Statewide Interoperability Radio Network (SIRN)
Standards, Protocols, Procedures

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1. Purpose or Objective

The purpose of this standard is to establish uniform technology standards for interoperable land mobile radio communications equipment in the State of North Dakota. A standards-based approach will create multi-jurisdictional and multi-disciplinary interoperability.

2. Technical Background

- **Capabilities**

Association of Public Safety Communications Officials (APCO) Project 25 (P25) is a suite of standards for digital land mobile equipment designed for vendor neutrality and seamless interoperability between all P25-compliant equipment. P25 standards are detailed in the Telecommunications Industry Association (TIA) series TIA-102. P25 ensures that all P25-certified land mobile radios (LMR) can exchange voice traffic no matter which manufacturer made the radio. P25 is an open architecture facilitating interlinking of different vendors' systems so public safety agencies may choose from multiple vendors and products to meet their customized needs and have the freedom to choose from a wide range of standardized equipment and common features.

The P25 Compliance Assessment Program (CAP) is also endorsed as a P25 certification method for new land mobile radio systems by most United States Federal entities, including the Integrated Wireless Network (IWN) of the U.S. Departments of Homeland Security (DHS), Justice, and the Treasury.

- **Constraints**

Strict compliance to nationally endorsed radio technology standards is essential for interoperable communications. Use of proprietary solutions or standardized systems enhanced with vendor specific features can impact the ability of radio users to communicate statewide.

3. Operational Context

This standard adopts the P25 Suite of Standards and P25 Compliance Assessment Program (CAP) for consideration **prior** to purchasing new or replacement equipment for public safety communications

systems in North Dakota.

This standard also specifies issues to be addressed when using grant dollars (State or Federal) to purchase this equipment. More information on minimum technical standards and guidance for subscriber device selection can be found in the *SIRN Subscriber Radio Standard 2.1.0.*

4. Protocol/ Standard

Each individual jurisdiction or entity shall be responsible for documenting their compliance with this standard and shall be able to provide such documentation if audited.

All purchases of radio equipment funded wholly or in part with state or federal grant dollars must comply with the current requirements of the P25 Compliance Assessment Program (CAP) unless otherwise excepted under Section 5 of this Statewide Interoperability Radio Network (SIRN) Standard.

5. Standard Procedure

When procuring equipment for radio communications systems, a standards-based approach must be used to create multi-jurisdictional and multi-disciplinary interoperability. The applicable requirements for LMR systems, voice-over-Internet Protocol (VoIP) systems, and data sharing systems are described below:

Land Mobile Radio Systems

All new digital voice systems must comply with the Project 25 suite of standards **and** must be verified by P25 Compliance Assessment Program (CAP). This requirement is intended for government-owned or leased digital land mobile radio equipment used for public safety. The purpose of this requirement is to make sure that such equipment or systems are capable of interoperating with other digital land mobile equipment or systems used for emergency response.

This requirement does not apply to commercial services that offer other types of interoperable technology solutions. Further, this requirement does not exclude any alternative technology platform if that alternative platform solution will demonstrably enhance interoperability.

Voice-over-Internet Protocol Systems

When purchasing bridging/gateway devices that use VoIP or other IP-based Push-To-Talk solutions to provide connectivity between LMR systems, those devices must implement the applicable industry-sanctioned interface technology such as the P25 Inter Radio Frequency (RF) Sub-System Interface (ISSI)[1], the 3GPP Interworking Function, or equivalent.

SAFECOM Guidance for Federal Grant Programs

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[1] See Inter-RF Subsystem Interface as detailed in the following TIA-102 standards: BACA-A, BACA-A-1, BACA-A-2, BACD-A, BACE, BACF, BACA-A-1, BACA-A-4, and BACD-B.

When purchasing P25 equipment/systems, grantees will, at a minimum ensure the vendor has participated in equipment testing consistent with the Project 25 Compliance Assessment Program (P25 CAP) and equipment used on the SIRN backbone is listed on the SIRN Approved Subscriber Radio Standard, per SIRN Standard 2.1.0, Subscriber Radio Standards. The Office for Interoperability and Compatibility (OIC) Wireless Communications Grant Guidance Tool will give users access to detailed information that will be helpful in selecting and procuring P25 equipment. You can find more information at https://www.dhs.gov/science-and-technology/p25-cap-grant-eligible-equipment

6. Management

The Statewide System Administrator shall manage the administration of this standard.