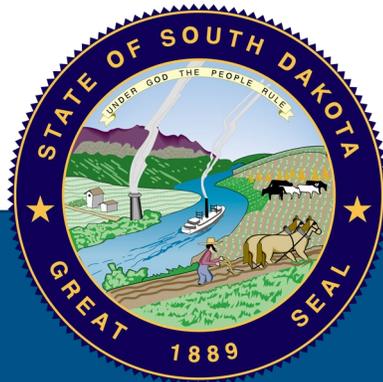


# SOUTH DAKOTA STATEWIDE COMMUNICATIONS INTEROPERABILITY PLAN



**DECEMBER 2020**

Developed with Support from the  
U.S. Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA)



## LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

I am pleased to provide to you the 2020 South Dakota Statewide Communications Interoperability Plan (SCIP). This SCIP represents South Dakota's continuous commitment to improving emergency communications interoperability and supporting our public safety practitioners throughout the state. In addition, this update meets the requirement of the recently released Fiscal Year 2020 Department of Homeland Security (DHS) grant guidelines.

Representatives from relevant South Dakota public safety agencies and local governmental organizations participated in a SCIP Workshop on November 23, 2020 to update the SCIP with actionable and measurable goals and objectives with owners and timelines assigned. These goals and objectives focus on Governance, Technology, and Sustainability Funding, and are designed to support our state 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 interoperability.

Sincerely,

A handwritten signature in black ink that reads "Jeff Pierce". The signature is written in a cursive style and is positioned above a solid horizontal line.

Jeff Pierce  
South Dakota Statewide Interoperability Coordinator (SWIC)

# TABLE OF CONTENTS

<b>Introduction</b> .....	<b>4</b>
<b>Interoperable and Emergency Communications Overview</b> .....	<b>5</b>
<b>Vision and Mission</b> .....	<b>6</b>
<b>Governance</b> .....	<b>7</b>
<b>Technology</b> .....	<b>10</b>
Land Mobile Radio .....	10
Mobile Broadband.....	10
9-1-1.....	10
Alerts and Warnings.....	11
<b>Sustainability Funding</b> .....	<b>12</b>
<b>Implementation Plan</b> .....	<b>13</b>
<b>Appendix A: South Dakota Interoperability Markers</b> .....	<b>16</b>
<b>Appendix B: List of Acronyms</b> .....	<b>23</b>

## INTRODUCTION



The South Dakota Statewide Communications Interoperability Plan (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.
- Interoperable and Emergency Communications Overview – Provides an overview of South Dakota’s current and future emergency communications environment.
- Vision and Mission – Articulates South Dakota’s one-to-three-year vision and mission for improving emergency communications operability, interoperability, and continuity of communications at all levels of government.
- Goals and Objectives – Outlines the goals and objectives aligned with the vision and mission of the SCIP as they pertain to Governance, Technology and Funding.
- Implementation Plan – Describes South Dakota’s plan to implement, maintain, and update the SCIP and enable continued evolution of and progress toward South Dakota’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).<sup>1</sup>

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<sup>1</sup> The 2019 NECP is available [here](#)

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 on the Interoperability Continuum is available in the Interoperability Continuum brochure.<sup>2</sup>

