

Appendix R

Project 25 Standards

Project 25 is the predominant public safety standard for mobile communications. Project 25 is now defined under ANSI 102, supported and defined by APCO, NASTD, and Federal agencies. Phase I standards (certified by ANSI in 1998) are required for conventional 700 MHz interoperability channels. The standard allows a high level of interoperability between manufacturers and systems in today's modern digital radio environment. WyoLink has adopted the suite of Project 25 standards because it allows purchasing of interoperable subscriber equipment from any Project 25 manufacturer and provides the standard-based features needed by the user community as public safety radio technology evolves. All Federal agencies are in the process of upgrading their systems to Project 25.

Purchasing non-P25 subscriber equipment and/or infrastructures is ill-advised. Compatibility and interoperability are generally not available between non-P25 manufacturers as they each have proprietary methods to achieve digital transmission, trunking, data and encryption. Interoperability should be the primary force driving any modern upgraded public safety mobile communications system as specified by Homeland Security directives. WyoLink should mandate compliance with Project 25 as it is the only viable direction for enhancing interoperability, to ensure eligibility of cooperative Federal funding, achieving spectrum efficiency, obtaining user-friendly equipment, ensuring competitive procurement and graceful forward migration.

Currently, Project 25 has a total of 37 interrelated sections as listed on the following page in Exhibit 1. Many of these sections require vendor adherence to mandatory conditions, while allowing vendors optional or value-added specifications. Federal Engineering recommends that the WyoLink specifications comply with all applicable standards of Project 25. If WyoLink features are covered by a Project 25 standard, **FE** recommends that the State require that vendors' proposals include compliance with those standards. Where optional standards or specifications are available, vendors also should propose features in compliance with those standards. If vendors propose features outside of Project 25, they should show the value-added to the State and show that it does not cause a conflict with the existing or proposed standards. This will provide WyoLink the best approach for both the initial system purchase and well as for future system expansion and/or subscriber device additions.

Project 25 sections cover the primary interoperability standards for CAI - Common Air Interface, trunking, vocoder, data, encryption, and OTAR (Over-The-Air-Rekeying). Project 25 has been evolving for more than 13 years and continues to evolve, moving into Phase II (6.25 kHz channels or equivalent efficiencies), high-speed data standards, ISSI-Inter Sub-System Interface (allowing RF systems of differing manufacture to be interconnected), and console interfaces. It should be WyoLink's intention to follow the Project 25 standards as they evolve for both infrastructure and subscriber equipment.

Exhibit 1 - Project 25/ANSI 102 Standards

Designation	Title	Deals With	Issued
TSB102BAAD	CAI Operational Description for Conventional Channels	CAI	09/90
TSB102AABA	Trunking, Overview	Trunking	03/91
TSB102-A	Project 25 System & Standard Definition		10/91
TSB102BABD	Vocoder Selection Process	Vocoder	04/92
TSB102BABD	Vocoder Selection Process Tapes	Vocoder	04/92
TSB102AABG	Conventional Control Messages	Trunking	06/92
TSB102BACC	ISSI Overview	ISSI	11/92
TSB102BACA	ISSI Messages Definition	ISSI	11/92
TSB102AABD	Trunking Procedures	Trunking	09/93
ANSI/EIA/TIA 603-A1	Land Mobile FM or PM Communications Equipment		02/94
ANSI/TIA/EIA102BABA	Vocoder Description	Vocoder	04/94
TSB102BAAB-A1	CAI Conformance Testing	CAI	03/95
ANSI/TIA/EIA102BABC	Vocoder Reference Test	Vocoder	03/95
ANSI/TIA/EIA102BABB-A	Vocoder Mean Opinion Score (MOS) Test	Vocoder	04/95
ANSI/TIA/EIA102CAAA	Transceiver Measurements and Methods		05/95
TSB102BAFA-A	Network Management Interface Definition		06/95
ANSI/TIA/EIA102BAAA	Common Air Interface (CAI) Phase	CAI	08/95
ANSI/TIA/EIA102BADA	Telephone Interface Requirements and Definitions (Voice Service)		02/96
ANSI/TIA/EIA102AABB	Trunking Control Channel Formats	Trunking	04/96
ANSI/TIA/EIA102BAEC	Circuit Data Specification	Data	05/96
ANSI/TIA/EIA102AAAC	DES Encryption Conformance	Encryption & OTAR	01/97
ANSI/TIA/EIA102AAAA	DES Encryption Protocol	Encryption & OTAR	01/97
ANSI/TIA/EIA102BAAC	CAI Reserved Values	CAI	05/97
ANSI/TIA102AAAD	Block Encryption Protocol	Encryption & OTAR	07/98
ANSI/TSB102AACC	OTAR Conformance	Encryption & OTAR	07/98
TSB102CAAC	Mobile Radio PTT and Audio Interface Definitions and Methods of Measurement		08/98
ANSI/TIA/EIA102BAEB	Packet Data Specification	Data	08/98
ANSI/TIA/EIA102BAEE	Radio Control Protocol Specification	Data	08/98
TSB102AAAB	Security Services Overview		08/98
ANSI/TIA/EIA102BAEA	Data, Overview	Data	09/98
ANSI/EIA/TIA102CAAB	Transceiver Performance Recommendations		09/98
ANSI/TIA102.AACB	OTAR Operational Description	Encryption & OTAR	11/98
ANSI/EIA/TIA102AACA-1	OTAR Protocol	Encryption & OTAR	11/98
TSB102AABF	Link Control Words	Trunking	12/98
ANSI/EIA/TIA102AABC-1	Trunking Control Channel Messages	Trunking	12/98
102BACB	ISSI Conformance	ISSI	2004?
P25.940811.2.2	Lock Down Overview		03/00

Note: Prefixes change as document changes status and movement through committee approval levels.