforts and provide reports and recommendations to the CIO, governor, and legislature. The governor should sanction the oversight body, by executive order or under statute ensuring it has proper authority. A charter for this function must be clearly outlined as to why the state is doing this, as well as chains of command for both approval and oversight of statewide standards.

For a coordinated statewide governance system to succeed, each of the seven aforementioned components must exist, collaborate, and respect each other. Statewide interoperability cannot occur within a vacuum of any one component, nor can a component claim success without other components. The illustration below demonstrates the OEC-recommended methodology for statewide governance as suggested by the DHS.

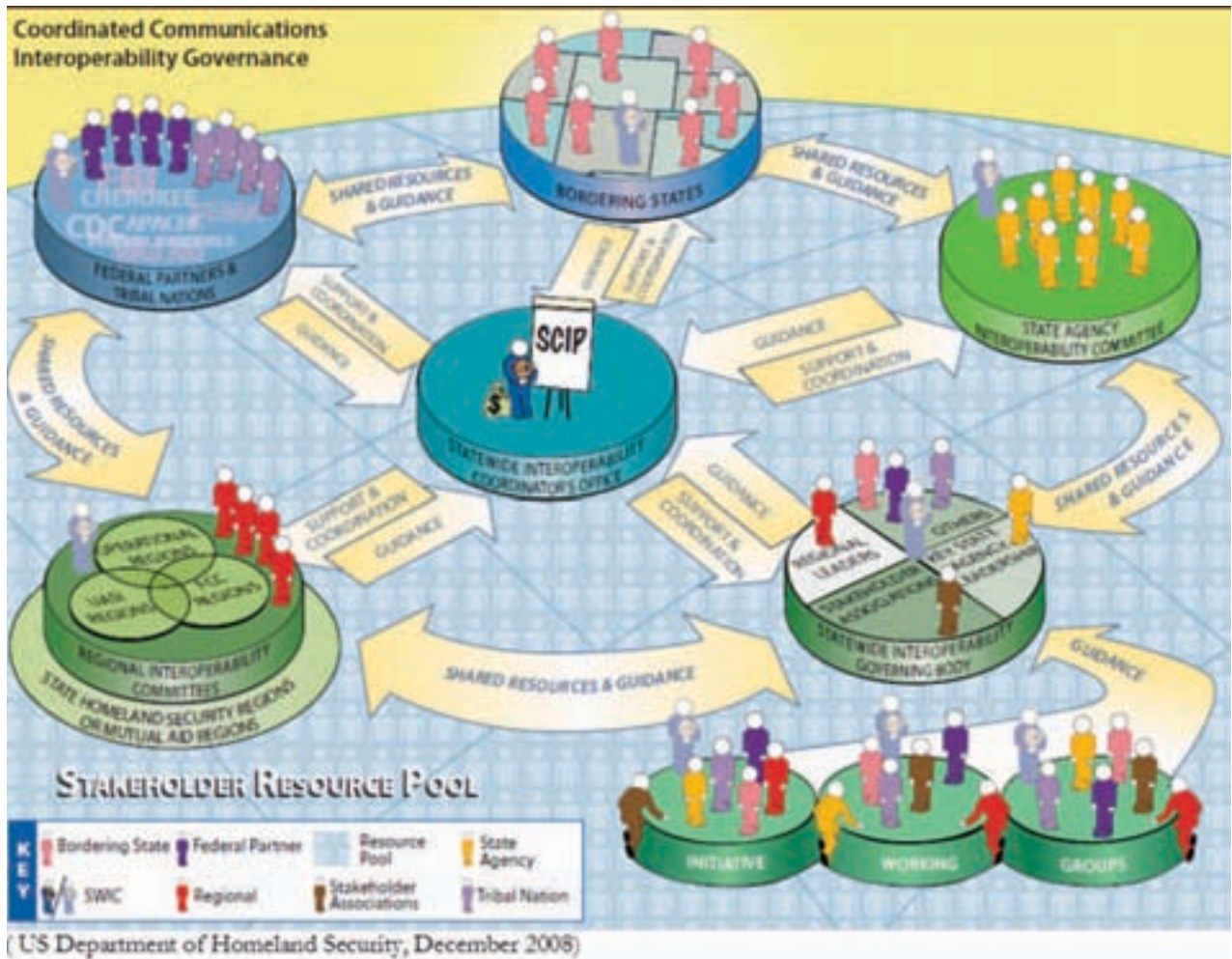


Figure 2: Coordinated Communications Interoperability Governance

Again, it is important to note that this is a coordinated governance effort and not a hierarchical one. The SWIC provides support and coordination out to each entity and in return those bodies provide the SWIC with guidance and recommendations on policies, procedures, grant investments, and future strategy.

Each of the components shares resources, with some members serving on more than one component. Composed of a cross-section of stakeholders representing all of these components, the Initiative Working Groups (IWGs) are the short and long-term committees whose members collaborate and move statewide initiatives forward. The SWIC, with assistance from the SIGB, assesses the best and brightest from each

governance entity, as well as from the stakeholder resource pool, and develops limited-term, matrix-based teams to implement a particular initiative on behalf of the statewide communications interoperability effort.

1.0 ISSUE AND SCOPE ASSESSMENT

Given previous governance structures, differences in program funding streams, and the lack of continuous statewide needs and solutions assessment, we are left with numerous fragmented systems, poor alignment, and a governance structure which is in need of repair as illustrated in the stoplight

Table 1: Governance Impacts

Issue Category	Issue Scope	Assessment	Impact
Funding	Statewide Alignment	Red	Unable to do critically needed projects, have/have-nots
Governance	Statewide	Red	Many fragmented and non-compatible solutions, have/have-nots
Aligned Solutions	Statewide	Red	Many state funded systems overlapping the same geographic areas
Planning	Statewide	Red	No complete Statewide aligned plan or well known milestones
Projects	Statewide Alignment	Red	Projects and solutions not tightly aligned across the state
Governance	First Responder Interoperability	Yellow	Some LMR interoperability via SSB and manually deployed TRIC packages
Governance	Carrier obligated connectivity	Yellow	SOH priority items have very slow movement (controlled "outside State")

2.0 CIO OVERSIGHT & COORDINATION

By placing the State Radio Program under additional CIO Oversight & Coordination, and restructuring existing governance to closer align with statewide business needs aligned with a Business Sponsor, a structured program with consensus-defined milestones can be implemented. Subject matter experts in existing OIMT Radio Working Group as well as the State of Hawai'i Radio Users Group can conduct project review (perhaps merging these two groups into one). Additional oversight can then proceed to HWIN when required.

It is critical that a statewide assessment of in-place solutions and future business requirements be performed. With the evolution of LMR to RoIP to VoLTE, tight integration with Statewide IT Programs for backhaul and leveraging of systems between these programs can result in less complex solutions across the state while providing Clearer definitions of People, Policy, Process, and Technology. By bringing in more specialists in the execution of projects, it can result in faster completion, and less burden on staff which has previously been tasked with executing elements of a project outside of their main scope of experience



Figure 3: Oversight

3.0 DEVELOPMENT OF A NOTIONAL RACI MATRIX

RACI is an acronym derived from the four key typically used responsibilities: Responsible, Accountable, Consulted, and Informed. It describes and defines the participation by various roles in completing tasks or deliverables for a project or business process and is especially useful in clarifying roles and responsibilities in cross-functional/departmental projects and processes.

By developing a RACI table and clearly illustrating responsibilities for public safety communications in Hawai'i, we can further strengthen alignment and ensure priorities and interoperability for communication. The development should be handled as a task of the SCIP with further alignment and approval by HWIN. Below is a notional RACI illustrating potential roles:

Table 2: Notional RACI

	Governor	DCCA	CIO	HWIN	SCD	BBT	UH	Congressman	Program PM	Program Engr
Business Executive Sponsor	C	R ⁷	R ⁸	I	C	A	C	I	I	I
Program Oversight	C	I	R	C	I	A	A	C	A	I
Alignment	I	R	R	C	I	A	C	I	A	C
Fiscal & Grants	I	I	RA	C	R	RA	RA	C	C	C
Program & Project Communication	I	A	RA	C	I	RA	C	I	C	C
Program Management	I	I	A	A	I	R	C	I	R	C
Engineering	I	I	A	C	I	I	C	I	CR	R

4.0 PUBLIC SAFETY CONNECTIVITY & REQUIREMENTS

There are three basic types of communications available to Public Safety:

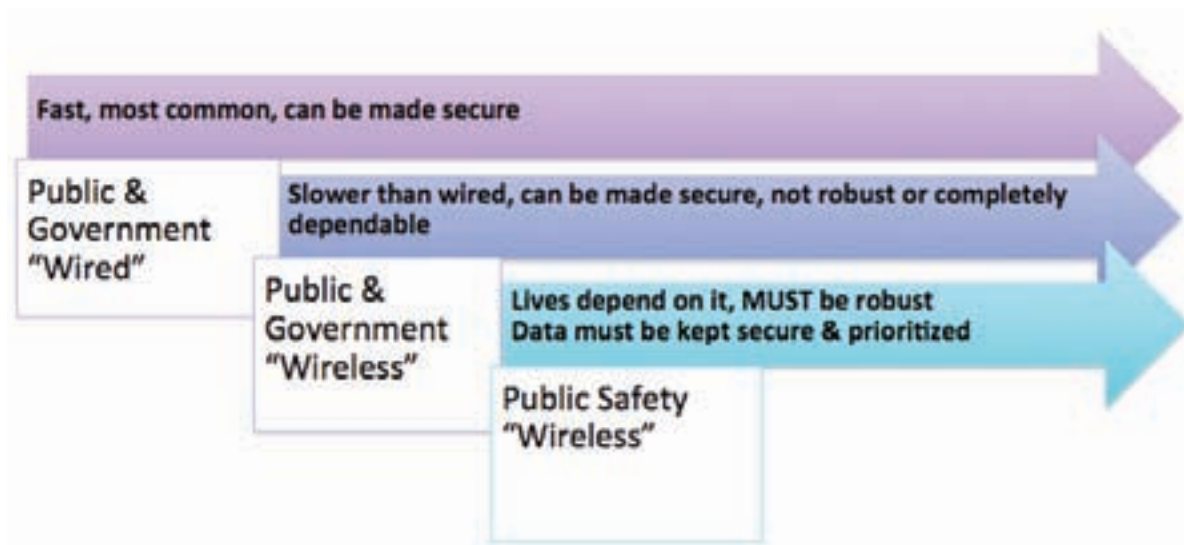


Figure 4: Public Safety Connectivity Types

- **Public & Government Wired:** For stationary users – this is similar to your home telephone. Communications can be made fairly reliable and robust for public safety users by placing wires (or fibers) underground where they cannot be disturbed by hurricane force winds. Availability depends on wired connectivity to your service provider and who you wish to communicate to, and that their equipment is operational. Wired communications can be gatewayed into wireless communications. Wired communications can have high fidelity and fast data connection speeds.
- **Public & Government Wireless:** For mobile users – this is similar to your cell phone. Third party companies provide connectivity, and many tower sites only have a limited amount of battery back up power. Communications may not be easily prioritized for public safety officials that require the ability to use the system. Secure communication requires specialized proprietary UE.
- **Public Safety Wireless:** For mobile users –for public safety Land Mobile Radio (LMR) is most commonly used where communications can be direct one-to-one, many-to-many, or one-to-many using special purpose built equipment. Due to the requirement of robustness during times of crisis, sites housing the equipment are hardened to survive hurricane strength winds and also are built with redundancy throughout to survive component failure. Sites also have battery and generator backup and many times voice and data are backhauled via microwave, lessening the failure of a cabled system and reliance on a third party provider. Systems are usually operated by government or sometimes rely on contracted staff performing work to government standards. Communications can be prioritized ensuring that public safety officials can easily communicate.

The program goals can simply be illustrated by breaking down user needs into three groups:

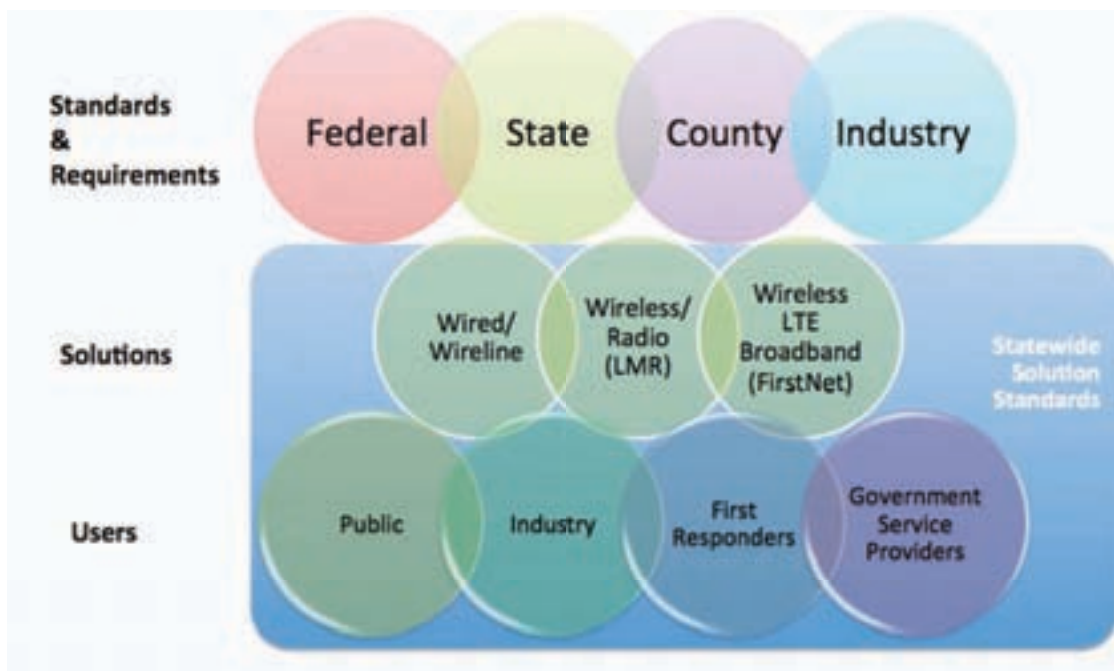


Figure 5: Notional Program Illustration

- **Standards and Requirements:** Most well accepted standards for public safety communications are set at the Federal level (e.g. P25) and programs that utilize federal funds or grants are obligated to follow the established standards as a requirement of accepting funding. All potential users set the requirements based on their business or mission needs.
- **Solutions in wired or wireless:** Based on user requirements given the limitations illustrated in Figure 4. Wireless LTE Broadband via FirstNet should not be confused with LTE that is currently available to the public. It will utilize common bandwidth across the nation and follow rigid and fully interoperable standards that will fully meet public safety needs. Specialized equipment will be required as well as nationally established identity for each user allowing them access to only the data and systems that they have been authorized for. Based on current federal definition, it will be restricted to be used only by a very tightly defined community of government public safety practitioners and not be made available to the public or industry.
- **The user groups that are to be served:** Public Safety Communications currently has primary focus on First Responders and then on government service providers. Industry and the public may be invited to use the systems in times of crisis when they are directly assisting public safety. The needs of these four groups are vastly different. Public Safety requires a reliable, robust, and secure system as part of their mission in the protection of life safety, whereas government and most industry users (with the exception of some industrial or energy industries) do not have needs that require a system be built to public safety standards, and in many cases will utilize consumer grade devices and transport.