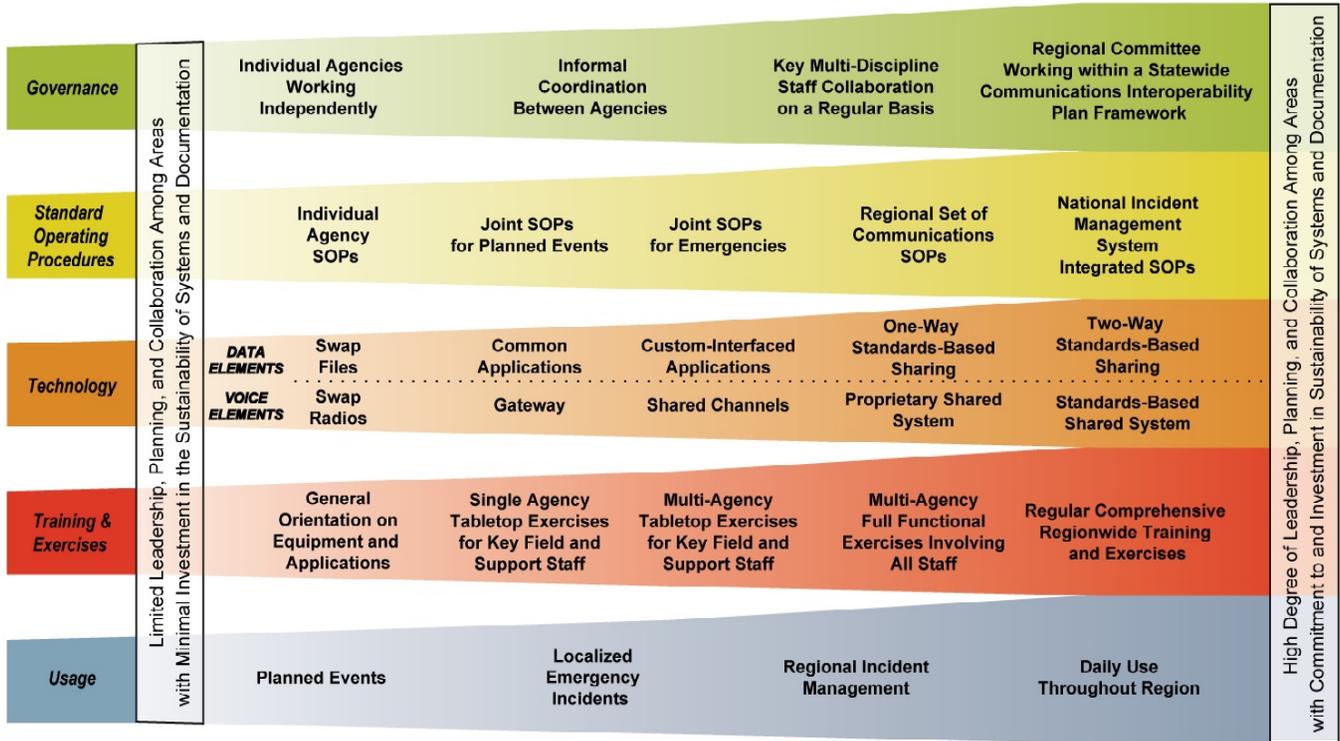


Figure 1: SAFECOM Interoperability Continuum

## INTEROPERABLE AND EMERGENCY COMMUNICATIONS OVERVIEW

Reliable communication among first responders, between public safety agencies, and citizens is critical to effectively carry out public safety missions, which in many cases, means 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.

<sup>2</sup> The Interoperability Continuum brochure is available [here](#)

An example of this evolution is the First Responder Network Authority’s (FirstNet) implementation of the Nationwide Public Safety Broadband Network (NPSBN). All 56 states and territories, including South Dakota, have opted into FirstNet. With this new system, agencies can supplement existing LMR capabilities with improved spectrum, broadband capabilities, and the means to move and transfer data as never before. Its adoption and implementation will entail close coordination with dispatch supervisors, LMR systems managers and managers of alert and warning systems to ensure interoperability and cybersecurity are not sacrificed as agencies begin adopting wireless cellular devices for daily operations.

While the enhancement of current capabilities and the potential for integration of emerging technologies is tremendous, interfacing systems along with governance, standard operating procedures and training are necessary to fully realize these benefits and ensure the security of information are all key elements to successful implementation.

## VISION AND MISSION

This section describes South Dakota’s vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide:

**Vision:**

Reliable, sustainable, and interoperable statewide public safety communications

**Mission:**

Striving to provide the highest level of interoperable public safety communications for all responding entities throughout South Dakota by fostering and providing an effective organizational structure to oversee the proper planning, training, and resources to responders at all levels now and in the future

## GOVERNANCE

The South Dakota Public Safety Communications Council (SDPSCC) was created in March of 2007 through an Executive Order signed by the Governor. The SDPSCC is an oversight council that provides policy level direction to address South Dakota’s public safety communications interoperability issues. Recently, the SDPSCC was expanded to include a member from each house of the state government. The 20-member council represents the following organizations:

- South Dakota Police Chief’s Association
- South Dakota Sheriff’s Association
- Division of Criminal Investigation, Office of Attorney General
- South Dakota Game, Fish, and Parks
- South Dakota Department of Transportation
- South Dakota National Guard
- South Dakota Emergency Managers Association
- South Dakota Fire Fighters Association
- South Dakota Department of Public Safety/Highway Patrol
- South Dakota APCO/NENA Chapter
- South Dakota Emergency Medical Technician’s Association
- South Dakota Department of Agriculture/Wildland Fire
- South Dakota Association of County Commissioners
- South Dakota Department of Health
- Tribal Government Representative
- Federal Government Representative
- South Dakota Bureau of Information and Telecommunications
- South Dakota Association of Healthcare Organizations
- SD Legislative Senate Member
- SD Legislative House Member

The Council assumes responsibility for the SCIP, defines priorities for grant funding, and continuously updates this document. The SWIC is also seeking increased coordination with the State Administrative Agent (SAA).

The establishment of the SDPSCC in 2007 through Executive Order represented a major step forward in public safety governance in the State.

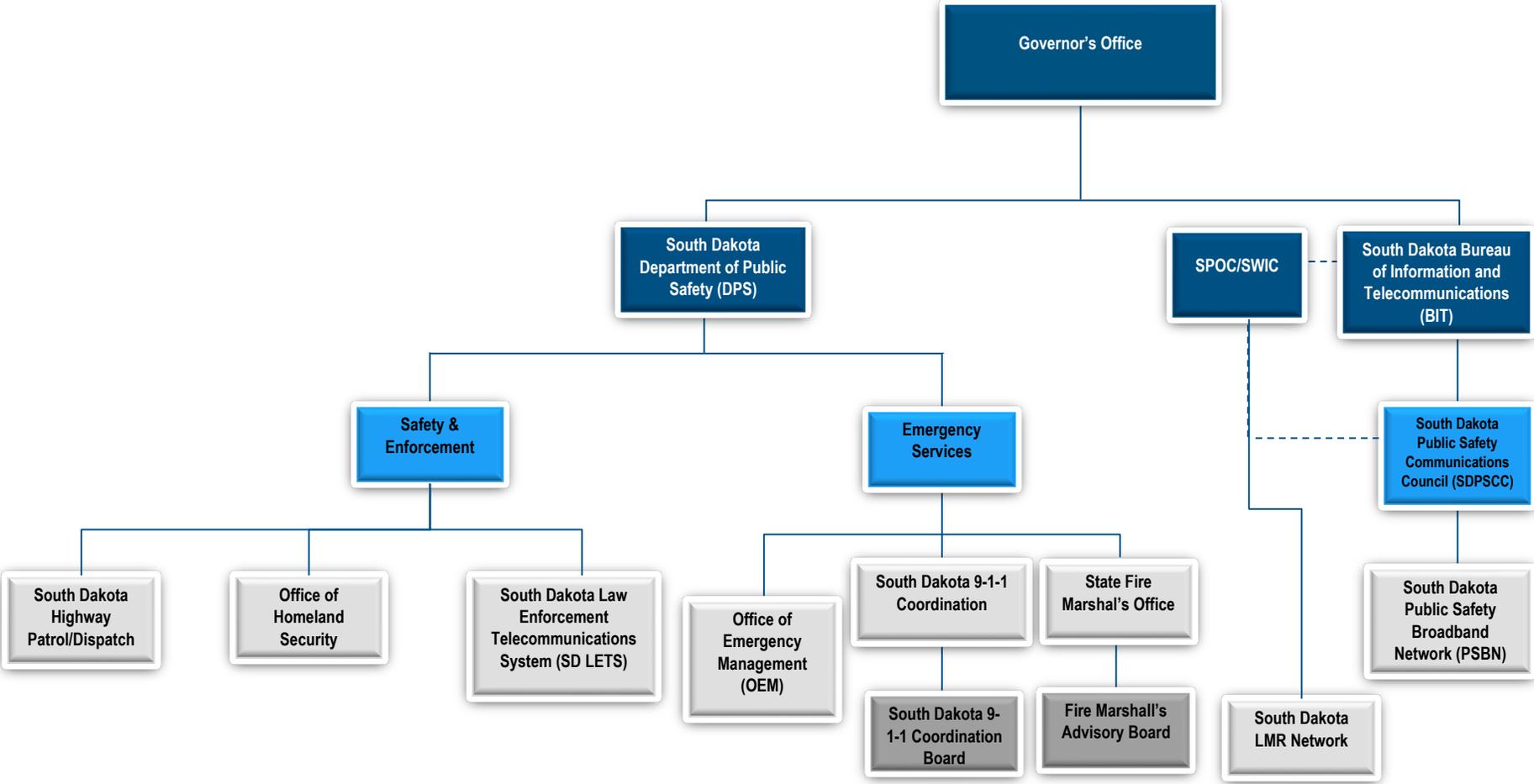


Figure 2: Emergency Communications Governance in South Dakota

The following table outlines goals and objectives related to Governance:

Governance	
Goals	Objectives
1. Continue to update statewide Standard Operating Procedures (SOPs) to ensure redundant communications pathways	1.1 Review and modify SOPs at the regional level
2. Continue to review broadband practices/processes for use in public safety communications	2.1 Recommend statewide standards
	2.2 Conduct an IT Service Unit Leader course
3. Develop a statewide Communications Unit (COMU) training program	3.1 Conduct a Technical Assistance (TA) workshop
	3.2 Implement initiatives from the workshop
4. Continue to promote and enhance training and exercises on all levels of government	4.1 Continue current end user training and track the number of classes and participants
	4.2 Continue support for the train-the-trainer program
	4.3 Include communications capabilities as a requirement of the Local Emergency Management Performance Grant (LEMPG) exercise program and collect After Action Reports (AARs)
	4.4 Establish and distribute recommendations for testing and exercises
5. Develop communications plans	5.1 Request Tactical Interoperable Communications Plan (TICP) TA
	5.2 Request Electronic Field Operations Guide (eFOG) TA

## TECHNOLOGY

In 2003, South Dakota established a statewide radio system, the South Dakota Law Enforcement Telecommunications System (SDLETS). Since then, the statewide system has expanded coverage and provided capabilities to over 90% of the state's first responders. The statewide radio system is currently being updated to a Project 25 (P25) compliant system and is anticipated to be completed in 2023. While the statewide system signifies a significant step towards interoperable public safety communications, the State has also identified the following successes related to technology:

- Received \$10 million for an upgrade to the statewide radio network
- Deployed an ESInet and is in the process of deploying text to 9-1-1
- Enhancing radio coverage by adding additional tower sites

### Land Mobile Radio

South Dakota's current statewide radio system and the associated subscriber equipment is reaching end of life since it was established in 2003. The state has secured one-time funding to implement a P25 compliant upgrade to the statewide radio system with an anticipated completion date in 2023. However, the state is still seeking funding to sustain the system once it has been completed.

Currently, select agencies conduct LMR exercises with Emergency Management Planning Grant (EMPG) funds and submit AARs for documentation of best practices and lessons learned. As the new radio system comes online, the SWIC would like to document all training and exercise events with AARs.

The SWIC will also seek to greater engage with Auxiliary Communications resources.

### Mobile Broadband

Mobile broadband applications are currently in use by localities and regions within South Dakota. However, multiple different application suites are in use across the state instead of one state recommended application suite. South Dakota's SWIC intends to submit a request for a full-time broadband Subject Matter Expert (SME) to coordinate broadband activities across the state to have one standardized application suite for stakeholders to use. To help accomplish this, South Dakota has also stood up a Broadband Subcommittee to oversee broadband activities.

### 9-1-1

There are currently 32 Public Safety Answering Points (PSAPs), also known as Emergency Communications Centers (ECCs) across the state. These PSAPs/ECCs are currently being upgraded to the latest phase of Next Generation 9-1-1 (NG9-1-1). Additionally, text to 9-1-1 capabilities are in the process of being rolled out statewide. To deal with current and future crises and emergencies, South Dakota is expanding their mobile PSAP/ECC capabilities. PSAP/ECC managers will also be included in broadband decisions.

## Alerts and Warnings

South Dakota currently has Statewide Integrated Public Alerts and Warning System (IPAWS) capabilities and is working with stakeholders to develop a list of localities who has Alerts and Warnings (AWS) capabilities and market local and statewide capabilities.

