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

ISICS Standard:	**Standard #:**	4.3.0
Preventative Maintenance	Date Adopted:	07/12/2018
	Date Reviewed:	
	Version:	

1. Purpose or Objective

The ISICS system is owned and managed by multiple servicing entities, so a failure of any portion may easily impact users beyond the failed portion of the system. For example, failure of a backup power system at certain sites during a power loss may have a serious impact on the rest of the system. The maintenance levels for the ISICS system and subsystems must be set to a required standard to protect the functionality of the system overall for users of the system. A proper maintenance standard will also protect the warranties of the system and subsystems.

2. Technical Background

- **Capabilities**

  Standards in preventative 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.

- **Constraints**

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

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 would 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.

4. Recommended Protocol/Standard

Sub-System Administrators/Owners or their contracted service providers shall be responsible for:

- Monitoring the performance of their subsystem equipment using the monitoring and reporting tools that are part of the subsystem. If issues do arise, it shall be the agency's responsibility to resolve the problem directly or bring the issue to the Statewide System Administrator if a broader resolution is needed.
- Ensuring that Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) Rules and Regulations are followed.
- Ensuring that spare modules, boards, and field replaceable units for the agency's equipment are properly inventoried and maintained.
- Immediate notification of the appropriate System and/or Sub-System Administrator when there is a preventative maintenance issue that may impact other portions of the system.
- Ensuring that battery maintenance and replacement plans will be in place.
- Managing/keeping contracts current for maintenance service and support.

Periodic site inspections will be performed to find or prevent problems. Site inspections include:

- Power system testing and maintenance
- Shelter inspection
- Tower inspection
- Equipment inspection

5. Recommended Procedure

Preventative maintenance shall be performed. Appendix E is provided as a guideline for the development of a maintenance program.

6. Management

The System and Sub-System Administrators are responsible for managing the maintenance of the equipment and sites they are responsible for.

1. Purpose or Objective

The purpose of this Appendix is to provide a guide for the development of preventive maintenance programs for participants of the ISICS System.

PREVENTIVE MAINTENANCE CHECKLIST			
Agency Location:			
	Due Date	Completed Date	Completed By (Name & Agency)
Compound			
Driveway-Gate-Fence			
Function of locks			
Function of gate			
Driveway accessibility			
Signage intact			
Inspect fence-line: holes, loose barb wire			
Site			
Snow cleared			
Grass mowed and weeds chopped, treated and controlled			
Trash cleaned up			
Tower (visual inspection)			
Guy wires			
Antennas intact			
General appearance			
Feedlines Secure			
Tower lights functioning			
Paint Condition			
Fuel Tank (LPG or Diesel)			
Visual Inspection			
Fuel Line Condition / Regulator(s) operational			
Fuel Level			
Building			
Vandalism			
Building Condition			
Foundation Inspection (Building, Tower, Pads)			

APPENDIX E – PREVENTIVE MAINTENANCE CHECKLIST

Outside light working-intact			
Grounding wires intact			
Signage intact			
Clean intake air vents			
Intake vents – Louvers Adjusted / Operating Properly			
Entry doors and locks functioning			
Generator (Outside)			
Oil Level			
Coolant Level / Test			
Battery Fluid Level			
Battery Voltage			
Block Heater operational			
General Appearance – check for leaks			
Maintenance Comments current			
Inside Building			
Generator (Inside)			
Oil Level			
Coolant Level / Test			
Battery Fluid Level			
Battery Voltage			
Block Heater operational			
General Appearance – check for leaks			
Maintenance Comments current			
Automatic Transfer Switch			
General appearance of Transfer Switch (open door inspection)			
Generator Test (Load/No Load) {Close ATS Door First!}			
Fill out Log sheet			
Transmitter Area			
Temperature			
Smell – electrical / burnt			
Feedline Entry Panel Inspection			

APPENDIX E – PREVENTIVE MAINTENANCE CHECKLIST

Pressure gauge for antenna lines			
Update site log			
Battery rack for corrosion			
AC surge protectors green or black			
HVAC filters			
HVAC – Operational Test - Cooling			
HVAC – Operational Test - Heating			
Alarm system test			
Power Supplies / Batteries			
UPS Operational / Test			
Clean / Dust Building & Equipment			
Site Log Files			
Tech Data Sheets			
FCC Licenses Current			
FAA Logs Current			
RF Equip Logs Current			
Annual Maintenance			
Tightness of coax jumpers			
Sweep antenna lines			
Grounding system – conductance test			
EME Log Verification			
Fire Extinguisher			
Eye Wash Stations			
Safety Supplies Restocking			