5.0 HAWAII BTOP APPLICATION AND LTE WAIVER

The State of Hawaii in partnership with the Counties in 2010 applied for a federal BTOP grant to build out a Broadband For Public Safety network in the state. We were not awarded any grant funding, but we were one of the twenty-one entities that received a waiver of use from the FCC via the Public Safety Spectrum Trust (PSST) for LTE in the 700Mhz band solely for public safety use. These initial waivers allowing entities to build demonstration networks are envisioned to be converted in the future into a nationwide LTE Broadband system with the primary focus of serving public safety.

With that waiver, we partnered with the US Department of Agriculture in building an LTE demonstration network in the Hilo area which allowed us to gain experience in the operation of the new technology as well as to test applications on the network that would benefit public safety response in the State. This partnership was the only Federal/State /County demonstration network in the Nation, setting the standard that all of government can successfully partner in delivering services to our public safety professionals via a single unified system.

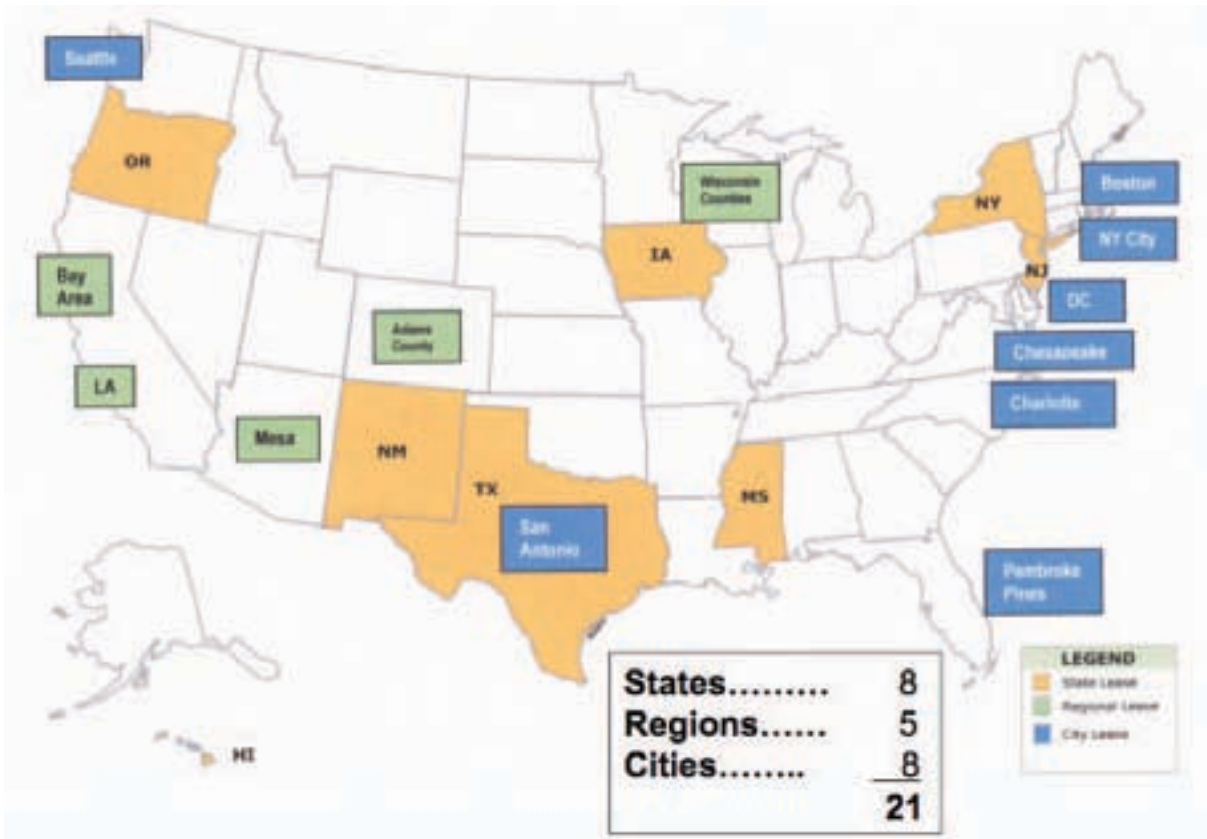


Figure 6: Waiver Entities

6.0 NATIONWIDE PUBLIC SAFETY BROADBAND NETWORK – THE FUTURE

The Nationwide Public Safety Broadband Network better known as FirstNet was created and funded by the Middle Class Tax Relief and Job Creation Act of 2012 making good on an overdue promise to our nation’s first responders.

In addition to reliability, security, coverage, and public safety priority access envisioned for FirstNet, the future for bringing specialized Public Safety Applications (Apps) similar to those currently available on smart phones and devices such as iPhones, iPads, and Android Devices securely to first responders in the field is exciting and almost unlimited. For example:

Next Generation 9-1-1 information (text messages, photos & video) sent in by citizens using smart phone devices will be able to be forwarded to public safety field personnel; Law Enforcement Apps that will access FBI CJIS Services like NCIC, Criminal History Information, and Nlets Services like access to DMV records, Driver’s License and Corrections Photos and easy access to records management systems (RMS); Fire Service Apps that will access records of building plans, hydrant locations, hazardous material records; and Emergency Medical Apps such as transmission of vital signs to hospitals, access to medical histories.

The act does numerous things as excerpted from the NTIA presentation “Title VI – Public Safety Communications And Electromagnetic Spectrum Auctions” March 15, 2012. Depending

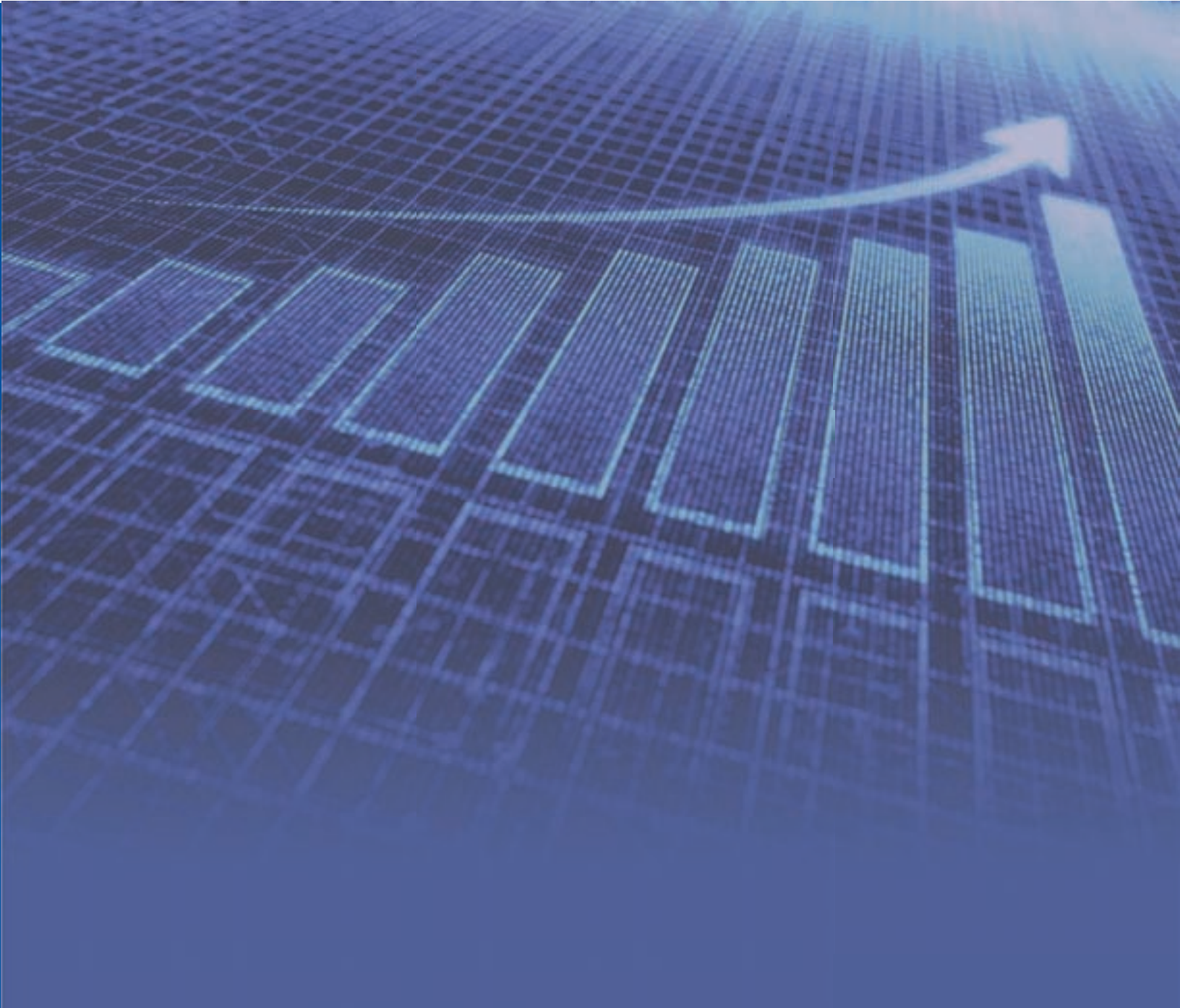
on the actual timing and outcomes of the items below will shape the program and determine when due diligence and involvement by the State will take place.

- Implements key Administration priorities – Public Law No. 112 96 (enacted February 22, 2012)
- Gives NTIA power to establish the First Responder Network Authority (FirstNet)
- Outlines that FirstNet is to establish a nationwide public safety broadband network (PSBN) based on a single, national network architecture
- Reallocates 700 MHz D Block spectrum to public safety
- Allows the Federal Communications Commission (FCC) to grant a single license to FirstNet for the use of both the 700 MHz D block and existing public safety broadband spectrum
- Is deficit-neutral – Funded through proceeds of spectrum auctions through FY 2022 – Network is self-sustained over long-term through fees
- Established a Technical advisory board for first responder interoperability
- Act establishes an Interoperability Board within the FCC
- FCC Chairman to appoint 14 voting members not later than 30 days after enactment
- NTIA Assistant Secretary appoints 1 non-voting member
- Not later than 90 days after enactment, the Interoperability Board, in consultation with NTIA, NIST, and OEC, shall:
 - Develop minimum technical requirements to ensure a nationwide level of network interoperability
 - Submit to the FCC for review the recommended minimum technical requirements
- Not later than 30 days after the date on which the Interoperability Board submits recommendations to FCC, the FCC shall approve the recommendations with any revisions it deems necessary and transmit them to FirstNet
- Act establishes FirstNet as an independent authority within NTIA
- Headed by a 15-Member Board
- Holds a single public safety 700 MHz wireless broadband license
- Takes all actions necessary to ensure the design, construction, deployment, and operations of the nationwide PSBN, in consultation with Federal, State, tribal, and local public safety entities, Director of NIST, the FCC, and public safety advisory committee
- Ensures deployment phases with substantial rural coverage milestones
- FirstNet must consult with regional, State, tribal, and local jurisdictions regarding the distribution and expenditures of any amounts required to carry out its responsibilities (§6206), including:
 - Construction or access to the core network and any radio access network build out;
 - Placement of towers;
 - Coverage areas of the network, whether at the regional, State, tribal, or local levels;
 - Adequacy of hardening, security, reliability, and resiliency requirements;
 - Assignment of priority to local users;
 - Assignment of priority and selection of entities seeking access to or use of the nationwide interoperable PSBN; and
 - Training needs of local users
- FirstNet consultation must occur through the designated single officer or governmental body designated by each State
- NTIA shall establish a State and local implementation grant program to States - §6202
 - Program shall assist State, regional, tribal, and local jurisdictions to identify and plan the most effective way to utilize and integrate the infrastructure, equipment, and other architecture associated with the nationwide PSBN
 - Not later than 6 months, and in consultation with FirstNet, NTIA must establish grant program requirements, including:
 - Defining eligible costs
 - Determining scope of eligible activities
 - Prioritizing grants for activities that ensure coverage in rural as well as urban areas
 - Each State shall certify a single officer or governmental body to serve as coordinator of implementation of grant funds Also serves as point for FirstNet consultation under §6206
- State Network Process:
 - FirstNet must complete the RFP process for the construction, operations, maintenance, and improvements of the nationwide PSBN
 - Upon completion of the RFP process, FirstNet will notify the Governor of each State (or his/her designee) of:
 - Completion of the RFP process;
 - Details of the proposed plan for build out of the nationwide, interoperable broadband network in the State; and
 - Funding levels for the State as determined by NTI

- No later than 90 days after being notified by FirstNet, each Governor must choose whether his/her State will:
 - Participate in the deployment of the nationwide PSBN as proposed by FirstNet; or
 - Conduct its own deployment of a radio access network in the State
- If State decides to opt-out, the Governor must notify FirstNet, NTIA, and the FCC (§6302):
 - The State then has 180 days to develop and complete RFPs for the construction, maintenance, and operations of the radio access network (RAN) within the State
 - The State shall submit an alternate plan for the construction, maintenance, and operations of the RAN within the State to the FCC and the plan must demonstrate:
 - That the State will be in compliance with the minimum technical interoperability requirements
 - Interoperability with the nationwide public safety broadband network
- FCC shall review and either approve or disapprove the plan.

