



Iowa Statewide Interoperable Communications System (ISICS) Standards, Protocols, Procedures

ISICS Standard: Defining an Encryption Key Compromise	Standard #:	2.12.4
	Date Adopted:	06/09/2022
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	Version:	2.0

1. Purpose or Objective

To outline and define the conditions and resolution of a potential or confirmed traffic encryption key (TEK) compromise on the Iowa Statewide Interoperable Communications System (ISICS) Platform.

2. Technical Background

- **Capabilities**

A TEK is used to encode the radio transmission in a manner that prevents scanners and unauthorized radios from receiving and/or transmitting audio.

The ISICS Platform brings certain capabilities to mitigate some effects of a suspected or confirmed compromise such as inhibiting a radio and over-the-air-rekeying (OTAR).

- **Constraints**

[ISICS Standard 2.12.3 – Encryption Key Security](#) outlines security practices for TEKs for additional information, however, it does not define a compromise.

Updating of TEKs can be time and labor intensive and comes with significant cost depending on the capabilities of each agency.

3. Operational Context

A compromised TEK may allow unauthorized persons to monitor sensitive communications during an event that could jeopardize the mission and safety of personnel.

Proper definition of a key compromise is essential to ensuring that secure communications are available for sensitive missions while limiting impacts on agencies if a TEK needs to be updated.

4. Recommended Protocol/Standard

Subsystem administrators and end radio users are responsible for maintaining control of their equipment that stores any TEKs or other sensitive ISICS information. Any loss or suspected compromise must be reported immediately along with supporting evidence.

The ISICS System Administrator will monitor the ISICS secure interoperable talkgroups for any possible compromise.

If any verified compromise is noted, the ISICS System Administrator will take appropriate action.

5. Recommended Procedure

ISICS subsystem administrators and end radio users are responsible for maintaining control of their equipment that stores any TEKs or other sensitive ISICS information. This includes terminal subscriber radios and key fill devices (KFD) which may also be referred to as a key variable loader (KVL). Any subscriber radio with TEKs stored in it must be noted in each subsystem administrator's inventory in addition to any KFDs.

If a suspected lost radio is noted, the subsystem administrator must report it to the ISICS System Administrator immediately along with any evidence of compromised communication. The report must also include the subscriber unit ID.

If a KFD is suspected to be lost, it must be reported immediately to the ISICS System Administrator as this is considered a major security breach.

If the ISICS System Administrator notes any subscriber unit IDs that are not on an inventory provided by the subsystem administrator that affiliate to an encrypted interoperable talkgroup, the ISICS System Administrator will report it to the subsystem administrator.

In addition, any disposals of subscriber radio equipment shall be consistent with ISICS Standard 2.13.1 – Subscriber Radio Disposal. It is also recommended that the radio's crypto module be zeroized before a radio is sent in for maintenance if possible.

Coordination between the ISICS System Administrator and the subsystem administrator will dictate the appropriate course of action.

6. Management

The ISICS System Administrator and local subsystem administrators will be responsible for ensuring that all subscriber radios and KFDs are noted and maintained on applicable inventory(-ies).