HAM RADIO COMMUNICATIONS CAN SUPPORT PUBLIC EVENTS

…but do all events need communications services?

Presented to South County Amateur Radio Emergency Service (SCARES)
October 2019

“Providing communications for local events is a great opportunity for a ham radio club to deliver a community service while at the same time providing a training exercise for when emergency communications will be needed in the event of a natural disaster or other emergency.”

–Michael J. Martens, KB9VBR

OVERVIEW

- Why support a public event?
- Restrictions regarding ham radio communications services
- Needs assessment
- Pre-planning
- Event Operations - Typical roles and responsibilities
- After-Action Report
- Top 6 common errors made when using two-way radio at events, and how to avoid them

Why support a public event?

- Supports local community
  - Increases radio group's visibility by keeping activities in the community's eye
  - Helps keep more of the funds raised going towards the event's charity.
- Serves as a training exercise for when emergency communications will be needed in the event of a natural disaster or other emergency
  - Provides an opportunity to exercise radio equipment
  - Allows Operator to identify gaps in their "go bag"

RESTRICTIONS REGARDING HAM RADIO COMMUNICATION SERVICES

- Operators CANNOT receive individual compensation for radio activities

- Amateur radio bands CANNOT be used for commercial communications

- CAN provide health & welfare communications for the safety of the participants

- CAN assist at rest stops and other check points

NEEDS ASSESSMENT, PART I

- What is the scope of the event?
- How will communications be used?
- How many radio operators will be needed?
- Do you have enough volunteers internally to service the event, or will you need to recruit more operators from external sources?
- Should you partner with one or more other groups to cover a large-scale event?

NEEDS ASSESSMENT, PART II

- What can you provide to the event?
- A 5K run may only require handheld radios and a few operators, but a multi-day event could require shifts of operators.
- Are you able to work only on simplex or will you need to have access to a repeater?
- Handhelds (HTs) vs. high power mobile radios?
- HF communications required?
- Discuss radio capabilities with the organizers to determine what they could use and what you are capable of providing.

PRE-PLANNING

- Communications planning for an event may be the most overlooked aspect by ham radio operators.

- “Figure it out as you go” is NOT recommended.
  - May work, but only for very small events.

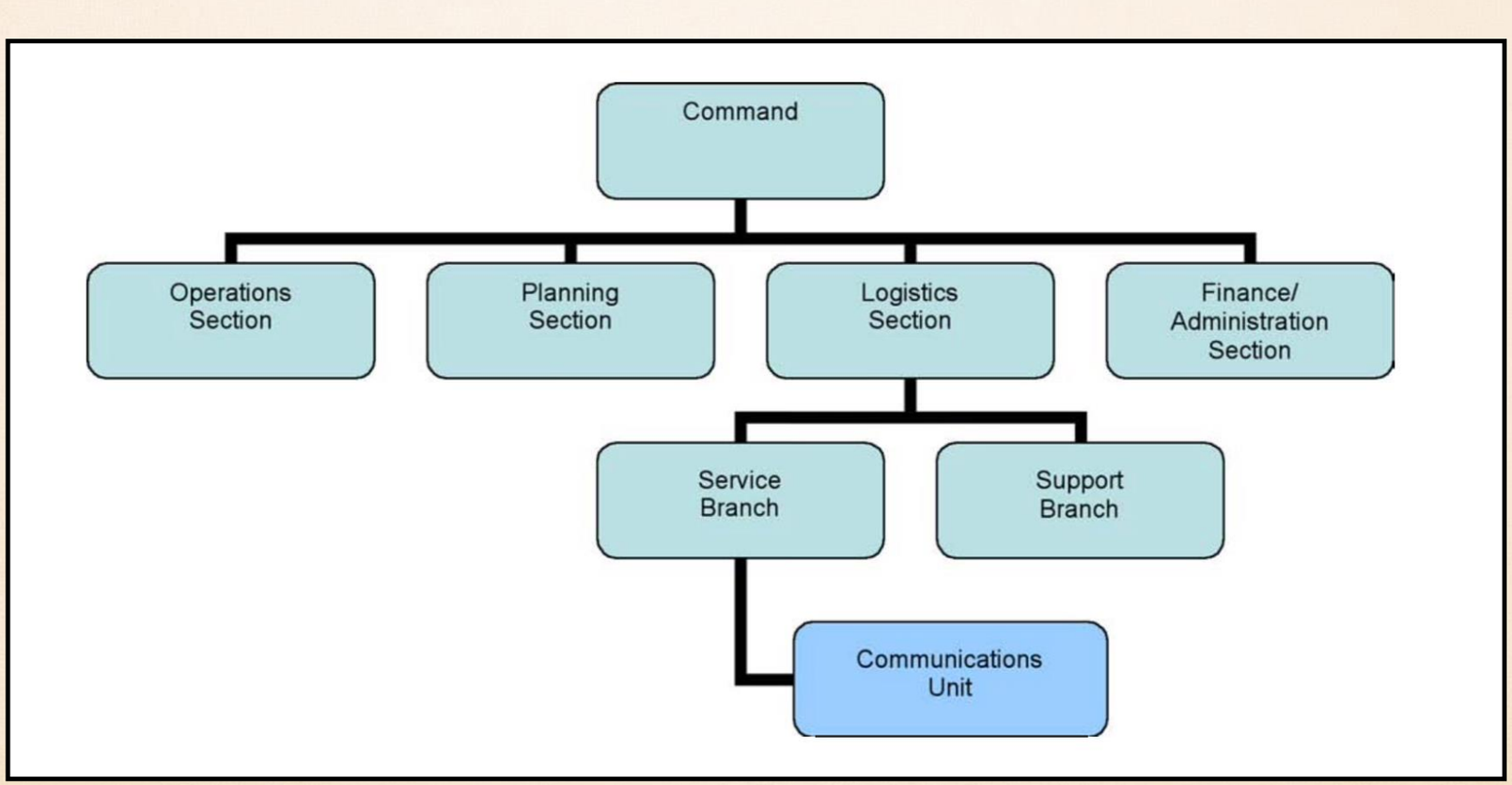
- Use of the Incident Command System (ICS) is recommended.