There is anticipated to be a grant mechanism to “assist state and local governments in planning for a single, nationwide interoperable public safety broadband network” . At this time it is unknown what the amount of funding might be or exactly what scope and flexibility we will have during this process.

It is important to realize based upon the above restrictions and limitations that the FirstNet LTE Broadband for Public Safety project is very different from other Broadband efforts within the state in that it is purpose built to public safety standards and the primary users are public safety practitioners. Due to the focused purpose of the system, there will be significant restrictions on authorized users, type of traffic, user authentication, privacy and audit, and the survivability of the network.



**SECTION 5:
EXISTING STATE COUNCILS,
COMMITTEES AND WORKING GROUPS**

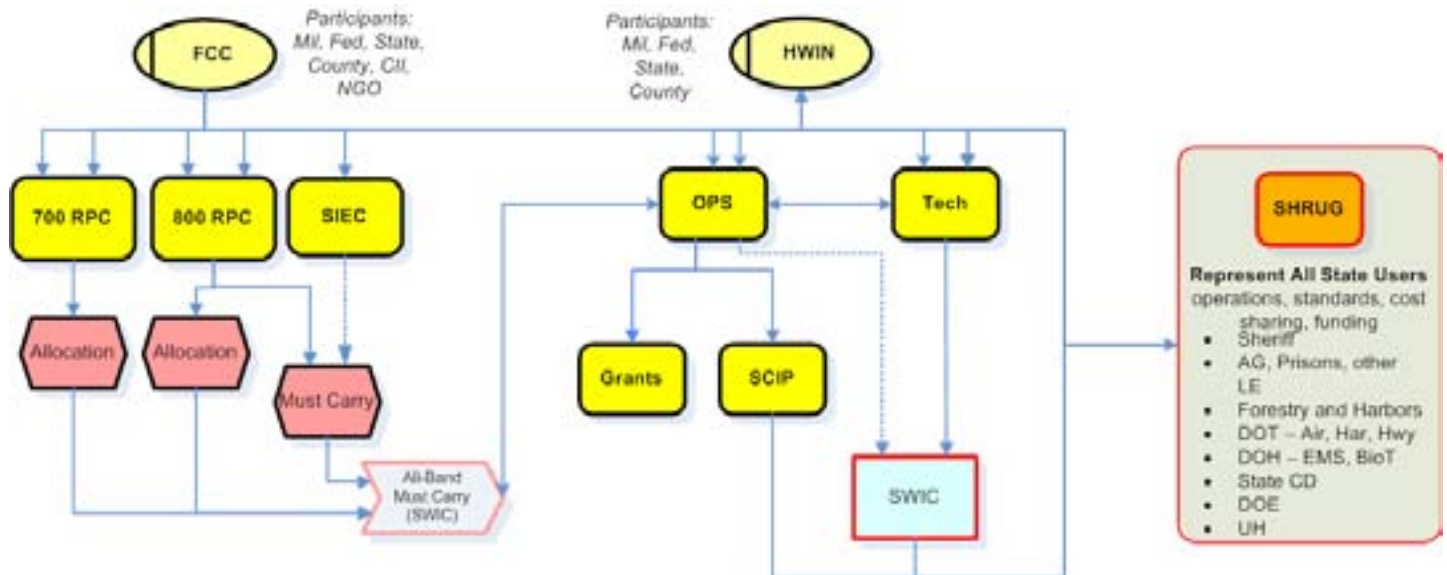


Figure 7: Waiver Entities

1.0 ANUENUE EXECUTIVE COUNCIL

Legal Authority: MOU with US Coast Guard (USCG) established the council

Chairs: State CIO and USCG

Membership: Restricted to OIMT and USCG staff

Occurrence: Quarterly

Description: Reviews and approves 'Anuenue proposed projects and operational needs for the State / USCG partnership.

2.0 STATE OF HAWAI'I RADIO USER'S GROUP (SHRUG)

Legal Authority: Comptroller Memorandum

Chair: SWIC or OIMT Telecommunications Planner

Membership: One State Agency radio coordinator from each agency

Occurrence: Monthly - (This group has been inactive for some time and needs to be reestablished)

Description: Used to coordinate and prioritize state radio user's needs & projects since they are not represented as voting members of HWIN & SCIP.

3.0 700 MHZ REGIONAL PLANNING COMMITTEE

Legal Authority: FCC - Federal Sunshine meeting rules

Chair: Bob Hlivak, Chairperson, Clay Chan, Vice-Chairperson

Membership: Sunshine meeting with elected voting membership

Occurrence: Previously quarterly - inactive for some time

Description: In 1998, the Federal Communications Commission (FCC) established a structure to allow Regional Planning Committees (RPCs) optimal flexibility to meet state and local needs, encourage innovative use of the spectrum, and accommodate new and unanticipated developments in technology and equipment. There are fifty-five RPCs, and each committee is required to submit its plan for the General Use spectrum. The FCC's role in relation to the RPCs is limited to (1) defining the regional boundaries; (2) requiring fair and open procedures, i.e., requiring notice, opportunity for comment, and reasonable consideration; (3) specifying the elements that all regional plans must include; and (4) reviewing and accepting proposed plans (or amendments to approved plans) or rejecting them with an explanation.

The FCC expects RPCs to ensure that they are representative of all public safety entities in their regions by providing reasonable notice of all meetings and deliberations. Further, regional plans must include an explanation of how all eligible entities within the region were given such notice. For the initial meeting, called by the convener to form the RPC and hold elections, the FCC requires at least sixty days' notice. In developing their regional plans, RPCs must ensure that their proposed plans comply with the rules and policies governing the 700 MHz public safety regional planning process. The FCC also encourages the RPCs to consider using the guidelines developed by the Public Safety National Coordination Committee (NCC). RPCs may approach the assignment of the spectrum differently, by, for example, making specific assignments to eligible public safety entities, or by establishing an allotment pool based on political boundaries, such as counties.

4.0 800 MHZ REGIONAL PLANNING COMMITTEE

Legal Authority: FCC - Federal Sunshine meeting rules

Chair: Alvin Sunahara, Chairperson
Walter H. Pacheco, Vice Chairperson

Membership: Sunshine meeting with elected voting membership

Occurrence: Previously quarterly – inactive for some time

Description: In 1998, the Federal Communications Commission (FCC) established a structure to allow Regional Planning Committees (RPCs) optimal flexibility to meet state and local needs, encourage innovative use of the spectrum, and accommodate new and unanticipated developments in technology and equipment. There are fifty-five RPCs, and each committee is required to submit its plan for the General Use spectrum. The FCC's role in relation to the RPCs is limited to:

- Defining the regional boundaries
- Requiring fair and open procedures, i.e., requiring notice, opportunity for comment, and reasonable consideration
- Specifying the elements that all regional plans must include
- Reviewing and accepting proposed plans (or amendments to approved plans) or rejecting them with an explanation.

The FCC expects RPCs to ensure that they are representative of all public safety entities in their regions by providing reasonable notice of all meetings and deliberations. Further, regional plans must include an explanation of how all eligible entities within the region were given such notice. For the initial meeting, called by the convener to form the RPC and hold elections, the FCC requires at least sixty days' notice. In developing their regional plans, RPCs must ensure that their proposed plans comply with the rules and policies governing the 800 MHz public safety regional planning process. The FCC also encourages the RPCs to consider using the guidelines developed by the Public Safety National Coordination Committee (NCC). RPCs may approach the assignment of the spectrum differently, by, for example, making specific assignments to eligible public safety entities, or by establishing an allotment pool based on political boundaries, such as counties.

5.0 HAWAII WIRELESS INTEROPERABILITY NETWORK (HWIN)

Legal Authority: MOA between members

Chair: The State Adjutant General/Director of Civil Defense and the State Chief Information Officer shall serve as the Committee Co-Chairs.

Membership: The HWIN Executive Committee is open to Federal, State and County agencies. The Executive Committee consists of eleven primary members. Associate members will include those personnel needed to facilitate HWIN Executive Committee proceedings and actions. HWIN Executive Committee members shall be designated from the following agencies:

- Federal Department of Defense – U.S. Pacific Command
- Federal Law Enforcement – Federal Bureau of Investigation
- Federal Homeland Security – Fourteenth U.S. Coast Guard District
- State Department of Defense – The Adjutant General/Director of Civil Defense
- State Chief Information Officer
- State Comptroller (Non Voting)
- Kaua'i County – Mayor's Representative
- Honolulu City & County – Mayor's Representative
- Maui County – Mayor's Representative
- Hawai'i County – Mayor's Representative
- County Police Departments – Rotated Annually

Subcommittees will consist of members appointed by the Executive Committee to carry out specific tasks and actions as defined by the HWIN Executive Committee. These include the Operations, Technical, and Funding and Grants subcommittees.

Members shall be obligated and bound to agreements which are a result of working groups or other sources which have been coordinated through all appropriate technical, legal, legislative, financial and executive levels as required and signed by those in appropriate authority.

Occurrence: Quarterly

Description: The Hawai'i Wireless Interoperability Network Executive Committee, hereafter referred to as the "HWIN Executive Committee," was formed on December 3, 2004. The purpose of the HWIN Executive Committee is to bring representatives of various State, County, and Federal agencies together to identify communications interoperability and connectivity problems. The Committee will establish policies and provide administrative oversight in the development of an interoperable wireless communications environment in the State of Hawai'i.

This group also functions as the Statewide Interoperability Executive Council (SIEC) as defined in this document. This task should be assigned to a dedicated working group in the future

The HWIN Executive Committee will cooperatively formulate policy and provide administrative oversight in the development of a statewide plan. The plan will develop standards based wireless interoperable communications infrastructure within

the State of Hawai'i. The HWIN plan shall address homeland security, public safety and emergency operations needs. A secondary role would be to improve mission support capability for day-to-day operations.

6.0 STATEWIDE COMMUNICATIONS INTEROPERABILITY PLAN (SCIP)

Legal Authority: N/A

Chair: Statewide Interoperability Coordinator (SWIC)

Membership: Each County

- OIMT, ICSD, and SCD for the State
- US DoD
- USCG
- NGO representatives

Occurrence: Monthly with quarterly face-to-face meetings

Description: The State of Hawai'i is advocating and implementing interoperable communications solutions that will allow emergency response personnel to communicate with whom they need on demand, in real time, and as authorized. This approach allows public safety response agency the flexibility to select equipment that best fits their operational requirements and still use the current local, state, federal agency, and non-government organization's communication systems without prematurely changing out functional operating communication systems.

Some of the interoperable communications solutions established in the SCIP are:

- Establishing the governance structure to oversee interoperable communications for Hawai'i's public safety agency.
- Establishing a strategic technology reserve for strategic and tactical communications during catastrophic events that compromises communication infrastructure.
- Adopting P-25 technology standards for Hawai'i's public safety agency.
- Establishing NIMS training requirements for public safety agency and developing training and skill prerequisites for Communication Unit Leaders (COML).
- Establishing and implementing national and regional shared channel plans in the UHF, VHF, 700 MHz, and 800 MHz spectrums statewide.
- Expanding and completing the Public Safety 700 MHz radio

system statewide by 2015.

- Migrating the existing State of Hawai'i's disparate radio systems onto one statewide Public Safety 700 MHz radio system.
- Coordinating and establishing Regional Tactical Interoperable Communications Plans (TICP) for Hawai'i, Maui, Kaua'i, and O'ahu by June 30, 2008. The initial regional TICP meetings are scheduled and will be conducted between November 27 and December 6, 2007.
- Validating the Regional TICPs through a Homeland Security Exercise Evaluation Program (HSEEP) designed limited scale exercise with a full range of participants and interoperable communications systems exercised by December 31, 2008.

Goals of each of the Regional Planning Groups are:

- Identify each agency and point of contact information for federal, state, local and non-governmental agency operating within each RPZ.
- Identify each agency's existing communications capabilities.
- Identify communications and interoperable communications requirements.
- Provide input in the stakeholder's strategic planning session.
- Implement, execute and sustain the SCIP initiatives.

