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

ISICS Standard:	**Standard #:**	4.2.0
Agency Maintenance	Date Adopted:	02/11/2021
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1. Purpose or Objective

The purpose of this standard is to define the maintenance responsibilities and roles of the ISICS system and sub-system administrators. The maintenance levels for the ISICS system and subsystems must be set to a standard to protect the overall functionality and integrity of the system for all users. A proper maintenance standard will also protect the warranties of the system and subsystems.

Proper maintenance practices will also ensure that in-field subscriber radios function as expected. Maintenance with respect to end user subscriber radios refers to repairs, updates to firmware, alignment of the transceiver and other preventative measures to ensure functionality.

2. Technical Background

- **Capabilities**

  Standards in maintenance protect the integrity of the system and protect the warranties of the sites and equipment. Coordinated maintenance is simplified by having one set of maintenance standards, especially at shared sites.

  Maintenance of subscriber radios ensures proper functionality and use of system features.

- **Constraints**

Improper maintenance not only poses a risk to the operational functionality of the ISICS system and subsystems, but it could also risk equipment warranties and potentially cause confusion at shared sites.

For the purpose of this standard in reference to subscriber radios, maintenance does not reference programming unless explicitly mentioned.

3. Operational Context

Each site and each piece of equipment shall be considered "owned" by one of the appropriate owners of the system or sub-system. The individual owners will then be responsible for the maintenance of the sites and equipment they own. Agreements between the owners and/or maintenance contractors are at each agency's discretion, but the owner is ultimately responsible for their portion of the system.

Maintenance of the system and subsystems falls under one of two categories:

- Day-to-day routine: For general day-to-day maintenance activities
- Emergency and urgent repairs: Serious system and subsystem impairment which may cause an unacceptable loss of service to the users of the system

4. Recommended Protocol/Standard

N/A

5. Recommended Procedure

A. System and/or Infrastructure

Any broad maintenance issues that affect multiple owner agencies should be discussed and resolved among System and Sub-System Administrators.

For day-to-day maintenance, individual agencies or contractors will maintain equipment they are responsible for.

For emergency and urgent repairs, the owning agency may request and expect reasonable cooperation in support resources (i.e., support staff and/or parts) from other System Administrators to restore equipment or the system to normal operation.

Repair of any equipment not owned by an agency requires notification and consent of the responsible System and/or Sub-System Administrator of the owning agency.

System and/or Subsystem Administrators/Owners or their contracted service providers will be responsible for:

- Providing primary and alternate contact information for local ISICS support.
- Notifying the responsible agency of equipment and location issues that require attention.
- Making notification of impacting maintenance schedules.
- Managing the inventory of the equipment that they are responsible for, as defined by their internal department inventory processes.

- Making sure equipment at shared sites is clearly labeled to indicate agency ownership.
- Managing the equipment maintenance logs.
- Posting Federal Aviation Administration (FAA) and Federal Communications Commission (FCC) licenses or reference to the location of the licenses at the sites.
- Posting service technician information at the sites.
- Keeping routine equipment maintenance logs at the sites.
- The Statewide System Administrator will be responsible for maintaining a system event log.
- All maintenance work being scheduled that may affect the system and/or subsystem's performance shall be preceded by reasonable notification to the other Local System Administrators.
- The Sub-System Administrators shall ensure that all technicians assigned to work on system equipment have successfully completed appropriate training on that equipment. The Statewide System Administrator may review training records as needed.
- Each Sub-System Administrator will maintain a list of qualifications and contact information of their technical staff.
- Each System and Sub-System Administrator will maintain a list of the system and subsystem spare parts / equipment they have available. This provides other System and other Sub-System Administrators the option to request use of this spare equipment. The borrowing agency is responsible for returning the original spare parts / equipment, or, at the lending agency's discretion, the successfully tested replacement component.
- Any infrastructure hardware and software upgrades or changes that may have an impact on the system will need reasonable discussion and approval by the Statewide System Administrator.

The System or Sub-System Administrator for the impaired system and subsystem will determine how critical an equipment failure is operationally, determine the appropriate action, and escalate or de-escalate the repair process as needed. For example, a single failed channel on a main simulcast cell would not be a critical failure, but a simulcast cell failure would affect the other sites in the simulcast and many users.

B. In-field Subscriber Radios

Routine maintenance is critical to ensure subscriber radios are properly functioning and aligned to transmit and receive. Each agency is responsible for the maintenance of their equipment and for developing a maintenance schedule that fits their needs. Generally, manufacturers will produce guidelines on maintaining subscriber radios.

It is recommended that any necessary programming updates be completed at the time of routine, preventative maintenance on in-field subscriber radios.

6. Management

The System and Sub-System Administrators are responsible for managing maintenance of the equipment and sites they are responsible for, as well as managing emergency repair situations.