



ALASKA STATEWIDE COMMUNICATION INTEROPERABILITY PLAN



APRIL 2021

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LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Alaska Statewide Interoperability Coordinator (SWIC), I am pleased to provide to you the 2021 Alaska Statewide Communication Interoperability Plan (SCIP). This SCIP represents Alaska's continuous commitment to improving emergency communications interoperability and supporting our workers, residents, visitors, and public safety practitioners throughout the state. In addition, this update meets the requirement of the current U.S. Department of Homeland Security (DHS) grant guidelines.

The SCIP identifies strategic goals and objectives that represent priorities for delivering our vision for emergency communications interoperability. These goals and objectives focus on Governance, Technology/Cybersecurity, and Funding. They are designed to support Alaska in planning for new technologies and navigating the ever-changing emergency communications ecosystem.

As we continue to enhance interoperability, we must remain dedicated to improving our ability to communicate among disciplines and across jurisdictional boundaries. With help from public safety practitioners statewide, we will work to achieve the goals set forth in this SCIP and become a nationwide model for statewide interoperability.

Sincerely,



John Rockwell
Alaska Statewide Interoperability Coordinator

INTRODUCTION



The Alaska SCIP is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary strategic plan to enhance interoperable and emergency communications over the next one-to-three years. This document contains the following planning components:

- **Introduction** – Provides the context necessary to understand what the SCIP is and how it was developed. It also provides an overview of the current emergency communications landscape.
- **Vision and Mission** – Articulates Alaska’s vision and mission for improving emergency and public safety communications interoperability over the next one-to-three-years.
- **Governance** – Describes the current governance mechanisms for communications interoperability within Alaska as well as successes, challenges, and priorities for improving it.
- **Technology/Cybersecurity** – Outlines public safety technology and operations needed to maintain and enhance interoperability across the emergency communications ecosystem.
- **Funding** – Describes the funding sources and allocations that support interoperable communications capabilities within Alaska along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** – Describes Alaska’s plan to implement, maintain, and update the SCIP and enable continued evolution of and progress toward Alaska’s interoperability goals.

The Emergency Communications Ecosystem consists of many inter-related components and functions, including communications for incident response operations, notifications and alerts and warnings, requests for assistance and reporting, and public information exchange. The primary functions are depicted in the 2019 National Emergency Communications Plan (NECP).¹

¹ The 2019 National Emergency Communications Plan is available here:
https://www.cisa.gov/sites/default/files/publications/19_0924_CISA_ECD-NECP-2019_0.pdf.



Figure 1: Emergency Communications Ecosystem

The Interoperability Continuum, developed by the Department of Homeland Security’s SAFECOM program and shown in Figure 1, serves as a framework to address challenges and continue improving operable/interoperable and public safety communications. It is designed to assist public safety agencies and policy makers with planning and implementing interoperability solutions for communications across technologies. More information is available in the Interoperability Continuum brochure.²