The defined Federal Jurisdictions are:

- The federal jurisdiction represented in the SCIP is classified as the Federal Department of Defense (DOD) or the Federal Department of Homeland Security (Federal Non-Department of Defense) agency.
- For the purpose of the SCIP, Federal non-Department of Defense agencies have been represented under the Federal Department of Homeland Security (DHS). DHS is currently | represented, in the SCIP by USCG.
- The Federal Department of Justice (DOJ) also has several agencies with offices in O'ahu, including the Federal Bureau of Investigations (FBI) and the Drug Enforcement Administration (DEA), Federal Department of Interior's (DOI), and the National Park Service which administers the National Parks in the State of Hawai'i. For SCIP representation, coordination is currently done through the DHS USCG representative.

The SCIP committee defined authorized non-governmental agency as critical infrastructure agency and critical assets, to include the following sectors: Electricity, Telecommunications, Public Safety Broadcasters, Airlines, Hotels Association, Refineries, Hospitals, Cargo and Passenger companies, Utilities-Water purveyors, gas and fuel, and the American Red Cross and other public safety-oriented charities.

Examples of NGOs operating in the State of Hawai'i are:

- American Medical Response (EMS provider)
- American Red Cross
- Healthcare Association of Hawai'i (liaison for hospitals)
- Air Medical Ambulance, and Hawai'i Air Ambulance (air medical transport)
- Hawaiian Electric, HELCO Electric, Maui Electric, and Kaua'i Island Utility Cooperative (electrical utilities)
- Matson, Young Brothers, and Horizon Lines (maritime cargo companies)
- Chevron, and Tesoro (refineries)
- The Gas Company (natural and synthetic gas provider)
- Hawaiian Telecom, and Oceanic (telecommunications)
- Private radio stations (public safety broadcasters)
- Healthcare Association of Hawai'i (HAH)

SCIP Mission:

To provide effective and efficient voice and data interoperable communications for the State of Hawai'i public safety responder agencies during emergencies ranging from day-to-day incidents to statewide catastrophic emergency involving different disciplines and jurisdictions. This can be accomplished:

- By facilitating county, state, federal and authorized non-governmental agency cooperation and input
- By developing regional and statewide infrastructure architectures
- By developing statewide communication procedures and standards
- By facilitating joint training and exercises with county, state, federal and authorized non-governmental agency

SCIP Goals/Objectives:

The SCIP committee established the following goal and objectives for achieving interoperable communications:

Goal: Establish and maintain effective interoperable public safety voice and data communications statewide.

Objectives:

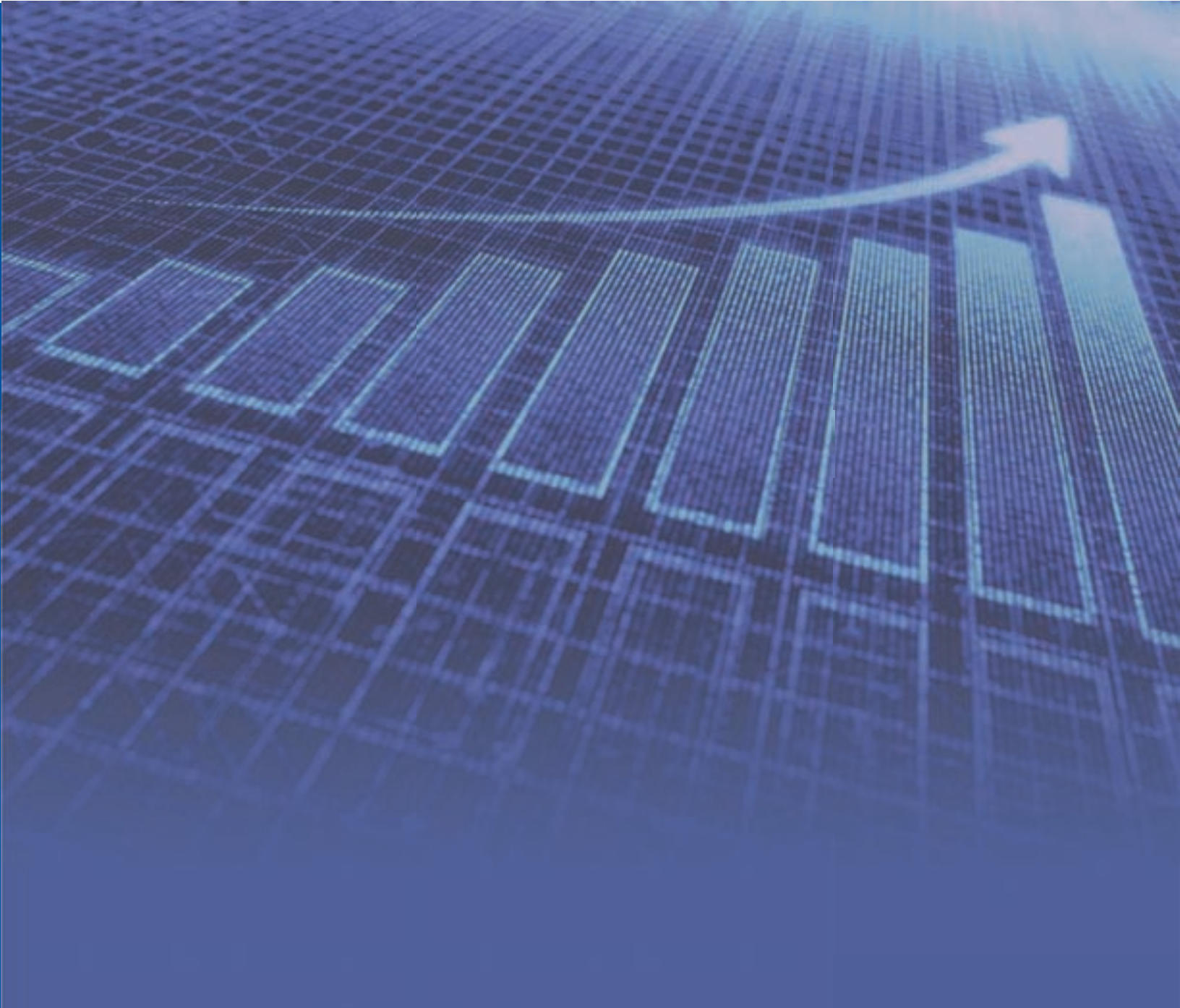
- Develop agreements to implement interoperable communications.
- Establish regional stakeholder communications requirements for voice and data capabilities.
- Establish a pre-positioned strategic technology reserve to provide interoperable communications for an all-hazards event that compromises communications infrastructures.
- Establish SOPs and implement systems to utilize existing national and regional interoperable communications standards.
- Evaluate the effectiveness of interoperable communications statewide through training and exercises.
- Establish investment and funding processes to execute interoperable communications initiatives.

SCIP Strategic Initiatives:

The five SCIP strategic initiatives established to achieve its interoperable communications vision are:

- Exercise the existing statutory authority of the State CIO and the Director of Civil Defense to oversee the composition, role and authority of the HWIN to coordinate current and future interoperable communications needs statewide. This initiative was formalized in Section 4.1, Governance and resolves an identified gap.
- Establish and fund the full-time position of a dedicated Interoperable Communications Coordinator (ICC).
- Establish distinct statewide standards for interoperable communication voice and interoperable data communication technologies and a Statewide Technology Reserve (STR).
 - a. The HWIN Executive Committee approved the following P-25 technology standards for Hawai'i:
 - b. All purchases of Land Mobile Radio systems and subscriber voice communications systems and equipment intended for use by public safety or first responders within the State of Hawai'i after December 31, 2008 shall be governed by the following requirements:
 - i. Communications systems and equipment purchased shall be compliant with the P-25 Phase 1 suite of standards. All subscriber equipment shall at a minimum include a P-25 Phase 1 enhanced full rate vocoder and be fully functional using 12.5 kHz channelization.

- ii. Purchasers shall require the original equipment manufacturer to provide documented evidence that the equipment has been tested, and passed all of the applicable, published and normative P-25 Phase 1 compliance assessment test procedures for performance, conformance and interoperability prior to entering into a contract.
 - iii. Any subscriber radios purchased for use in either the 700 MHz or the 800 MHz NPSPAC bands shall be capable of operating in both bands.
 - iv. Variances to the above requirements will be addressed to the HWIN Executive Committee.
- c. Hawai'i's STR was established and communications equipment will be purchased from the PSIC grant funds.
 - d. Hawai'i's NIMS training requirements were established in Section 2.1.9, and each Regional TICP will identify additional Communication Unit Leaders (COML) skills and training prerequisites; and will establish an inventory of qualified COMLs in each RPZ. The deadline to complete the Regional TICP was June 30, 2008.
- e. Hawai'i's VoIP and RoIP standards for interoperable communications will be established in 2008.
 - f. UHF, VHF, and 700 MHz national and regional shared channel plans will be established for Region 11 in 2008.
 - g. Region 11 800 MHz shared channel plan will be implemented by the appropriate agencies in 2008.
2. Establish statewide requirements for communications (voice and data). This initiative addresses channel capability requirements, repeater sites radio building space requirements, completing the State's Public Safety 700 MHz radio system and completing the build-out of the digital 'Anuenue microwave backbone.
 3. Establish Regional TIC Plans for each of the four statewide regions. Regional TIC Plans will be established by June 30, 2008, and a regional exercise will be conducted by December 31, 2008, to validate each Regional TIC Plan.



**SECTION 6:
MAJOR SCHEDULED EVENTS
(MILESTONES AND REOCCURRING)**

1.0 RADIO PROGRAM MILESTONES (NON-STAFFING)

Table 3 Milestones (Non-Staffing)

Non-Staffing Milestones	Person or Team responsible	Planned Completion Date
Filing of all licensing documentation	Telecommunications Planner	Recurring
Operational Contracts renewals & Solicitations	ICSD	Recurring
Organizational Meetings	SWIC / USCG / SCD	As noted above

2.0 RADIO PROGRAM MILESTONES – NEAR TERM CAPITAL PROJECTS

Milestones	Funding FY	Estimated Cost \$K
HAWAIIAN microwave backbone - south replacement and new links	2014	Pending Review
Statewide Shared Blended O’ahu Simulcast and Expansion	2014-2015	Pending Review
Statewide Shared Blended Maui Trunking	2015	Pending Review
Contribute to Hawaii County LMR Build	2014-2015	Pending Review
Hawai’i Island CIP - planning, permitting, and design – Humu’ula, Kulani Cone, and Holualoa	2014	Pending Review
Hawai’i Island CIP - construction – Humu’ula tower, Kulani Cone tower, and Holualoa facility and tower	2014-2015	Pending Review
TOTAL		Pending Review

Notes:

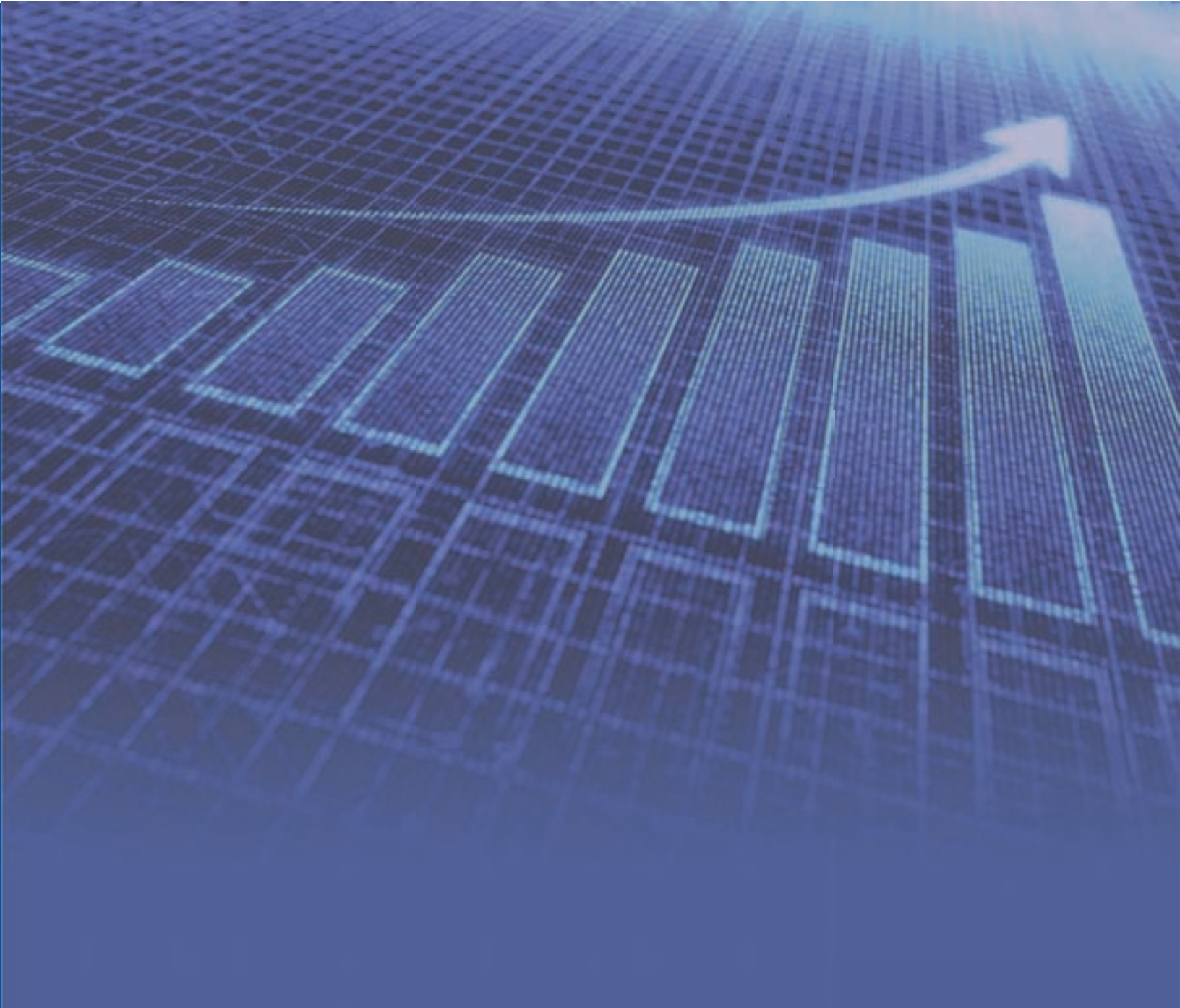
List of CIP projects above assumes that current radio CIP projects on Oahu and Kauai are fully funded to complete construction. If not additional funds will be required.