The following table outlines goals and objectives related to Technology:

Technology	
Goals	Objectives
6. Complete update to statewide P25 system	6.1 Upgrade subscriber radios
	6.2 Finalize network upgrades
7. Enhance coverage of statewide P25 system	7.1 Prioritize site expansions
	7.2 Design and build sites
8. Complete current NG9-1-1 upgrade phases	8.1 Implement text to 9-1-1 statewide
	8.2 Migration to i3 geospatial call-based routing
	8.3 ESInet-to-ESInet connectivity with bordering states
9. Continue to evaluate what standards and technologies are currently in use as well as user needs	9.1 Participate in the development of broadband standards for the sharing of information across the state
	9.2 Determine broadband compatibility among vendor technologies
	9.3 Incorporate radio encryption standards and SOPs (TA Request)
10. Promote statewide use of IPAWS	10.1 Continue to update the list of jurisdictions currently authorized to use IPAWS
	10.2 Include education and outreach in marketing plan

## SUSTAINABILITY FUNDING

South Dakota needs to establish a sustainable funding source for the maintenance of the statewide LMR system and to establish a full-time SWIC and broadband SME. This funding source may also be necessary for the implementation of FirstNet and the expansion of statewide alerts and warnings. The SWIC position is a collateral duty. There is currently no full-time broadband SME.

The following table outlines goals and objectives related to Sustainability Funding:

Sustainability Funding	
Goals	Objectives
11. Establish fully funded SMEs	11.1 Full time SWIC
	11.2 Full time broadband SME
12. Increase remote operational capabilities	12.1 Additional deployable communication assets
	12.2 Disaster and crises recovery capabilities for PSAPs/ECCs and dispatch centers

## IMPLEMENTATION PLAN

The Statewide Interoperability Coordinator (SWIC) will be the central point of coordination for implementing the SCIP goals and objectives. These SCIP goals and objectives are intended to support the dissemination of best practices across South Dakota and can be amended as relevant stakeholders see fit. The Emergency Communications Division (ECD) has a catalog of technical assistance service offerings available to assist in implementation of the SCIP. Requests for assistance are to be coordinated through the SWIC, Jeff Pierce.

Goals	Objectives	Timeline	Owners
1. Continue to update statewide Standard Operating Procedures (SOPs) to ensure redundant communications pathways	1.1 Review and modify SOPs at the regional level	Annually (December)	SWIC/South Dakota Public Safety Communications Council (SDPSCC)
2. Continue to review broadband practices/processes for use in public safety communications	2.1 Recommend statewide standards	Monthly	SWIC/Broadband Subcommittee
	2.2 Conduct an IT Service Unit Leader course	Q4 2021	SWIC/Broadband Subcommittee
3. Develop a statewide COMU training program	3.1 Conduct a TA workshop	Q3 2021	SWIC
	3.2 Implement initiatives from the workshop	Q4 2021	SWIC/Office of Emergency Management (OEM)
4. Continue to promote and enhance training and exercises on all levels of government	4.1 Continue current end user training and track the number of classes and participants	Ongoing; reporting annually	SWIC/State Radio Communications
	4.2 Continue support for the train-the-trainer program	Ongoing	SWIC/State Radio Communications
	4.3 Include communications capabilities as a requirement of the LEMPG exercise program and collect AARs	Ongoing	SWIC/OEM
	4.4 Establish and distribute recommendations for testing and exercises	Ongoing	SWIC/OEM
5. Develop communications plans	5.1 Request Tactical Interoperability Communications Plan (TICP) TA	Q4 2021	SWIC

	5.2 Request Electronic Field Operations Guide (eFOG) TA	Q3 2021	SWIC
6. Complete update to statewide P25 system	6.1 Upgrade subscriber radios	Q2 2023	State, County/Local, Tribal, Federal Stakeholders
	6.2 Finalize network upgrades	Q4 2023	State Radio Communications
7. Enhance coverage of statewide P25 system	7.1 Prioritize site expansions	Annually	SDPSCC
	7.2 Design and build sites	As funding becomes available	State Radio Communications
8. Complete current NG9-1-1 upgrade phases	8.1 Implement text to 9-1-1 statewide	Q1 2021	State 9-1-1 Coordinator
	8.2 Migration to i3 geospatial call-based routing	Q3 2021	State 9-1-1 Coordinator
	8.3 ESInet-to-ESInet connectivity with bordering states	Q2 2022	State 9-1-1 Coordinator
9. Continue to evaluate what standards and technologies are currently in use as well as user needs	9.1 Participate in the development of broadband standards for the sharing of information across the state	Q4 2021	Broadband Committee
	9.2 Determine broadband compatibility among vendor technologies	Q4 2021	Broadband Committee
	9.3 Incorporate radio encryption standards and SOPs (TA Request)	Q3 2021	SWIC/SDPSCC
10. Promote statewide use of IPAWS	10.1 Continue to update the list of jurisdictions currently authorized to use IPAWS	TBD	Office of Emergency Management
	10.2 Include education and outreach in marketing plan	TBD	Office of Emergency Management
11. Establish fully funded SMEs	11.1 Full time SWIC	Q3 2022	Bureau of Information & Telecommunications (BIT)