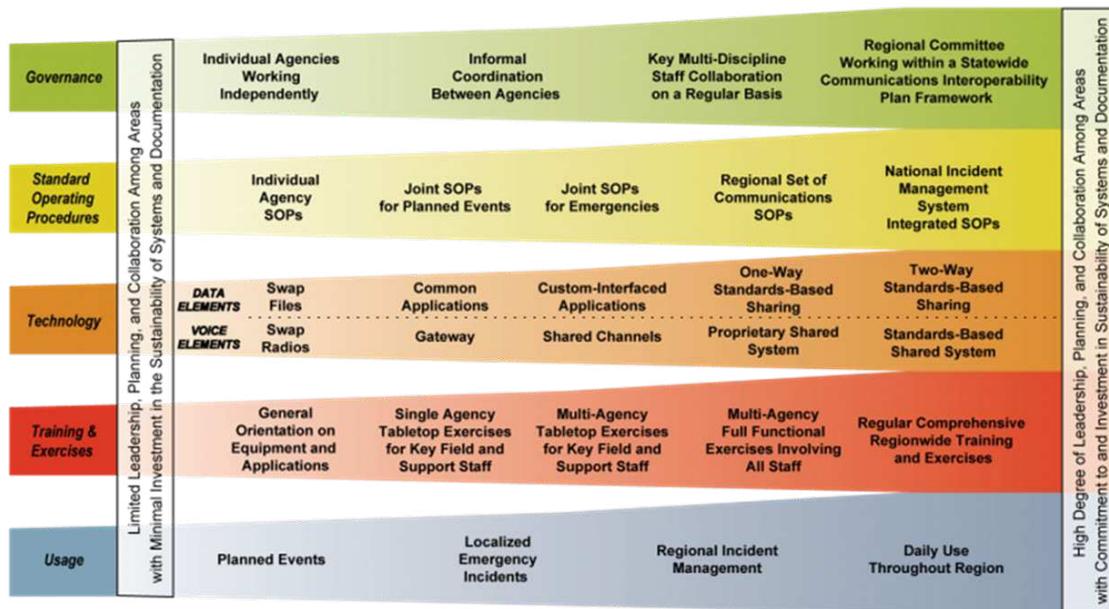


Figure 2: SAFECOM Interoperability Continuum

² The Interoperability Continuum brochure is available here: https://www.cisa.gov/sites/default/files/publications/interoperability_continuum_brochure_2_1.pdf.

Interoperability for Emergency Communications Overview

Interoperability is the ability of emergency response providers and relevant government officials to communicate across jurisdictions, disciplines, and levels of government as needed and as authorized. Reliable, timely communications among public safety responders and between public safety agencies and citizens is critical to effectively carry out public safety missions, and in many cases, saving lives.

Traditional voice capabilities, such as land mobile radio (LMR) and landline 9-1-1 services have long been and continue to be critical tools for communications. However, the advancement of internet protocol (IP) based technologies in public safety has increased the type and amount of information responders receive, the tools they communicate with, and complexity of new and interdependent systems. New technologies increase the need for coordination across public safety disciplines, communications functions, and levels of government to ensure emergency communications capabilities are interoperable, reliable, and secure.

An example of this evolution is the First Responder Network Authority's (FirstNet) implementation of the Nationwide Public Safety Broadband Network (NPSBN). Similarly, the transition of public-safety answering points (PSAPs) to Next Generation 9-1-1 (NG9-1-1) emergency communications centers (ECC) will enhance sharing of critical information in real-time using multimedia—such as pictures, video, and text — among citizens, ECC operators, dispatch, and first responders. While potential benefits of NG9-1-1 are tremendous, implementation challenges remain. Necessary tasks to fully realize these benefits include interfacing disparate systems, developing training and standard operating procedures (SOPs) and ensuring information security.

VISION AND MISSION

This section describes Alaska's vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide:

Vision:

Alaska's vision is for communities to communicate effectively, first to be operable among themselves and then interoperable among neighboring communities and out-of-area responders, using technology appropriate to each community in terms of need, complexity, and cost.

Mission:

Provide strategic direction for the development and sustainment of statewide partnerships and operable and interoperable communications systems serving workers, residents, and visitors throughout Alaska.

GOVERNANCE

In March 2021, the Deputy SWIC position was created and filled to support the split SWIC position. The current SWIC also serves as the State 9-1-1 Coordinator, FirstNet Single Point of Contact (SPOC), and ALMR Chair. There was once a formalized governance body that the state hopes to formally reinstate. In the absence of a specified governing communications body, the Dispatch Consolidation Working Group makes recommendations to the Governor on statewide and regional emergency communications efforts. The Alaska Land Mobile Radio User Council is responsible for making all operational and maintenance decisions affecting the ALMR system. The Alaska Land Mobile Radio Executive Council provides leadership and oversight for the operations and management of the ALMR System.

Table 1 outlines goals and objectives related to governance.