The cost of contribution to the Hawai’i County build is currently unknown as they are currently in the design/procurement process for their system.

3.0 RADIO PROGRAM MILESTONES (STAFFING)

Table 4 Milestones (Staffing)

Staffing Milestones	Person or Team Responsible	Planned Completion Date
Meet with Human Resources	Radio Office, Information Management Chief, OIMT Business Manager	TBD
Write PDs	Radio Officer	TBD
Classify PD	OIMT HR	TBD
Advertise Vacancies (Open continuously)	OIMT HR, OIMT Business Manager	TBD
Pull 1st Set of Applicants (SR 22 & 26)	OIMT HR	TBD
Set up interviews	CIO Business Manager, Radio Officer	TBD
Finalize Interviews; Give Cert & Recommendations to CIO for Approval	Radio Officer	TBD
Pull 2nd Set of Applicants	OIMT HR	TBD
Approval from CIO	Information Management Division Chief, Dept CIO, CIO	TBD
Provide Cert to OIMT HR for Processing	OIMT Business Manager	TBD
Set Up Interviews for 2nd Set of Applicants	OIMT Business Manager, Radio Officer	TBD
Make 1st Offer	OIMT HR	TBD
TBD	Radio Officer	TBD
Pull 3rd Set of Applicants) (If needed to fill 2 Vacancies)	OIMT HR	TBD
Hire 1st Applicant (On-board)	OIMT HR	TBD
Make 2nd Offer	OIMT HR	TBD
Set Up Interviews for 3rd Set of Applicants	OIMT Business Manager, Radio Officer	TBD
Finalize Interviews (3rd Group); Give Cert & Recommendations to CIO for Approval	Radio Officer	TBD
Hire 2nd Applicant (On-board)	OIMT HR	TBD
Using hiring sequence/procedures/milestones above, additional hiring in FY 15 to cover shortfalls in hiring in FY 14 up to 2 Positions	OIMT Business Manager, Radio Officer, CIO, Information Management Div. Chief, OIMT HR	TBD
Using hiring sequence/procedures/ milestones above, additional hiring in FY 15 = 1 Additional Positions	OI OIMT Business Manager, Radio Officer, CIO, Information Management Div. Chief, OIMT HR	TBD



SECTION 7: COSTS

1.0 IDENTIFIED PROGRAM COSTS INCLUDING THOSE THAT HAVE BEEN REQUESTED BY THE OIMT

Table 5 Annual FY 14 Operating Costs

Description	Estimated Annual Budget (Starting in FY14) (in Thousands \$)	Basis of Estimates (Formulation Method & Source)
Personnel costs:	Pending Review	Estimate of salaries
Ongoing FTE expenses for 3 Radio Specialists	Pending Review	
Travel:		
-Outer Island radio sites	Pending Review	Based on existing travel requirements for staff
-Industry training	Pending Review	
-Industry conferences	Pending Review	Based on estimated first year costs
Other Services:	Pending Review	
- Training	Pending Review	
Equipment:	Pending Review	
Scanners, Printers, Laptops, Docking Stations, Monitors, Etc.	Pending Review	Based on estimates provided by previous procurement and contracts.
Communications: Smartphone, teleconference lines; etc.	Pending Review	
Supplies/Printing/Minor Misc Contracts:	Pending Review	Based on estimates from OIMT, current supply expenditures
Total	Pending Review	

FY15 has additional increase of one FTE SR26, bringing the total of new Radio staff to four FTE SR26. These annual costs will be used as the basis for Total Cost of Ownership.

Table 6 Annual FY 15+ Operating Costs

Description	Estimated Annual Budget (Starting in FY14) (in Thousands \$)	Basis of Estimates (Formulation Method & Source)
Personnel costs:	Pending Review	
Ongoing FTE expenses for 3 Radio Specialists	Pending Review	Estimate of salaries
Travel:		
-Outer Island radio sites	Pending Review	
-Industry training	Pending Review	
-Industry conferences	Pending Review	Based on existing travel requirements for staff
Other Services:	Pending Review	
- Training	Pending Review	Based on estimated first year costs
Equipment:	Pending Review	
Scanners, Printers, Laptops, Docking Stations, Monitors, Etc.	Pending Review	
Communications: Smartphone, teleconference lines; etc.	Pending Review	
Supplies/Printing/Minor Misc Contracts:	Pending Review	Based on estimates from OIMT, current supply expenditures
Total	Pending Review	

2.0 CRITICAL SUCCESS FACTORS

Critical Success Factors (CSFs) increase the probability of success when management focuses attention in these areas. This program’s CSFs are:

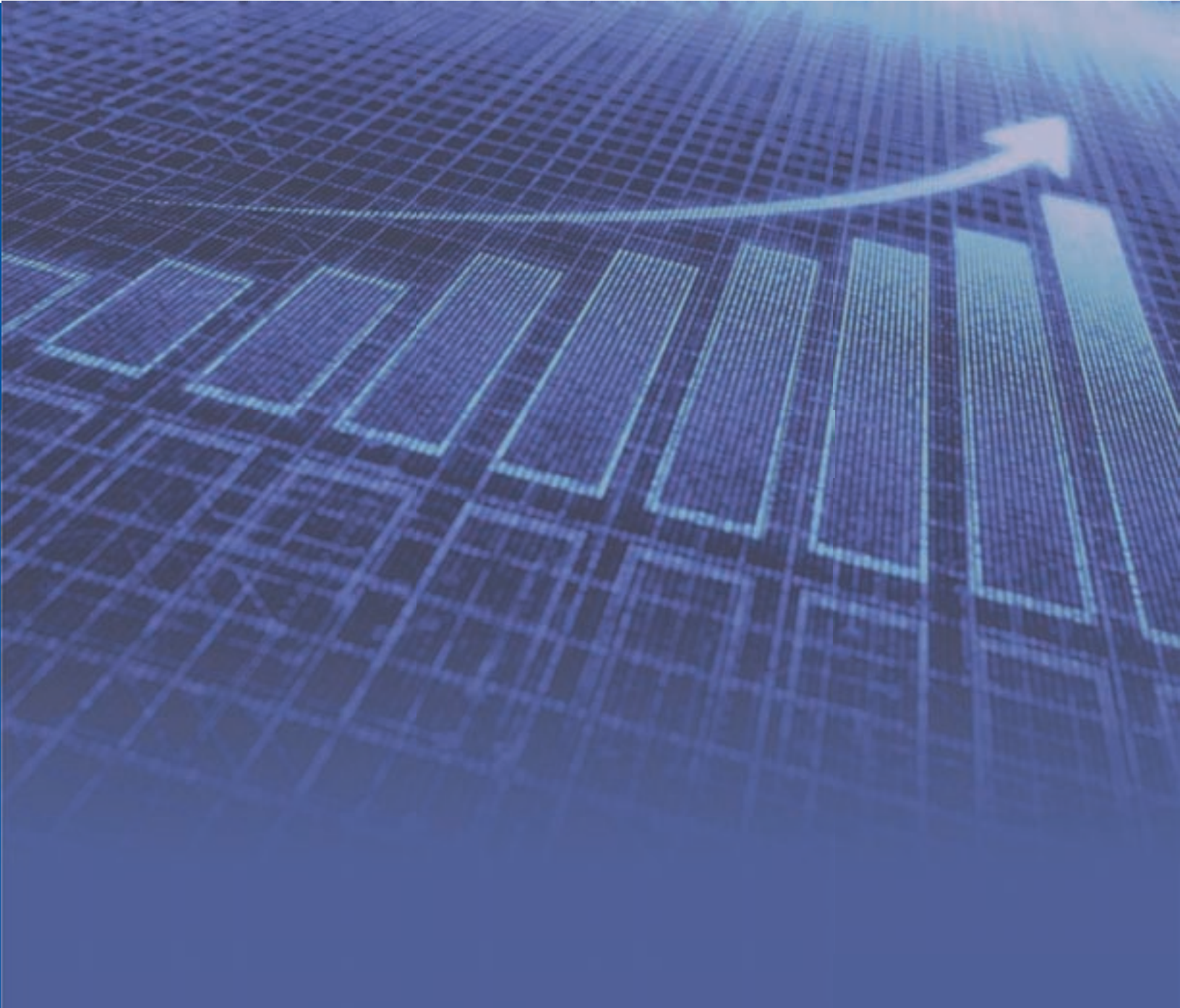
- Timely commitment of funds and processing of required acquisitions
- Availability of appropriately skilled staff and contractors to complete program tasks and deliverables
- Participation and commitment of program team to complete their tasks and deliverables on schedule
- Given the isolation of Hawai’i and the scarcity of local SMEs with deep knowledge and understanding of public safety communications, it is critical that staff associated with this program be given every opportunity to attend training, educational conferences, and meetings on the mainland.

3.0 ASSUMPTIONS

Success is predicated on hiring requested staff, contractor support; fulfilling financial resources; e.g. procuring tools; implementing policies, authorities and processes as requested. Contractor support will be required for operational needs across the islands for the duration of the program as this was found to be the most economically and technically feasible given the geographic diversity of the system and staffing limitations. It is unknown what additional resources will be needed when FirstNet is established and a build out in Hawai’i starts.

4.0 TECHNICAL CONSTRAINTS

The Radio Program will need new and more sophisticated tools to more effectively track, monitor and analyze the outputs and performance of the program. It will be necessary to have these to better determine and analyze quantitative and qualitative measures for the effectiveness and overall performance of Radio compliance and quality at the Department. To have this evaluative capability, there will need to be new metrics, analytics, and measures for Radio compliance. The data will provide value in measuring levels of compliance, quality assurance across the Department, areas needing correction and enforcement, and provide for improved program management.



SECTION 8: MINIMUM RECOMMENDATIONS

Governance

Multi-jurisdictional and multi-disciplinary committees are not formally established in each RPZ

- Recommendation: Formally establish RPZ with By-Laws and conduct regular stakeholder meetings. Include County, State, Federal and NGO in the RPZ committee.
 - Standard Operating Procedures
 - Area wide, RPZ, and agency procedures for interoperability communications not established
- Recommendation: Update EOPs. Communications Annex does not reference TIC Plans, Hawai'i Shared Channel Plan, Interim Communications Plan if communications infrastructure damage or destroyed, STR, etc, Warning Systems, Public Safety Answering Point System

Technology

There are currently numerous solutions implemented: Voice-P-25, legacy, wideband / narrowband , Command and Control-E-Team, Web-EOC, USCG, DOJ-LEO, Facebook, Twitter, Data infrastructure

- Recommendation: Program shared channels into subscriber radios when agencies are able to. Select one primary Command and Control tool for all State and County agencies to use.

Training and Exercises

A three-year communications training and exercise program not established

- Recommendation: Require each RPZ to draft a 3-year communications T & E plan for their RPZ and merge into a statewide plan.
 - Communications training should be linked with ICS 300 and ICS 400 training
 - Exercise EOPs Communications Annex on a regular basis
 - End users need to be aware of channel and talk groups available to them and how to use effectively to coordinate during an emergency.

