



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

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|---------------------------------------------------------------|--------------------|------------|
| <b>ISICS Standard:</b><br><br>Cross Spectrum Interoperability | <b>Standard #:</b> | 1.10.0     |
|                                                               | Date Adopted:      | 08/09/2018 |
|                                                               | Date Reviewed:     | 4/10/2025  |
|                                                               | Version:           | 2.0        |

### **1. Purpose or Objective**

The purpose of this standard is to establish procedures for use and patching of any foreign gateway cross connects to the ISICS P25 TDMA trunked system. Access that is deemed essential shall be granted in a manner to minimize impacts to the 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.
  - Other interoperability channels that are unique to Iowa as recorded in ISICSB ICS-217a.

Local V/U/7/8 interoperability channels. Voice Resources over Broadband may include:

- Ethernet/WiFi
- FirstNet
- Commercial cellular networks – LTE
- Dedicated broadband PTT platforms
- Radio over IP (RoIP)
- Cloud-based interoperability services

Other Trunked System resources too numerous to list

- **Constraints**

- Non-ISICS radio users may 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.
- Cross connections could potentially cause integrity issues to the system (e.g. heterodyning, RF loop and/or feedback loop, or RF ping-pong effect).
- 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,) 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.
- There are a finite number of available resources and talkpaths available for some broadband connection solutions.
- Cross connected devices are not considered public safety grade, mission critical. The resiliency and redundancy of the ISICS LMR platform does not necessarily span onto these connections. ISICSB policies and statements that reference the mission-critical or public-safety grade abilities of ISICS do not pertain to any device or connection referenced in this standard.
- All ISICS agreements, standards, and policies apply to cross connections into ISICS.

### **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. Before any hard gateway cross connections with foreign resources are made into ISICS, a signed memorandum of agreement and an ISICSB approved participation plan must exist, users must be included in the approved agency plan of another ISICS user, and/or there must be recommendation by UGC and authorization by the ISICSB. Audio gateway devices will pass audio from the non-ISICS resource to ISICS talkgroups and vice-versa and may be field deployed or in a public safety communications center. No agency will implement a hard gateway cross connection into ISICS without notification to and prior approval by ISICS System Administrators in order to maintain the integrity of ISICS. An agency implementing a cross connect will designate an administrator who is the responsible party of the connection and device management for that agency. Contact information for the cross connect administrator will be kept current with the ISICS System Administrator.

All cross connect devices, subscriptions, and active applications with access to the ISICS platform will be provided to the ISICSB through the ISICS System administrators or the SWIC.

Any device or connection deemed to be a liability to ISICS or its users will be disconnected from the system.

## Recommended Procedure

The non-ISICS resources primarily provide interoperability for a disparate radio system user that cannot access ISICS P25 trunked system resources.

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.

## **5. 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 written procedure for use of a gateway cross connect between non-ISICS resource(s) and the ISICS interoperable resource(s).

ISICS System Administrators will keep a record of each administrator of the local cross connects as well as the devices, connections, subscriptions required for all end users. Local administrators are responsible for providing current information to ISICS System Administrators.

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