Table 1: Governance Goals and Objectives

Governance	
Goal	Objectives
1. Enhance statewide coordination	1.1 Revisit previously established governance structure
	1.2 Establish and staff a supporting position for the SWIC
2. Expand information sharing through education outreach	2.1 Identify key audience
	2.2 Determine appropriate messaging
	2.3 Identify existing educational materials
	2.4 Utilize SAFECOM grant guidance
	2.5 Complete TICP
3. Support local expansion of emergency communications capabilities	3.1 Identify existing communications structures
	3.2 Find ways to leverage structures across the ecosystem
	3.3 Provide technical assistance to support local emergency communications

TECHNOLOGY/CYBERSECURITY

ALMR is the key public safety communications system that primarily supports areas along the road system and the rail-belt area in Alaska. It is supported by a larger enterprise system and is dependent on reliable, redundant, and fully functioning microwave connectivity to ALMR sites provided by the State of Alaska Telecommunications System (SATS). Other sites depend on commercial entities to remain operable. Central management of Alaska's public safety communications system is provided by dual-redundant management servers located in Fairbanks and Anchorage connected through the SATS network. Other components of the system consist of dispatch positions with workstation gateway units and computer consoles for linking conventional and trunked two-way radio systems together, and radio gateway units that physically tie dissimilar radio resources to the network. Remote equipment sites are a major component of ALMR, and without appropriate remote site and supporting equipment provided

by SATS, the system would not function properly. Supporting site equipment includes shelters, towers, site/backup power, site physical area and equipment, and site grounding.

Another integral component to the ALMR Communications System is the Anchorage Wide Area Radio Network (AWARN). The AWARN is a digital, 700 Megahertz (MHz) trunked radio system used by agencies operating within the Municipality of Anchorage. Talk groups connect to ALMR talk groups via each system's zone controllers.

The strong collaboration between the State of Alaska, Department of Defense (DoD), and Anchorage through ALMR and AWARN has led to many positive interoperability enhancements, but the geographic challenges make it difficult to establish enhanced wide-area LMR coverage.

State-centric broadband efforts have been taken over by out-of-state control, and users need to utilize multiple services to obtain the widest broadband coverage. Deployable resources have limitations in terms of coverage, and satellite-based emergency communications technology is sometimes used as a substitute. Alaska will encourage the expansion of broadband coverage by 10%.

Alaska's 9-1-1 system is controlled at a local level, with regional ESInets on localized networks. Alaska hopes to develop a statewide 9-1-1 plan to further connect 9-1-1 centers to share information and network hardware.

The Wireless Emergency Alerts (WEA) system came online in January 2021 and is attached to the broadcaster emergency alerts system. WEA test alerts are only sent to phones that have opted into the test message option. Alaska is looking to merge the emergency alert system with its WEA system to coordinate alerts and warnings messaging.

Table 2 outlines goals and objectives related to technology.

Table 2: Technology Goals and Objectives

Technology	
Goal	Objectives
4. Maximize use of the ALMR network	4.1 Complete Field Operations Guide (FOG)
	4.2 Enable training and outreach on FOG, radio reprogramming
	4.3 Support communities to have reprogrammed radios
5. Develop statewide 9-1-1 Plan	5.1 Obtain buy-in for state 9-1-1 plan
	5.2 Facilitate development of plan
	5.3 Provide outreach on new plan
	5.4 Include location tools in the plan
6. Increase cybersecurity awareness	6.1 Provide Cybersecurity Awareness Webinar Technical Assistance
	6.2 Identify one 9-1-1 center in Alaska to engage in pilot Technical Assistance effort
	6.3 Complete a cyber vulnerability survey of 9-1-1 centers

Goal	Objectives
	6.4 Establish an information sharing network around cybersecurity solutions and processes
7. Establish a statewide wireless emergency alerts system	7.1 Continue testing and adjusting statewide wireless emergency alerts system
	7.2 Encourage local communities to adopt and test WEA
	7.3 Establish an information sharing network around WEA implementation, solutions, and processes

FUNDING

Currently, ALMR maintenance and related activities are funded through State general funds, DoD participation, and Municipality of Anchorage funds. ALMR is upgrading to time-division multiple access (TDMA) and will need sustainable funding to do so.