Usage

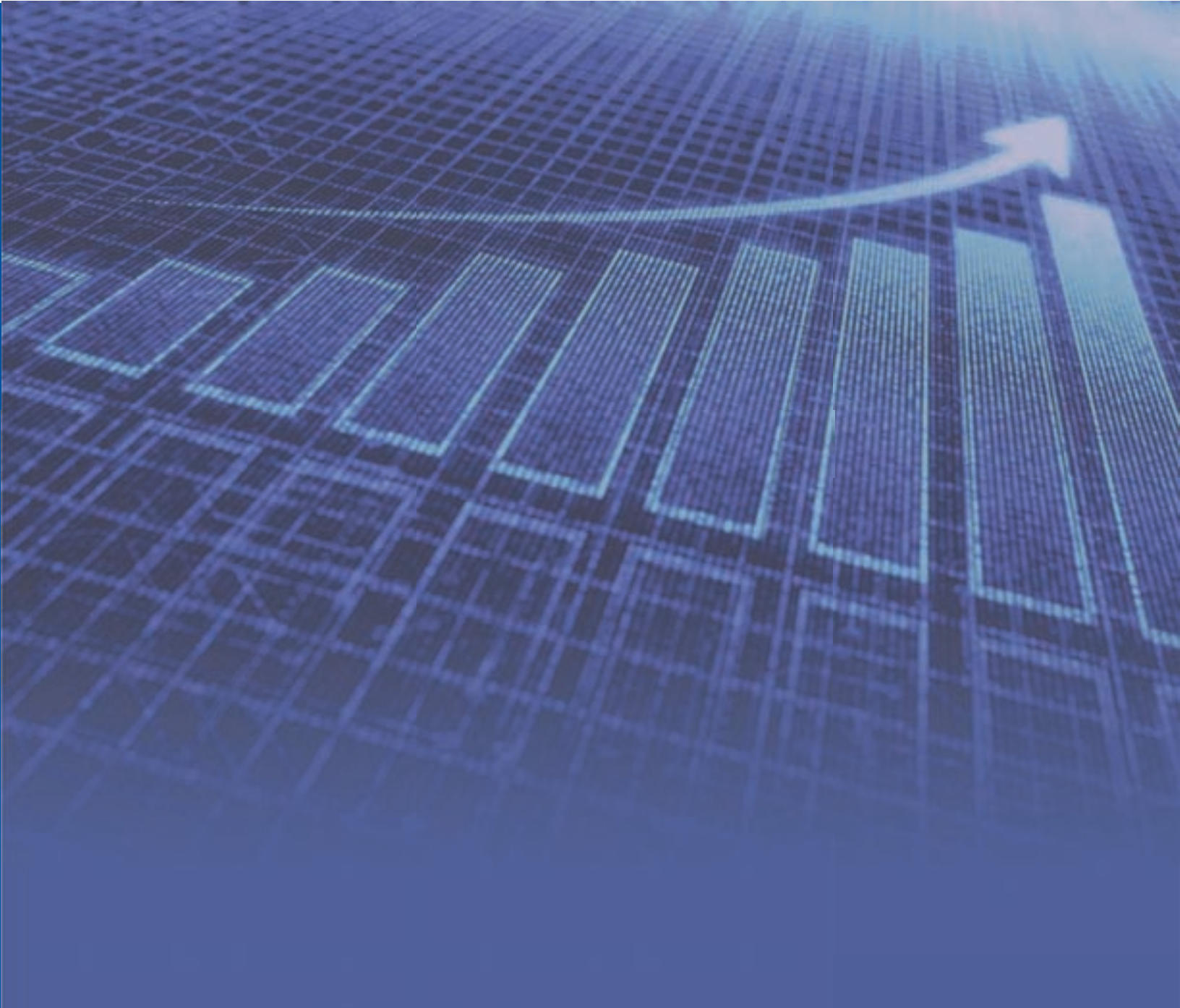
Process for assessing interoperability during real world emergencies not established

- Recommendation: RPZ committees should review significant incidents occurring in their RPZ. Use NECP Goal #2 performance rating sheet to assess interoperability during planned events and real work incidents.

MOAs & MOUs

There is not a central location where all MOAs and MOUs are stored and there is some inconstancy in language.

- Recommendation: Update all MOAs and MOUs systemwide ensuring where there are future deliverables or payments due that they are clearly defined. Publish a summary document containing all terms and conditions that can be reviewed by all government users.

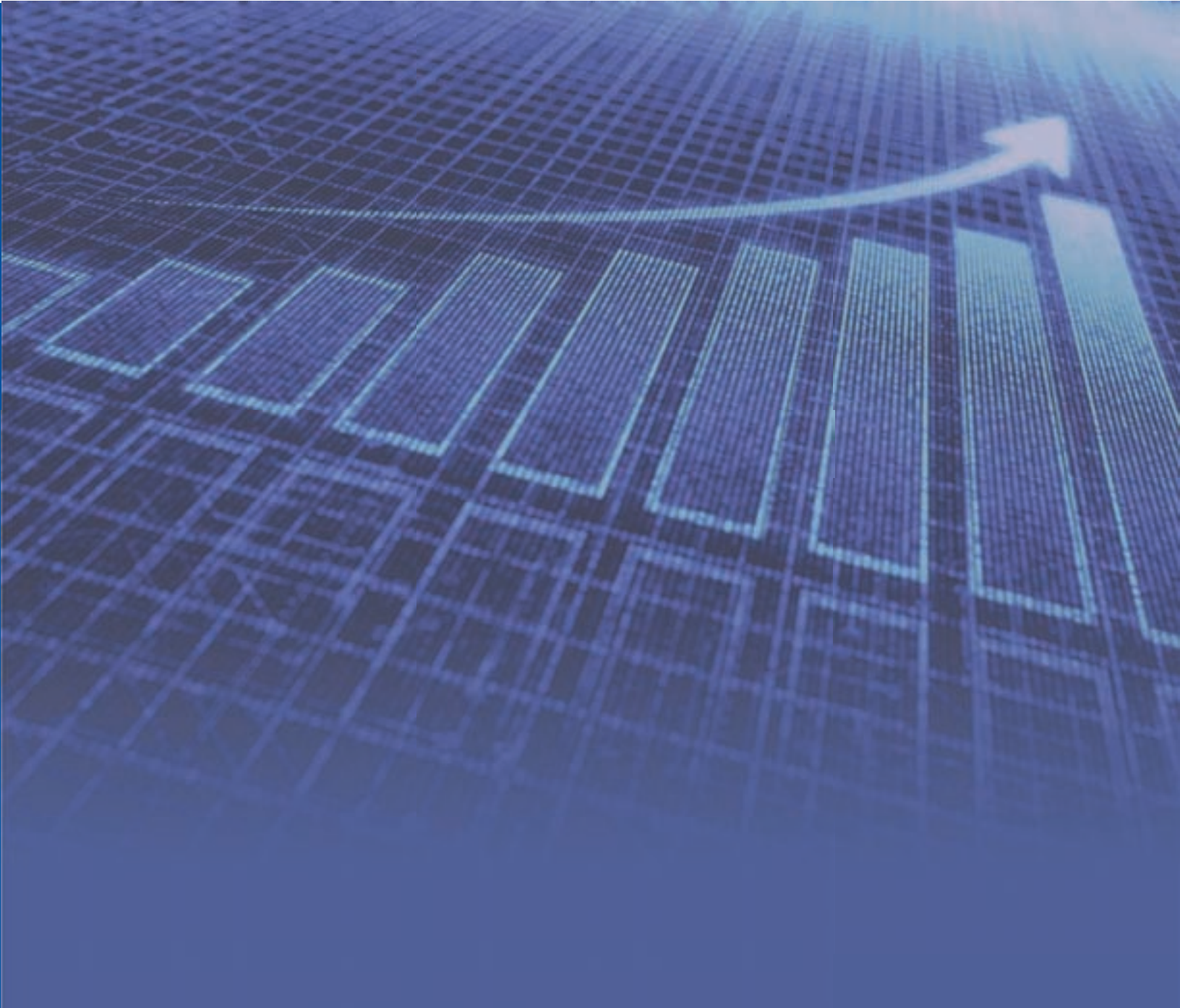


SECTION 9: RISKS

This section summarizes major program risks discovered at the start of the program. This program’s risks will be monitored and reported as part of the Radio Program Risk Register.

Table 7 Risks

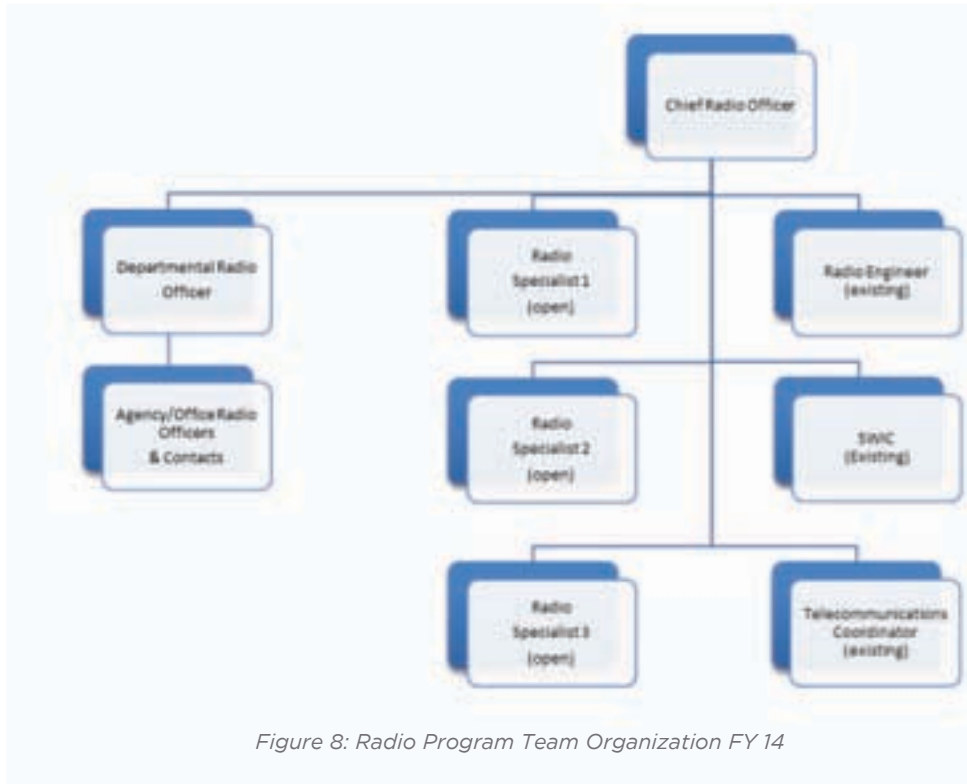
ID	Description	Probability 1 = low 5 = high	Probability 1 = low 5 = high	Mitigation Plan
1	Personnel overcommitted due to other tasks, existing duties, illness, vacations, etc. may delay program	5	5	Ensure Agency/Office Radio Officers have backups
2	Contracting / permitting delays for procurements may delay program or increase costs	4	4	Extend Program schedule, as necessary; keep CIO & OIMT Business Manager informed of anticipated cost issues
3	Effort required by the implementation of FirstNet	5	5	Additional staff and funding may be required to meet the needs of FirstNet and to support State use.



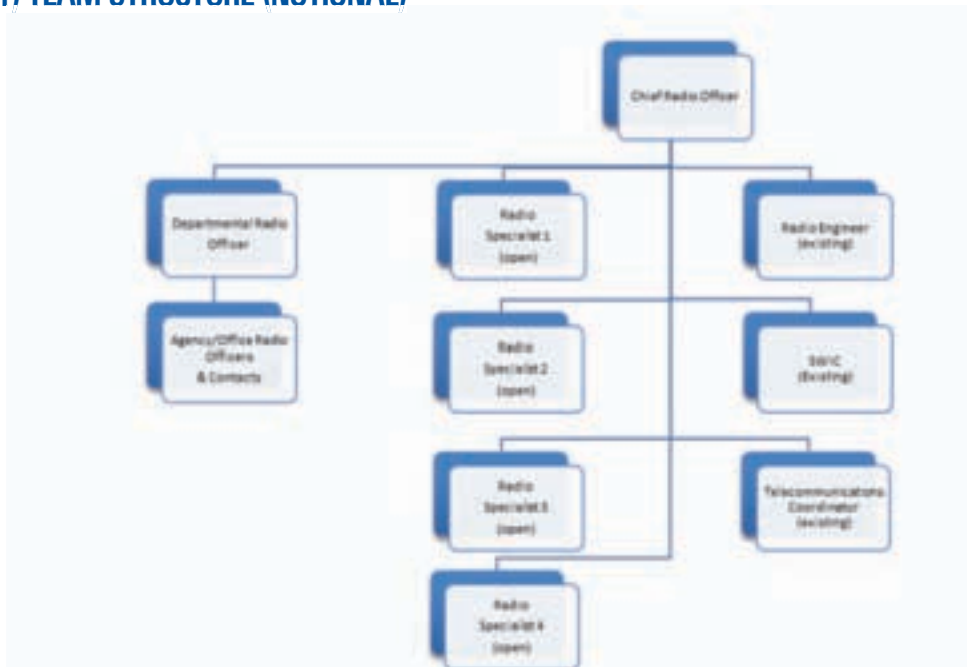
SECTION 10: RESOURCE REQUIREMENTS

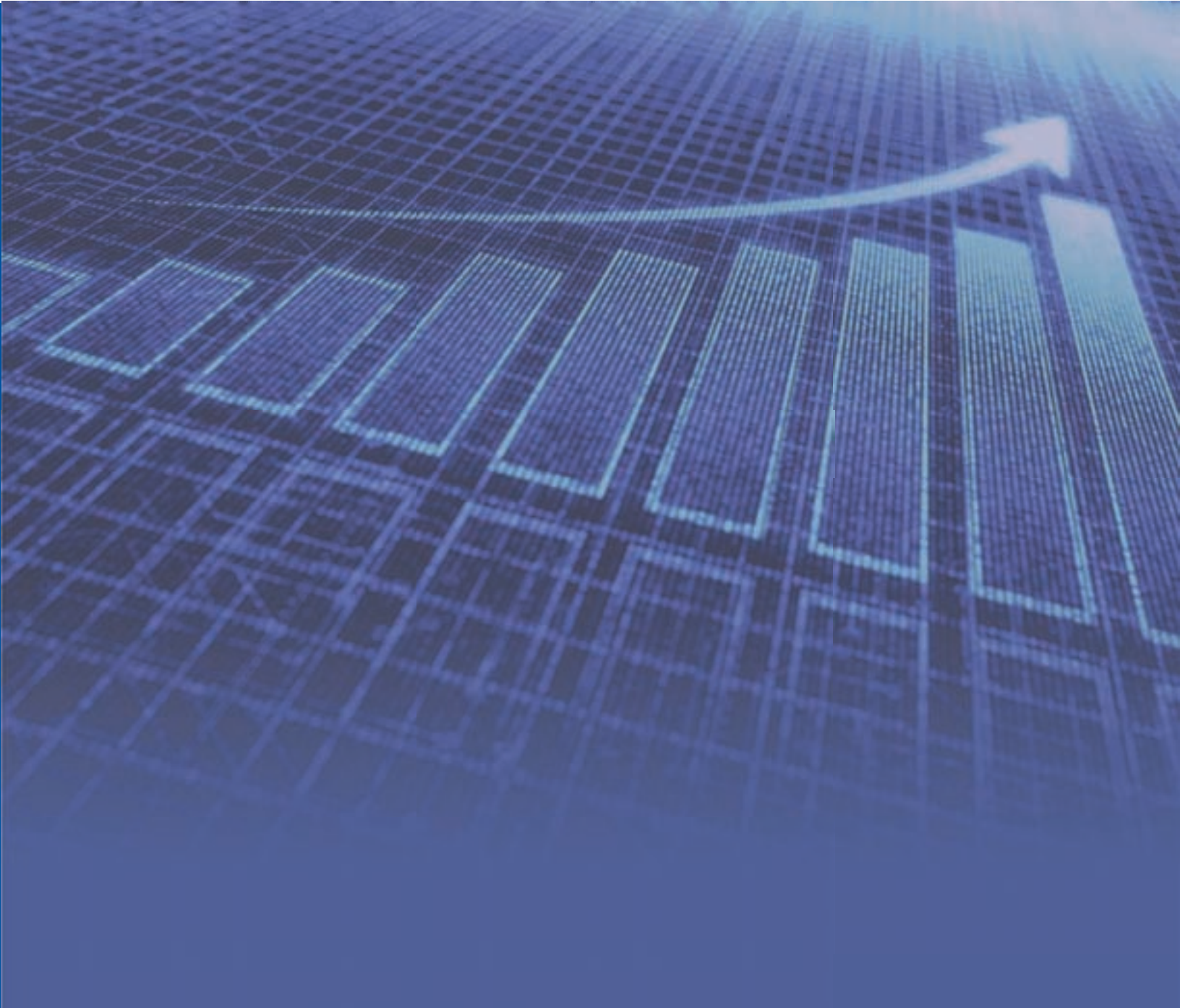
The State currently relies very heavily on contractor support for its critical first responder communications systems, and the existing staffing level for radio technical staff is insufficient to keep up with all the daily operational needs. This puts us in a very dangerous place where in a time of disaster or crisis or even a simple operational fix, resources required for restoration of service may not be available to perform work for the State. This document proposes the bare minimum number of staff required to provide support for the electronics and programming and some basic physical plant restoration. The Chief Radio officer as noted here may be the Branch or Section Chief. It is assumed that other departments do have a named Radio Officer in place and if not, one will be established.