	11.2 Full time broadband SME	Q3 2021	BIT
12. Increase remote operational capabilities	12.1 Additional deployable communication assets	Q4 2021	BIT
	12.2 Disaster and crises recovery capabilities for PSAPs/ECCs and dispatch centers	Q1 2022	State 9-1-1 Coordinator

## APPENDIX A: SOUTH DAKOTA INTEROPERABILITY MARKERS

In 2019 DHS CISA began supporting states and territories in baselining progress against 25 interoperability markers. This tool was developed by looking at best practices along the SAFECOM continuum to highlight emergency communications strengths and gaps, support measurement of 2019 NECP implementation, and provide a framework for developing SCIP goals. Below is the South Dakota initial assessment of their progress against the interoperability markers.

Interoperability Continuum	Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
<b>Governance</b>	1	<b>State-level governing body established (e.g., SIEC, SIGB).</b> 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	<b>SIGB/SIEC participation.</b> 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	<b>SWIC established.</b> 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	<b>SWIC Duty Percentage.</b> 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	<b>SCIP refresh.</b> SCIP is a living document that continues to be executed in a timely manner. Updated SCIPs are reviewed and approved by SIGB/SIEC.	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
	6	<b>SCIP strategic goal percentage.</b> SCIP goals are primarily strategic to improve long term emergency	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP

		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)			
	7	<b>Integrated emergency communication grant coordination.</b> Designed to ensure state / territory is tracking and optimizing grant proposals, and there is strategic visibility how grant money is being spent.	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	<b>Communications Unit process.</b> 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:  <input type="checkbox"/> COML <input type="checkbox"/> COMT <input type="checkbox"/> ITSL <input type="checkbox"/> RADO <input type="checkbox"/> INCM <input type="checkbox"/> INTD <input type="checkbox"/> AUXCOM <input type="checkbox"/> TERT	No Communications Unit process at present	Communications Unit process planned or designed (but not implemented)	Communications Unit process implemented and active
<b>SOP/SOGs</b>	9	<b>Interagency communication.</b> 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	Interoperable communications SOPs/SOGs are formalized and in use by agencies within the area.	Interoperable communications SOPs/SOGs within the area are formalized and regularly reviewed.

			these interoperability procedures among some agencies	Despite minor issues, SOPs/SOGs are successfully used during responses and/or exercises	Additionally, NIMS procedures are well established among agencies and disciplines. All needed procedures are effectively utilized during responses and/or exercises.
	10	<b>TICP (or equivalent) developed.</b> 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	<b>Field Operations Guides (FOGs) developed.</b> 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	<b>Alerts &amp; Warnings.</b> 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
<b>Technology</b>	13	<b>Radio programming.</b> 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