The ALMR partnership involves funding from state, city of Anchorage, Federal civilian, and Federal Department of Defense agencies. All entities have different fiscal years and different fund appropriation authorities, making it difficult to organize grant applications. Other upgrade costs require getting capital expenditure approval or bonds to be approved by taxpayers via elections or through legislation.

9-1-1 funds are garnered via surcharge, where the carrier collects the surcharge when required, and the surcharge is remitted to the local jurisdiction.

Table 3 outlines goals and objectives related to funding.

Table 3: Funding Goals and Objectives

Funding	
Goal	Objectives
8. Develop a needs assessment to address emergency communications ecosystem funding	8.1 Understand how different entities fund emergency communications
	8.2 Understand who is involved in funding decisions
	8.3 Identify champions to provide outreach to legislative branch, executive branch, and governance bodies
9. Identify current and future funding sources and processes across the emergency communications ecosystem	9.1 Identify current and future funding sources and processes for LMR
	9.2 Identify current and future funding sources and processes for 9-1-1
	9.3 Identify current and future funding sources and processes for alerts and warnings
	9.4 Identify current and future funding sources and processes for broadband

Goal	Objectives
10. Share public safety communications resources that identify efficiencies and decrease redundant costs	10.1 Conduct outreach to State agencies and local communities on equipment requirements
	10.2 Identify solutions for coordinated priority purchases
	10.3 Support agencies and locals with communications investment guidance and programmatic grant compliance

IMPLEMENTATION PLAN

These SCIP goals and objectives are intended to support the dissemination of best practices across Alaska and can be amended as relevant stakeholders see fit. Each objective has a timeline with a targeted initial completion date, and one or multiple owners that will be responsible for overseeing and coordinating its completion. Accomplishing goals and objectives will require the support and cooperation from numerous individuals, groups, or agencies. The Cybersecurity and Infrastructure Security Agency (CISA) has a catalog of free technical assistance service offerings available to assist in implementation of the SCIP.³ Requests for assistance are to be coordinated through the SWIC.

Goal	Objectives	Owner	Start Date	Completion Date	Comments
1. Enhance statewide coordination	1.1 Revisit previously established governance structure	SWIC	April 2021	March 2023	
	1.2 Establish and staff a supporting position for the SWIC	Deputy SWIC	Commenced duties March 2021	Ongoing	
2. Expand information sharing through education outreach	2.1 Identify key audience	APCO/NENA	July 2021	April 2022	
	2.2 Determine appropriate messaging	ALMR Operations Management Office	July 2021	April 2022	
	2.3 Identify existing educational materials	ALMR Operations Management Office	July 2021	April 2022	POC: Scott Nelsen
	2.4 Utilize SAFECOM grant guidance	State ESF #2 Coordinator	April 2021	Ongoing	Jan Abbot (Grants Administrator 3)
	2.5 Complete TICP	Deputy SWIC	2019	December 2021	
3. Support local expansion of emergency communications capabilities	3.1 Identify existing communications structures	SWIC	April 2021	March 2023	
	3.2 Find ways to leverage structures across the ecosystem	SWIC	April 2021	March 2023	

³ The CISA FY2021 TA/SCIP Guide is available here: <https://www.cisa.gov/publication/ictapscip-resources>.