1.0 FY14 TEAM STRUCTURE (NOTIONAL)



2.0 FY14(+1) TEAM STRUCTURE (NOTIONAL)





SECTION 11: ROLES AND RESPONSIBILITIES

SECTION 11: ROLES AND RESPONSIBILITIES

Table 8: Roles and Responsibilities

ROLE	REPOSNSIBILITIES
Sponsor(s): Senior Agency Official for Radio/ Chief Information Office, Agency/ Office Heads and Budget Officers	<ul style="list-style-type: none"> • Commit to the scope of this Plan • Authorize program funding/resources required to successfully meet objectives of this Plan, including full compliance with State Radio laws and policies • Be accountable for the success/failure of Agency/office compliance • Participate in Identity Theft Task Force meetings, as appropriate • Ensure acquisitions comply with State Radio requirements • Facilitate resolution of OIMT and OIMT Radio Office PII breaches and other issues outside of the program • Actively participate in progress reviews to ensure critical program information is communicated to Agency/office organizations • Facilitate resolution of program issues in Agency/office organizations
OIMT Radio Officer– Program Manager/Team Leader	<ul style="list-style-type: none"> • Manage the day-to-day work of the program • Provide program oversight and monitoring of Agency Radio programs for compliance • Define and manage program risks • Lead, coordinate and facilitate Program team’s planning and execution of tasks and deliverables • Accountable for the success/failure of program/team tasks and deliverables • Ensure appropriately skilled program participants are available when needed • Prepare and present program reports to appropriate levels of management • Facilitate resolution of issues and elevated risks • Manage acquisitions • Negotiate all MOUs and MOAs
OIMT Radio Specialists	<ul style="list-style-type: none"> • Provide leadership, expert technical assistance and training for Agency/office Subject Matter Experts (SMEs) and Radio Officers • Attend all scheduled meetings • Assist OIMT Radio Officer in providing program oversight/monitoring of Agency/office Radio programs for compliance • Actively participate in progress reviews to ensure critical program information is communicated to all Agency/office organizations • Facilitate resolution of program issues and elevated risks in Agency/office organizations • Be accountable for the success/failure of OIMT program tasks and deliverables • Ensure appropriately skilled program participants are available when needed • Complete assigned tasks and deliverables based on agreed schedule. • Act as the lead in radio systems procurements and solicitations

SECTION 11: ROLES AND RESPONSIBILITIES

Table 8: Roles and Responsibilities

ROLE	REPOSNSIBILITIES
OIMT Radio Specialists	<ul style="list-style-type: none"> • Ensure contracts are in place for required maintenance of systems and facilities • Provide status updates including issues & risks • Communicate openly and assertively • Respect opinions of others • Agree to work toward consensus • Operate, administer, maintain, and serve users of the Statewide Shared Blended (SSB) Radio System • Plan, acquire funding, and build radio equipment and facility infrastructure to provide additional capacity and coverage for the SSB as required • Work with agencies to develop and deploy standard radio “personalities” for SSB subscriber radios, balancing user needs and preferences with available channel resources and best practices • Solicit and coordinate system-to-system connections between the SSB and partner land mobile radio systems • Implement, administer, and test SSB interconnections with other land mobile radio systems and work to harmonize available talk group and interconnection resources with agency needs and SCIP plans
Agency/Office Radio Officers – Team Leaders	<ul style="list-style-type: none"> • Participate in Agency/office process to ensure compliance with applicable Radio requirements. • Anticipate/prepare to mitigate Radio risks within the Agency/office • Present program results to senior Agency/office management and others • Be accountable for the success/failure of Agency/office compliance • Attend all scheduled meetings • Prepare and present Agency/office reports to appropriate levels of management • Designate/train back-up personnel • Ensure appropriately skilled program participants are available when needed • Develop/issue Agency/office-specific procedures for compliance, as appropriate • Investigate/report on licensing issues within the Agency/office • Provide technical assistance/training to Agency/office personnel • Ensure all employees are aware of statutory/regulatory/policy responsibilities • Complete assigned tasks and deliverables based on agreed schedule • Act as Subject Matter Expert for appropriate organizational function • Be prepared to take some responsibility to educate others • Communicate openly and assertively • Respect opinions of others • Agree to work toward consensus

SECTION 11: ROLES AND RESPONSIBILITIES

Table 8: Roles and Responsibilities

ROLE	REPOSNSIBILITIES
OIMT Clerical, Finance, & Procurement Staff	<ul style="list-style-type: none"> • Oversee contracts • Manage task order solicitation • Administer contracts • Administer competitive procurements • Facilitate OIMT Radio Program Procurement staff processing of Acquisitions • Coordinate travel and process travel documents and expense reports
Internal Stakeholders: Program Team Agency/Office Radio Officers Agency/Office CIOs Sponsors All Other OIMT Employees External Stakeholders: Legislature	<ul style="list-style-type: none"> • Understand legal, regulatory and policy requirements for public safety communications • Ensure compliance with Radio laws, regulations, and policies • Provide feedback regarding OIMT implementation of Radio laws, regulations and policies via audits, reports, Legislature inquiries, correspondence, appeals/litigation, etc.

1.0 PROGRAM STAFFING PLAN

OIMT is investing 9 Full Time Equivalent (FTEs) of effort by FY 14 via employees to complete this program’s tasks and deliverables. Contractor support is not included in these tables as they are responsible for the required amount of staffing to properly meet contract requirements.

The breakdown by organization is:

Table 9: Program Staffing Plan by OIMT Entity

OIMT ENTITY	FTES
Radio Officer	1
Clerical Support	0.5
Contracts & Acquisitions	0.5
Radio Engineer	1
Telecomm Planner	1
SWIC	1
Radio Specialist (3x FY13)	3
Radio Specialist (1x FY14)	1
Program Total	9

This table shows an estimated percentage of scheduled work hours need for the program to be successful.

Table 10 Minimum Program Staffing Plan

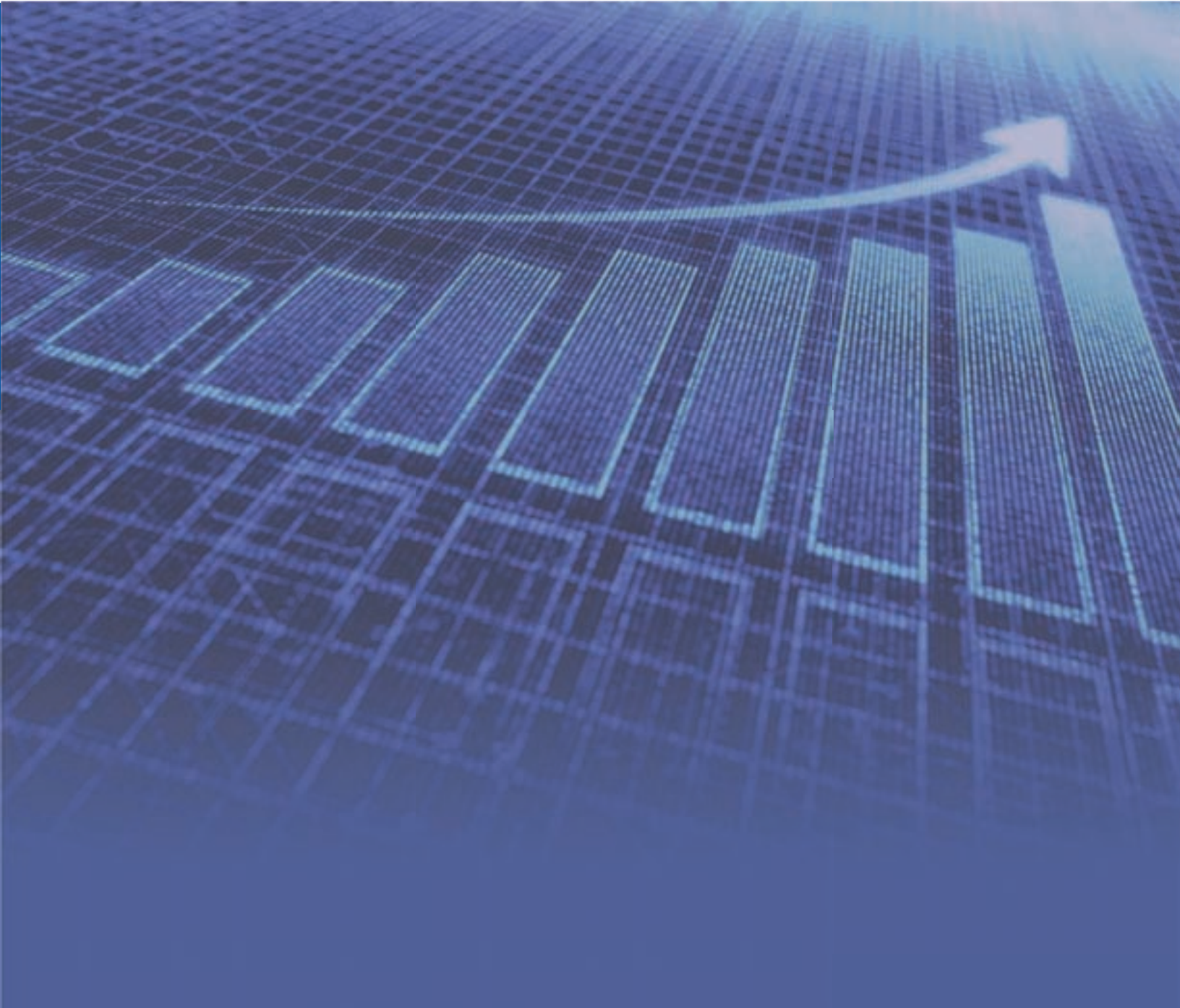
Resource Name or Role if Not Staffed	MINIMUM Needed for this program (%)	Entity
Radio Officer	100	OIMT Radio Officer
Agency Bus Mgr	0.125 ea	Each agency using system
Agency Radio Staff	0.2 ea	Each agency using system
Clerical Support	50	OIMT
Contracts & Acquisitions	50	OIMT
Public Works Staff	TBD	DAGS Public works (depends on active CIP construction projects)
Radio Engineer	100	OIMT
SWIC	100	OIMT
Telecommunications Specialist	100	OIMT
Radio Specialist (FY13)	100	OIMT
Radio Specialist (FY13)	100	OIMT
Radio Specialist (FY13)	100	OIMT
Radio Specialist (FY14)	100	OIMT

2.0 CONTRACT SERVICES REQUIREMENTS

Skills and experience in the table below is not stated as the various unique requirements of the different sites are defined in the contracts. As State staff becomes trained and skilled at some of these roles, contractor support may be able to be reduced. Given that there is equipment on all islands, the complete elimination of contractor support is not feasible without significant staffing and funding increases. It is felt that utilization of contractor resources given the current resource limitations of the State is our most efficient option.

