Working with ARES, CERT, and Emergency Management

The most effective community mesh deployments are integrated with existing emergency communication structures - Amateur Radio Emergency Service (ARES), Community Emergency Response Teams (CERT), and local emergency management agencies. This page covers how to make those integrations work.

Understanding the existing structure

ARES (Amateur Radio Emergency Service)

ARES is the ARRL's organized volunteer program connecting licensed amateur radio operators with emergency communication needs. ARES groups typically operate at the county or served-agency level. Key contacts: ARRL Section Manager, Emergency Coordinator (EC), and Net Manager.

Mesh relationship: Many ARES operators are interested in LoRa mesh as a complementary technology. It fills gaps that VHF/UHF radio cannot (group text, GPS tracking, message logging). One foundational distinction to keep clear with partners: the LoRa mesh layer here operates on the 915 MHz ISM band under FCC Part 15 (no license required), while ARES/RACES voice operates under Part 97 (amateur license required). Keep encrypted mesh traffic off amateur frequencies - 47 CFR §97.113(a)(4) prohibits messages encoded to obscure their meaning on amateur bands. A strong relationship with local ARES puts your mesh infrastructure in front of the people who already train for emergency communication.

CERT (Community Emergency Response Team)

CERT programs train community members in basic disaster response skills (first aid, light search and rescue, fire safety) and organize them as neighborhood response assets. CERT teams operate at the neighborhood or block level - exactly the scale where mesh radio is most useful.

Mesh relationship: A mesh network that equips each CERT team leader gives them a supplemental text and position capability, including during the early phase of disaster response before professional responders arrive. Be clear about what it is: mesh is unlicensed and best-effort, it is not guaranteed to deliver, and it must not be the sole means of summoning help. CERT teams should retain whatever primary communications (cell, FRS/GMRS, runner, amateur radio) their authority having jurisdiction (AHJ) specifies. Within those limits, CERT and mesh are a natural operational fit.

Local Emergency Management (OEM/LEPC)

Local emergency management agencies coordinate preparedness and response at the city and county level. They maintain Emergency Operations Centers (EOCs) that become the coordination hub during disasters.

Mesh relationship: EOC integration is a longer-term goal. Most EOCs start by observing mesh capabilities in exercises before formally adopting the technology. A well-demonstrated mesh network with clear procedures becomes a credible EOC resource.

First steps for integration

1. **Contact your local ARES Emergency Coordinator.** Introduce the mesh network, demonstrate its capabilities, and offer to participate in ARES-sponsored exercises with mesh alongside traditional radio.
2. **Attend CERT training.** CERT graduation puts you in direct contact with team leaders and the sponsoring fire department or emergency management agency. Offer to demo mesh at the graduation exercise.
3. **Contact local emergency management.** Most counties have a website listing the Emergency Manager or OEM director. A brief email introducing your mesh community and offering to participate in preparedness planning events opens the door.

> **Formalize with an agreement.** Before deploying nodes into official operations or onto agency property, execute a written MOU that addresses limitation of liability, insurance/indemnification, equipment ownership, and non-reliance - including an explicit statement that mesh is supplemental and non-guaranteed. As a 501(c)(3), documenting these

terms protects both Mesh America and the served agency.

Exercise integration

The most effective way to demonstrate mesh value is through exercises where it can be directly compared with existing methods. Propose a tabletop or functional exercise where:

- Mesh nodes are distributed among CERT teams
- Teams use mesh for status reporting during a simulated disaster scenario
- Net control demonstrates the GPS position board (where is every team right now?)
- Compare time-to-update for mesh vs. voice radio vs. runner

Emergency managers respond to demonstrated capability, not technical descriptions. One well-run exercise does more than months of email correspondence.

ICS compatibility

Emergency response in the US uses the Incident Command System (ICS). Mesh deployments serving ICS operations should align with ICS terminology and procedures:

- **Net Control maps to the Communications Unit Leader (COML) role within the Logistics Section (Service Branch)** per FEMA NIMS 509; the Communications Unit sits under Logistics, not Planning.
- **Channel naming:** Use ICS-aligned channel naming if possible (e.g., "IC-TAC1", "LOGISTICS-1") rather than geographic names
- **Message format:** ICS 213 General Message Form format for formal communications (from, to, message, date/time, signature)
- **Check-in/check-out:** Track mesh node operators on an ICS 214 Activity Log

What not to do

- Don't present mesh as a replacement for ham radio, CERT radios, or existing systems. It's a complement, not a replacement.
- Don't overstate capabilities. Know the coverage gaps in your mesh and be honest about them with partners.
- Don't deploy in a real emergency before deploying in exercises. The first time field operators use any communication system should not be during an actual emergency.
- Don't let the technology drive the relationship. Build the relationship with emergency management first; the technology adoption follows from trust.

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