Goal	Objectives	Owner	Start Date	Completion Date	Comments
	3.3 Provide technical assistance to support local emergency communications	DHS CISA SWIC	April 2021	Ongoing	
4. Maximize use of the ALMR network	4.1 Complete Field Operations Guide (FOG)	Deputy SWIC ALMR User Group	Ongoing	January 2024	
	4.2 Enable training and outreach on FOG, radio reprogramming				
	4.3 Support communities to have reprogrammed radios				
5. Develop statewide 9-1-1 plan	5.1 Obtain buy-in for state 9-1-1 plan	State 9-1-1 Coordinator	Ongoing	January 2024	
	5.2 Facilitate development of plan				
	5.3 Facilitate development of plan				
	5.4 Include location tools in the plan				
6. Increase cybersecurity awareness	6.1 Provide Cybersecurity Awareness Webinar Technical Assistance	SWIC	July 2021	January 2023	
	6.2 Identify one 9-1-1 center in Alaska to engage in Technical Assistance effort				
	6.3 Complete a cyber vulnerability survey of 9-1-1 centers				

Goal	Objectives	Owner	Start Date	Completion Date	Comments
	6.4 Establish an information sharing network around cybersecurity solutions and processes				
7. Establish a statewide wireless emergency alerts system	7.1 Continue testing and adjusting statewide wireless emergency alerts system	Department of Military and Veterans Affairs WEA Coordinator	April 2021	January 2024	
	7.2 Encourage local communities to adopt and test WEA				
	7.3 Establish an information sharing network around WEA implementation, solutions, and processes				
8. Develop a needs assessment to address emergency communications ecosystem funding	8.1 Understand how different entities fund emergency communications	ALMR User and Executive Councils led by SWIC	Ongoing	May 2023	ALMR annual survey
	8.2 Understand who is involved in funding decisions				
	8.3 Identify champions to provide outreach to legislative branch, executive branch, and governance bodies				
9. Identify current and future funding sources and processes across	9.1 Identify current and future funding sources and processes for LMR	ALMR User and Executive Councils led by SWIC	Ongoing	May 2022	Focus on sustainable funding

Goal	Objectives	Owner	Start Date	Completion Date	Comments
the emergency communications ecosystem	9.2 Identify current and future funding sources and processes for 9-1-1	APCO/NENA coordinated with State 9-1-1 Coordinator			
	9.3 Identify current and future funding sources and processes for Alerts and Warnings	Alerts and Warnings Coordinator			
	9.4 Identify current and future funding sources and processes for broadband	SPOC			
10. Share public safety communications resources that identify efficiencies and decrease redundant costs	10.1 Conduct outreach to State agencies and local communities on equipment requirements	ALMR User and Executive Councils led by SWIC Operations Management Office	April 2021	May 2024	
	10.2 Identify solutions for coordinated priority purchases				
	10.3 Support agencies and locals with communications investment guidance and programmatic grant compliance				

APPENDIX A: STATE INTEROPERABILITY MARKERS

Throughout 2020 CISA supported states and territories by prioritizing strategic Technical Assistance (TA) support that promoted the National Council of Statewide Interoperability Coordinators (NCSWIC) State Interoperability Markers program, which consists of 25 baseline State Performance Markers. These markers describe a state or territory's level of interoperability "health" and are aligned with state and territory SCIP goals and initiatives. In 2021, CISA will prioritize TA requests that directly support advancement of state performance markers, SCIP Goals and Objectives and the implementation of the National Emergency Communications Plan (NECP).⁴

Below is Alaska's initial assessment of their progress against these national interoperability markers.

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
1	State-level governing body established (e.g., SIEC, SIGB). Governance framework is in place to sustain all emergency communications	Governing body does not exist, or exists and role has not been formalized by legislative or executive actions	Governing body role established through an executive order	Governing body role established through a state law
2	SIGB/SIEC participation. Statewide governance body is comprised of members who represent all components of the emergency communications ecosystem.	Initial (1-2) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 9-1-1 <input type="checkbox"/> Alerts, Warnings and Notifications	Defined (3-4) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 9-1-1 <input type="checkbox"/> Alerts, Warnings and Notifications	Optimized (5) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 9-1-1 <input type="checkbox"/> Alerts, Warnings and Notifications
3	SWIC established. Full-time SWIC is in place to promote broad and sustained participation in emergency communications.	SWIC does not exist	Full-time SWIC with collateral duties	Full-time SWIC established through executive order or state law
4	SWIC Duty Percentage. SWIC spends 100% of time on SWIC-focused job duties	SWIC spends >1, <50% of time on SWIC-focused job duties	SWIC spends >50, <90% of time on SWIC-focused job duties	SWIC spends >90% of time on SWIC-focused job duties
5	SCIP refresh. SCIP is a living document that continues to be executed in a timely manner. Updated	No SCIP OR SCIP older than 3 years	SCIP updated within last 2 years	SCIP updated in last 2 years and progress made on >50% of goals