Table 11 Contractor Requirements

Role	Skills	Experience	Duration
Grounds Maintenance	Per Contract	Per Contract	Duration of program
Generator and fuel support	Per Contract	Per Contract	Duration of program
Fire System Maintenance	Per Contract	Per Contract	Duration of program
Tower and Antenna Maintenance	Per Contract	Per Contract	Duration of program
Radio systems installation and maintenance	Per Contract	Per Contract	Duration of program
Build out of new tower sites	Per Contract	Per Contract	Duration of program

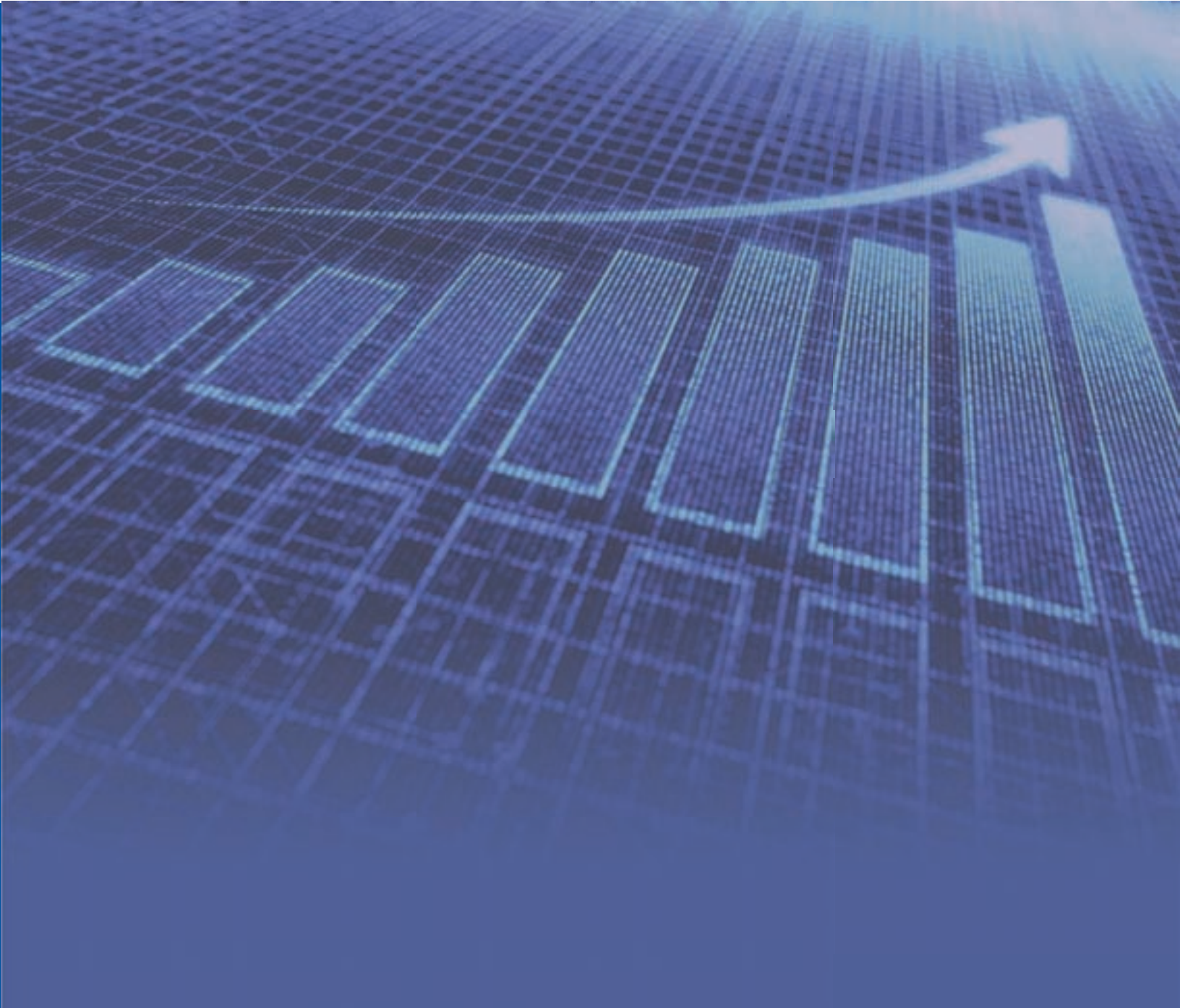


SECTION 12: DELIVERABLES

1.0 PROGRAM DELIVERABLES

- Work with DAGS Public Works to plan, acquire property and permits, and build or repair radio facility buildings, radio rooms, towers, and antenna support structures.
- Perform frequency coordination, licensing, FAA approval applications, interference and coverage studies, radiation safety studies, and related activities necessary to operate radio facilities.
- Author bid specifications for radio maintenance activities including, but not limited to, maintenance of digital microwave radio systems, land mobile radio systems, tower structures (including painting), DC power systems and batteries, radio building grounds, emergency generators (including fueling), air conditioning systems, and security systems. Monitor maintenance contractor activities.
- Manage system and site security issues ranging from employee and contractor access lists to key management.
- Work with the Information and Communication Services Division (ICSD) networking staff to operate, administer, manage, provision, refresh, and secure the SONET multiplexer and IF networking components of modern radio systems infrastructure to ensure compliance with both ICSD and any required federal standards.
- Develop and administer land mobile radio talk group and frequency allocation and use plans for State government agencies. Work with user agencies to train personnel on proper use of land mobile radio resources.
- Manage, allocate, and record bandwidth, circuits, and physical infrastructure used to support agency and partner radio activities.
- Serve as the State's representative to the 'Anuenue digital microwave radio system partnership.
- Work with State agencies, other governments, and public utilities to develop, refresh, support, and enforce agreements relating to the sharing and mutual aid support of frequencies, systems, services, and infrastructure as permitted by the HRS.
- Establish, verify, and regularly report on technical and performance standards for State radio systems and services.
- Assist the Department of Land and Natural Resources (DLNR) in the review of land management activities relating to the location and permitting of non-State radio systems on or near public lands.
- Aligning Statewide Governance & Implementation to the National Emergency Communications Plan.
- Work with State Civil Defense to establish goals and priorities for addressing deficiencies in the State's emergency communications structure.
- Monitoring all Agencies' Radio licensing, procurement, and FCC notices for ensuring statutory and State enterprise architecture compliance.
- Assuring proper fulfillment throughout the State of reviews and reporting requirements under Radio
- Oversight of Radio training programs and other types of outreach for both Agency Radio Officers and for all Departmental radio personnel.
- Coordination with others in promoting adherence to sound Radio practices and procedures, within and beyond the Executive Branch.
- Serve as chief advisor to senior agency personnel on Radio subject matters.
- Coordinate, develop and promote the adoption of operational standards and best practices for system and facility infrastructure design for use statewide by both State agencies and our county and federal agency partners.

- Develop and maintain a core competency in radio technical matters to position the State of Hawaii to anticipate and respond to changes in technologies, legislation, and user needs in wireless communications.
- Work with our county and federal partners to train and equip a technical team capable of rapid response to radio issues ranging from system outages to tracking and eliminating interference.
- Work with DAGS SPO to develop and promote the use of standardized Price List and other options to streamline and standardize procurement of radio and wireless services and hardware.
- Work with DAGS Public Works Division to plan, acquire funding for, and execute CIP projects related to radio and wireless infrastructure.
- Consolidate radio and radio infrastructure maintenance activities.
- Provide representation, support, and leadership to the various statewide entities that deal with radio related matters, including, but not limited to the 700 MHz Regional Planning Committee, the 800 MHz Regional Planning Committee, and the State Communications Interoperability Program.
- Consolidate subscriber radio programming services and provide a one-stop shop for agencies and users to use for radio programming, repair, and purchase of radio related items such as batteries and user accessories.
- Energy management oversight of radio sites and data centers to including work to plan, acquire permits, build, operate, maintain and repair emergency power systems, power conditioning systems, and redundant air conditioning systems.
- Work with ICSD management to manage security, surveillance, and fire protection systems and develop, test, and refresh response and escalation procedures.
- Microwave path surveys, radio site surveys, and topological map studies as required to establish microwave radio paths.
- Site records management; maintenance of comprehensive site and facilities database.
- Develop, test, and refresh plans for storm survival, disaster recovery, and continuity of radio system operations.



SECTION 13: PROGRAM CONTROLS

1.0 FEDERAL REPORTING

The program is responsible for adhering to all federal reporting requirements for the State. All reports must be submitted to meet or exceed federal reporting regulations.

The program will also be responsible for the maintenance and filing of all State frequency licensing with the FCC. Fees associated with Agency specific systems and requirements will continue to be funded by that specific agency, while those that are shared on a statewide basis will be assumed by OIMT.

2.0 STATE RADIO PROGRAM ANNUAL REPORT (ANNUAL)

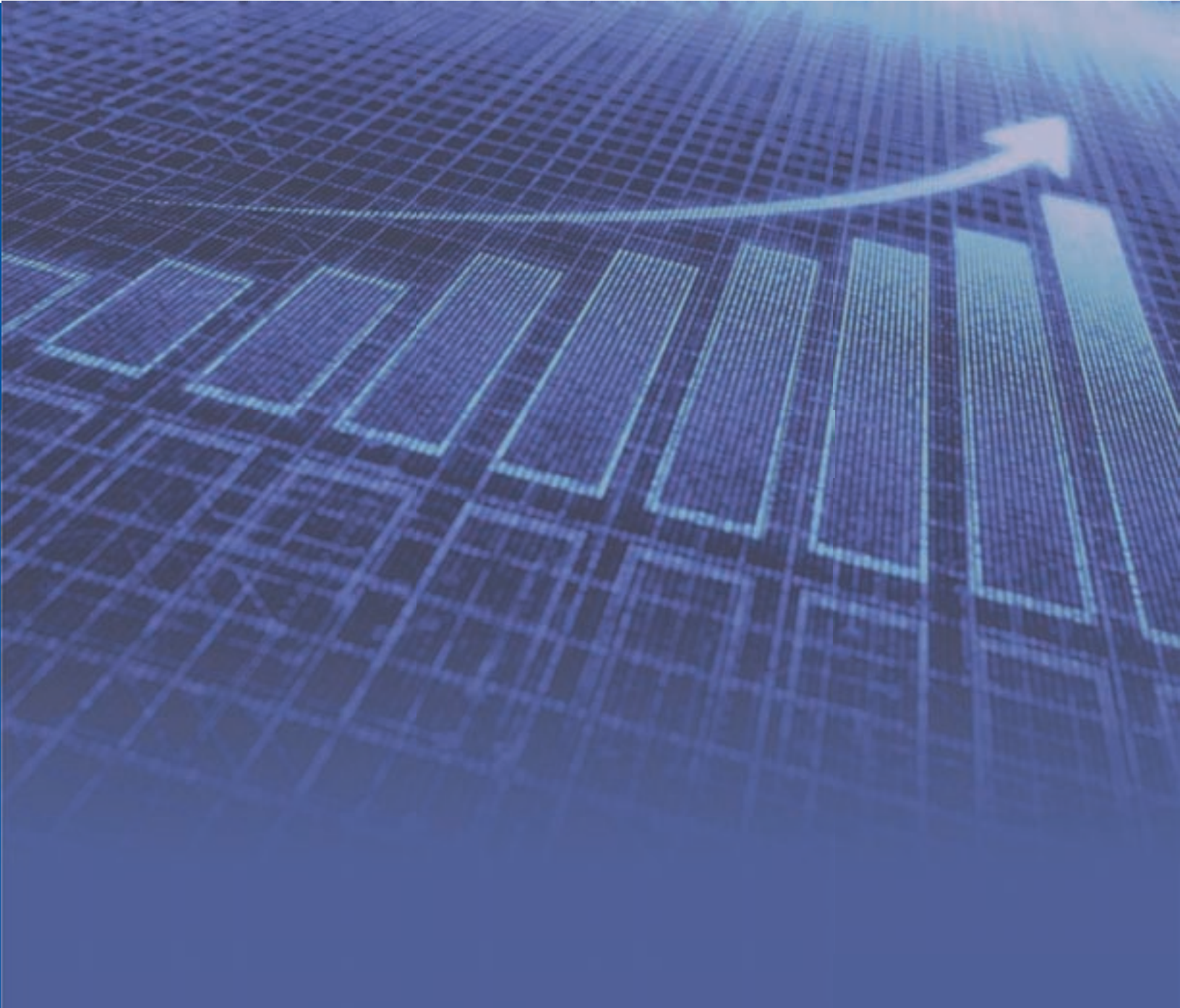
Agency/Office Radio Officers are responsible for preparing their portion of the annual reports as set forth in the Radio plan. This report reflects level of Agency/office/OIMT compliance with specified requirements.

3.0 ANNUALLY/PERFORM RADIO TECHNICAL EVALUATIONS

The program will be responsible for maintaining a comprehensive plan with a five year outlook for operations and maintenance needs as well as new sites and backhauls and the yearly submission of this plan for consideration and inclusion in the State budget.

4.0 DOCUMENT LABELING AND CONFIDENTIALITY

All program documents will be labeled “Sensitive But Unclassified - For Official Use Only” or “Law Enforcement Sensitive - For Official Use Only” as required in the header and footer. All Certification & Accreditation (C&A) tasks and deliverables required before this program’s Solution can be implemented in Production are part of this program.



**APPENDIX A:
REFERENCES & ASSOCIATED DOCUMENTS**

APPENDIX B: GLOSSARY OF ACRONYMS

APPENDIX A: REFERENCES & ASSOCIATED DOCUMENTS

- State of Hawai'i Business Transformation Strategy and IT/IRM Strategic Plan, 2012 (known hereafter as the "The Plan")
- Baseline of Information Management and Technology and Comprehensive View of State Services (known as the "Final Report") prepared by SAIC
- State of Hawai'i HWIN Charter
- State of Hawai'i SCIP Charter
- Hawai'i Statewide Interoperability Channel Plan, March 2011
- Homeland Security - Establishing Governance to Achieve Statewide Communications Interoperability, December 2008
- Hawai'i Statewide Communications Interoperability Plan, November 2007
- Hawai'i Statewide Interoperability Channel Plan, March 2011
- National Emergency Communications Plan (NECP), July 2008

APPENDIX B: GLOSSARY OF ACRONYMS

Please consult the Office of Information and Management Technology Nomenclature document.