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

	<p>17</p>	<p><b>Future Technology/Organizational Learning.</b> SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> LMR to LTE Integration</li> <li><input type="checkbox"/> 5G</li> <li><input type="checkbox"/> IoT (cameras)</li> <li><input type="checkbox"/> UAV (Smart Vehicles)</li> <li><input type="checkbox"/> UAS (Drones)</li> <li><input type="checkbox"/> Body Cameras</li> <li><input type="checkbox"/> Public Alerting Software</li> <li><input type="checkbox"/> Sensors</li> <li><input type="checkbox"/> Autonomous Vehicles</li> <li><input type="checkbox"/> MCPTT Apps</li> <li><input type="checkbox"/> Wearables</li> <li><input type="checkbox"/> Machine Learning/Artificial Intelligence/Analytics</li> <li><input type="checkbox"/> Geolocation</li> <li><input type="checkbox"/> GIS</li> <li><input type="checkbox"/> Situational Awareness Apps-common operating picture applications (i.e. Force Tracking, Chat Applications, Common Operations Applications)</li> <li><input type="checkbox"/> HetNets/Mesh Networks/Software Defined Networks</li> <li><input type="checkbox"/> Acoustic Signaling (Shot Spotter)</li> <li><input type="checkbox"/> ESInet</li> <li><input type="checkbox"/> 'The Next Narrowbanding'</li> <li><input type="checkbox"/> Smart Cities</li> </ul>		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Training &amp; Exercises</p>	<p>18</p>	<p><b>Communications Exercise objectives.</b> Specific emergency communications objectives are incorporated into applicable exercises Federal / state / territory-wide</p>	<p>Regular engagement with State Training and Exercise coordinators</p>	<p>Promote addition of emergency communications objectives in state/county/regional level exercises (target Emergency Management community). Including providing tools, templates, etc.</p>	<p>Initial and Defined plus mechanism in place to incorporate and measure communications objectives into state/county/regional level exercises</p>
	<p>19</p>	<p><b>Trained Communications Unit responders.</b> Communications Unit personnel are listed in a tracking database (e.g. NQS One Responder, CASM, etc.) and available for assignment/response.</p>	<p>&lt;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</p>	<p>&gt;50%&lt;74% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database</p>	<p>&gt;75%&lt;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</p>

				and available for assignment/response	
<b>Usage</b>	<b>20</b>	<b>Communications Usage Best Practices/Lessons Learned.</b> 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
<b>Outreach</b>	<b>21</b>	<b>WPS subscription.</b> WPS penetration across state / territory compared to maximum potential	<9% subscription rate of potentially eligible participants who signed up 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
	<b>22</b>	<b>Outreach.</b> 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
<b>Lifecycle</b>	<b>23</b>	<b>Sustainment assessment.</b> 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	<p><b>Risk identification.</b> Identify risks for emergency communications components.</p> <p>(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)</p>	< 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
All Lanes	25	<p><b>Cross Border / Interstate (State to State) Emergency Communications.</b> Established capabilities to enable emergency communications across all components of the ecosystem.</p>	<p>Initial: Little to no established:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/>Governance</li> <li><input type="checkbox"/>SOPs/MOUs</li> <li><input type="checkbox"/>Technology</li> <li><input type="checkbox"/>Training/Exercises</li> <li><input type="checkbox"/>Usage</li> </ul>	<p>Defined: Documented/established across some lanes of the Continuum:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/>Governance</li> <li><input type="checkbox"/>SOPs/MOUs</li> <li><input type="checkbox"/>Technology</li> <li><input type="checkbox"/>Training/Exercises</li> <li><input type="checkbox"/>Usage</li> </ul>	<p>Optimized: Documented/established across all lanes of the Continuum:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/>Governance</li> <li><input type="checkbox"/>SOPs/MOUs</li> <li><input type="checkbox"/>Technology</li> <li><input type="checkbox"/>Training/Exercises</li> <li><input type="checkbox"/>Usage</li> </ul>

## APPENDIX B: LIST OF ACRONYMS

AAR	After Action Report
AWS	Alerts and Warnings System
BIT	Bureau of Information and Telecommunications
CISA	Cybersecurity Infrastructure Security Agency
COMU	Communications Unit
DHS	Department of Homeland Security
DPS	Department of Public Safety
ECC	Emergency Communications Center
ECD	Emergency Communications Division
eFOG	Electronic Field Operations Guide
EMPG	Emergency Management Planning Grant
ESInet	Emergency Standards IP Network
FirstNet	First Responder Network Authority's
IP	Internet Protocol
IPAWS	Integrated Public Alerts and Warnings System
LEMPG	Local Emergency Management Performance Grant
LMR	Land Mobile Radio
NECP	National Emergency Communications Plan
NG 9-1-1	Next Generation 9-1-1
NPSBN	Nationwide Public Safety Broadband Network
OEM	Office of Emergency Management
P25	Project 25
POC	Point of Contact
PSAP	Public Safety Answering Point
PSBN	Public Safety Broadband Network
SCIP	Statewide Communication Interoperability Plan
SDLETS	South Dakota Law Enforcement Telecommunications System
SDPSCC	South Dakota Public Safety Communications Council
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TICP	Tactical Interoperable Communications Plan