⁴ FY2021 Emergency Communications Technical Assistance/Statewide Communication Interoperability Plan (SCIP) Guide

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
	SCIPs are reviewed and approved by SIGB/SIEC.			
6	<p>SCIP strategic goal percentage. SCIP goals are primarily strategic to improve long term emergency communications ecosystem (LMR, LTE, 911, A&W) and future technology transitions (5G, IoT, UAS, etc.). (Strategic and non-strategic goals are completely different; strategy -- path from here to the destination; it is unlike tactics which you can "touch"; cannot "touch" strategy)</p>	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP
7	<p>Integrated emergency communication grant coordination. Designed to ensure state / territory is tracking and optimizing grant proposals, and there is strategic visibility how grant money is being spent.</p>	No explicit approach or only informal emergency communications grant coordination between localities, agencies, SAA and/or the SWIC within a state / territory	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding but does not review proposals or make recommendations	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding and reviews grant proposals for alignment with the SCIP. SWIC and/or SIGB provides recommendations to the SAA
8	<p>Communications Unit process. Communications Unit process present in state / territory to facilitate emergency communications capabilities. Check the boxes of which Communications positions are currently covered within your process:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> COML <input checked="" type="checkbox"/> COMT <input type="checkbox"/> ITSL <input type="checkbox"/> RADO <input type="checkbox"/> INCM <input type="checkbox"/> INTD <input checked="" type="checkbox"/> AUXCOM 	No Communications Unit process at present	Communications Unit process planned or designed (but not implemented)	Communications Unit process implemented and active

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
	☐ TERT			
9	Interagency communication. Established and applied interagency communications policies, procedures and guidelines.	Some interoperable communications SOPs/SOGs exist within the area and steps have been taken to institute these interoperability procedures among some agencies	Interoperable communications SOPs/SOGs are formalized and in use by agencies within the area. Despite minor issues, SOPs/SOGs are successfully used during responses and/or exercises	Interoperable communications SOPs/SOGs within the area are formalized and regularly reviewed. Additionally, NIMS procedures are well established among agencies and disciplines. All needed procedures are effectively utilized during responses and/or exercises.
10	TICP (or equivalent) developed. Tactical Interoperable Communications Plans (TICPs) established and periodically updated to include all public safety communications systems available	Regional or statewide TICP in place	Statewide or Regional TICP(s) updated within past 2-5 years	Statewide or Regional TICP(s) updated within past 2 years
11	Field Operations Guides (FOGs) developed. FOGs established for a state or territory and periodically updated to include all public safety communications systems available	Regional or statewide FOG in place	Statewide or Regional FOG(s) updated within past 2-5 years	Statewide or Regional FOG(s) updated within past 2 years
12	Alerts & Warnings. State or Territory has Implemented an effective A&W program to include Policy, Procedures and Protocol measured through the following characteristics: (1) Effective documentation process to inform and control message origination and distribution (2) Coordination of alerting plans and procedures with neighboring jurisdictions (3) Operators and alert originators receive periodic training (4) Message origination, distribution, and correction procedures in place	<49% of originating authorities have all of the four A&W characteristics	>50%<74% of originating authorities have all of the four A&W characteristics	>75%<100% of originating authorities have all of the four A&W characteristics

