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

ISICS Standard:	Standard #:	1.10.0
Cross Spectrum Interoperability	Date Adopted:	08/09/2018
	Date Reviewed:	
	Version:	2.0

1. Purpose or Objective

The purpose of this standard is to establish procedures for use and patching of gateway cross connects on VHF/UHF/700/800 (V/U/7/8) MHz and broadband interoperability/operability resources to the ISICS P25 TDMA trunked system.

2. Technical Background

- **Capabilities**

Non-ISICS Resources

Conventional resources may include:
- Nonfederal national V/U/7/8 interoperability channels.
  - These are derived from FCC rules, ANSI standards and NTIA rules. These channels can be found in the NIFOG.
- Statewide V/U/7/8 interoperability channels.
  - Iowa Channel, Point-to-Point and other interoperability channels that are unique to Iowa.
  - Local V/U/7/8 interoperability channels.

Broadband Resources may include:
- Ethernet/WiFi
- FirstNet
- Commercial Cellular Networks

Other Trunked System resources too numerous to list

- **Constraints**

  - Non-ISICS radio users should have the capability to communicate on conventional V/U/7/8 radio channels—e.g., VCALL10, VLAW31, 8CALL90 or 8TAC91—as long as they are approved to transmit on those channels.
  - An ISICS P25 trunked talkgroup should only be in one cross connect at a time.

- A cross connect between an ISICS talkgroup and a non-ISICS resource will result in the non-ISICS resource being able to reach ISICS P25 trunked users. However, users should not expect the footprint of the non-ISICS resource to expand.
- The coverage area when cross connected to a simplex channel (e.g. VLAW31, UTAC42D, 7TAC52D, 8TAC92D) will have limited range when compared to a repeated conventional channel. Users of simplex channels and ISICS P25 trunked talkgroups may have to accept interference from other users on that simplex channel that are within range of their radios.

3. Operational Context

These communications pathways may be used for day-to-day coordination, urgent or emergency mutual aid situations, task forces, tactical teams, and for other purposes. While existing non-ISICS radios can be used, additional equipment may be required for gateway cross connects.

Interconnection via gateways between non-ISICS resources and the corresponding ISICS interoperability talkgroup resources should only be used when there is a need for communications between personnel that are on non-ISICS radios and personnel that are users of the ISICS Platform. Use must be in compliance with the rules governing the selected frequency on the national mutual aid resource and be authorized by dispatch, the Incident Command (IC), or Unified Command (UC) structure at the scene of the incident or planned event.

A non-ISICS resource and an associated gateway connected ISICS talkgroup may be used for short-term high intensity events and for long-term extraordinary events.

4. Recommended Protocol/Standard

Gateway connects are generally allowed between ISICS talkgroups and non-ISICS resources. A soft gateway cross connect is typically an ad-hoc connection (patch) done through a console that is temporary. A hard gateway cross connect is typically fixed through hardware and is typically intended to be perpetual. Hard gateway cross connects are discouraged for interoperability talk groups. Audio gateway devices will pass audio from the non-ISICS resource to ISICS talkgroups and vise-versa and may be field deployed or in a public safety communications center. There may be instances where a hard gateway cross connect is necessary on a local level. The System Administrator should be consulted before any hard cross connections are created.

5. Recommended Procedure

The non-ISICS resources primarily provide interoperability for a disparate radio system user that cannot access ISICS P25 trunked system resources. Non-ISICS radio users may be moved onto a separate radio channel for a specific incident.

Once an incident using an ISICS interoperability talkgroup or non-ISICS resource ends, the gateway cross connect should be released and updates made on the ISICS StatusBoard Application if available.

6. Management

The development and management of statewide rules for use of statewide interoperability resources are the responsibility of the Iowa Statewide Interoperable Communications System Board (ISICSB).

The agencies on the ISICS Platform and non-ISICS resource shall ensure that there is a procedure for use of a gateway cross connect between non-ISICS resource(s) and the ISICS interoperable resource(s).

System users should receive initial and continuing training on the use of this procedure as part of their regular or routine training.