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
13	Radio programming. Radios programmed for National/Federal, SLTT interoperability channels and channel nomenclature consistency across a state / territory.	<49% of radios are programed for interoperability and consistency	>50%<74% of radios are programed for interoperability and consistency	>75%<100% of radios are programed for interoperability and consistency
14	Cybersecurity Assessment Awareness. Cybersecurity assessment awareness. (Public safety communications networks are defined as covering: LMR, LTE, 911, and A&W)	Public safety communications network owners are aware of cybersecurity assessment availability and value (check yes or no for each option) <input checked="" type="checkbox"/> LMR <input type="checkbox"/> LTE <input type="checkbox"/> 9-1-1/CAD <input type="checkbox"/> A&W	Initial plus, conducted assessment, conducted risk assessment. (check yes or no for each option) <input type="checkbox"/> LMR <input type="checkbox"/> LTE <input type="checkbox"/> 9-1-1/CAD <input type="checkbox"/> A&W	Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option) <input type="checkbox"/> LMR <input type="checkbox"/> LTE <input type="checkbox"/> 9-1-1/CAD <input type="checkbox"/> A&W
15	NG911 implementation. NG911 implementation underway to serve state / territory population.	Working to establish NG911 governance through state/territorial plan. <ul style="list-style-type: none"> • Developing GIS to be able to support NG911 call routing. • Planning or implementing ESInet and Next Generation Core Services (NGCS). • Planning to or have updated PSAP equipment to handle basic NG911 service offerings. 	More than 75% of PSAPs and Population Served have: <ul style="list-style-type: none"> • NG911 governance established through state/territorial plan. • GIS developed and able to support NG911 call routing. • Planning or implementing ESInet and Next Generation Core Services (NGCS). • PSAP equipment updated to handle basic NG911 service offerings. 	More than 90% of PSAPs and Population Served have: <ul style="list-style-type: none"> • NG911 governance established through state/territorial plan. • GIS developed and supporting NG911 call routing. • Operational Emergency Services IP Network (ESInet)/Next Generation Core Services (NGCS). • PSAP equipment updated and handling basic NG911 service offerings.
16	Data operability / interoperability. Ability of agencies within a region to exchange data on demand, and needed, and as authorized. Examples of systems would be: - CAD to CAD - Chat - GIS	Agencies are able to share data only by email. Systems are not touching or talking.	Systems are able to touch but with limited capabilities. One-way information sharing.	Full system to system integration. Able to fully consume and manipulate data.

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
	- Critical Incident Management Tool (- Web EOC)			
17	Future Technology/Organizational Learning. SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)	<input type="checkbox"/> LMR to LTE Integration <input type="checkbox"/> 5G <input checked="" type="checkbox"/> IoT (cameras) <input type="checkbox"/> UAV (Smart Vehicles) <input checked="" type="checkbox"/> UAS (Drones) <input checked="" type="checkbox"/> Body Cameras <input checked="" type="checkbox"/> Public Alerting Software <input type="checkbox"/> Sensors <input type="checkbox"/> Autonomous Vehicles <input type="checkbox"/> MCPTT Apps	<input type="checkbox"/> Wearables <input type="checkbox"/> Machine Learning/Artificial Intelligence/Analytics <input type="checkbox"/> Geolocation <input checked="" type="checkbox"/> GIS <input type="checkbox"/> Situational Awareness Apps-common operating picture applications (i.e. Force Tracking, Chat Applications, Common Operations Applications)	<input type="checkbox"/> HetNets/Mesh Networks/Software Defined Networks <input type="checkbox"/> Acoustic Signaling (Shot Spotter) <input type="checkbox"/> ESInet <input type="checkbox"/> 'The Next Narrowbanding' <input checked="" type="checkbox"/> Smart Cities
18	Communications Exercise objectives. Specific emergency communications objectives are incorporated into applicable exercises Federal / state / territory-wide	Regular engagement with State Training and Exercise coordinators	Promote addition of emergency communications objectives in state/county/regional level exercises (target Emergency Management community). Including providing tools, templates, etc.	Initial and Defined plus mechanism in place to incorporate and measure communications objectives into state/county/regional level exercises
19	Trained Communications Unit responders. Communications Unit personnel are listed in a tracking database (e.g. NQS One Responder, CASM, etc.) and available for assignment/response.	<49% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response	>50%<74% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response	>75%<100% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response
20	Communications Usage Best Practices/Lessons Learned. Capability exists within jurisdiction to share best practices/lessons learned (positive and/or negative) across all lanes of the Interoperability Continuum related to all components of the emergency communications ecosystem	Best practices/lessons learned intake mechanism established. Create Communications AAR template to collect best practices	Initial plus review mechanism established	Defined plus distribution mechanism established

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
21	WPS subscription. WPS penetration across state / territory compared to maximum potential	<9% subscription rate of potentially eligible participants who signed up for WPS across a state / territory	>10%<49% subscription rate of potentially eligible participants who signed up for WPS a state / territory	>50%<100% subscription rate of potentially eligible participants who signed up for WPS across a state / territory
22	Outreach. Outreach mechanisms in place to share information across state	SWIC electronic communication (e.g. SWIC email, newsletter, social media, etc.) distributed to relevant stakeholders on regular basis	Initial plus web presence containing information about emergency communications interoperability, SCIP, trainings, etc.	Defined plus in-person/webinar conference/meeting attendance strategy and resources to execute
23	Sustainment assessment. Identify interoperable component system sustainment needs;(e.g. communications infrastructure, equipment, programs, management) that need sustainment funding. (Component systems are emergency communications elements that are necessary to enable communications, whether owned or leased - state systems only)	< 49% of component systems assessed to identify sustainment needs	>50%<74% of component systems assessed to identify sustainment needs	>75%<100% of component systems assessed to identify sustainment needs
24	Risk identification. Identify risks for emergency communications components. (Component systems are emergency communications elements that are necessary to enable communications, whether owned or leased. Risk Identification and planning is in line with having a communications COOP Plan)	< 49% of component systems have risks assessed through a standard template for all technology components	>50%<74% of component systems have risks assessed through a standard template for all technology components	>75%<100% of component systems have risks assessed through a standard template for all technology components
25	Cross Border / Interstate (State to State) Emergency Communications. Established capabilities to enable emergency communications across all components of the ecosystem.	Initial: Little to no established: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology	Defined: Documented/established across some lanes of the Continuum: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs	Optimized: Documented/established across all lanes of the Continuum: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
		<input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage	<input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage	<input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage

APPENDIX B: ACRONYMS

Acronym	Definition
AAR	After Action Report
ALMR	Alaska Land Mobile Radio
AWARN	Anchorage Wide Area Radio Network
A&W	Alerts and Warnings
CASM	Communication Assets Survey and Mapping
CISA	Cybersecurity and Infrastructure Security Agency
COMU	Communications Unit Program
CONOPS	Concept of Operations
DHS	U.S. Department of Homeland Security
DoD	U.S. Department of Defense
ECC	Emergency Communications Centers
EOP	Emergency Operations Plan
ESInet	Emergency Services IP Network
FOG	Field Operations Guide
FirstNet	First Responder Network Authority
IP	Internet Protocol
IPAWS	Integrated Public Alerts and Warnings System
LMR	Land Mobile Radio
MHz	Megahertz
NECP	National Emergency Communications Plan
NENA	National Emergency Number Association
NGCS	Next Generation Core Services
NG9-1-1	Next Generation 9-1-1
NIMS	National Incident Management System
NPSBN	National Public Safety Broadband Network
PSAP	Public Safety Answering Point
SATS	State of Alaska Telecommunications System
SCIP	Statewide Communication Interoperability Plan
SIEC	State Interoperability Executive Committee

Acronym	Definition
SIGB	Statewide Interoperability Governing Body
SOP	Standard Operating Procedure
SPOC	Single Point of Contact
STR	Strategic Technology Reserve
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TDMA	Time-division multiple access
TICP	Tactical Interoperable Communications Plan
VHF	Very High Frequency