PRE-PLANNING - ICS

- What is Incident Command System (ICS)?
  - ICS is a framework or set of structures commonly used by public safety agencies to provide command and control of an incident
  - ICS is designed to be flexible; it works from a very small incident to a large multi-agency response
- In the Incident Command System you will:
  1. designate an Incident Leader,
  2. define the mission, and
  3. provide the documentation necessary to carry out the mission.

The minimum ICS forms you should use for your event are:

- ICS-201 – Incident Briefing (PDF)
- ICS-202 – Incident Objectives (PDF)
- ICS-205 – Incident Communications Plan (PDF)
- ICS-211 – Check in sheet- Amateur Radio Version (PDF)
- ICS-309 – Communication Log Sheet (PDF)



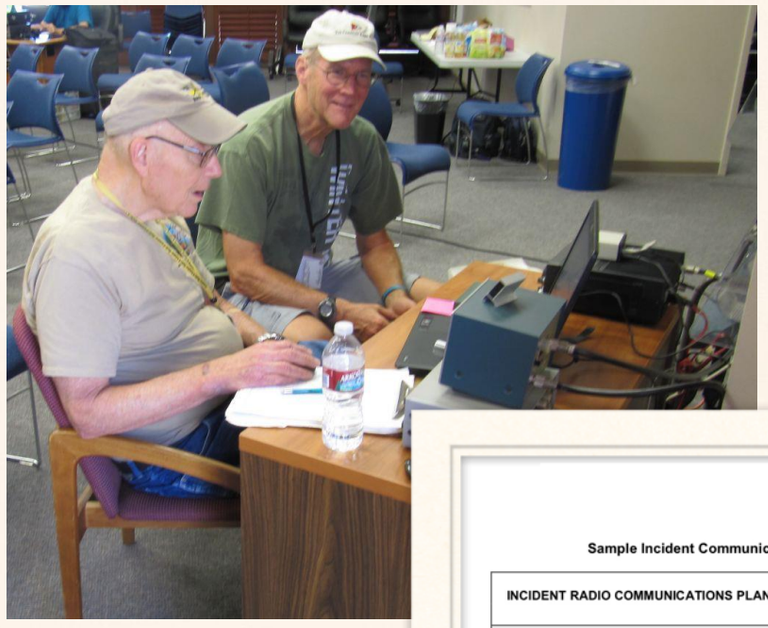
PRE-PLANNING (CONT.)

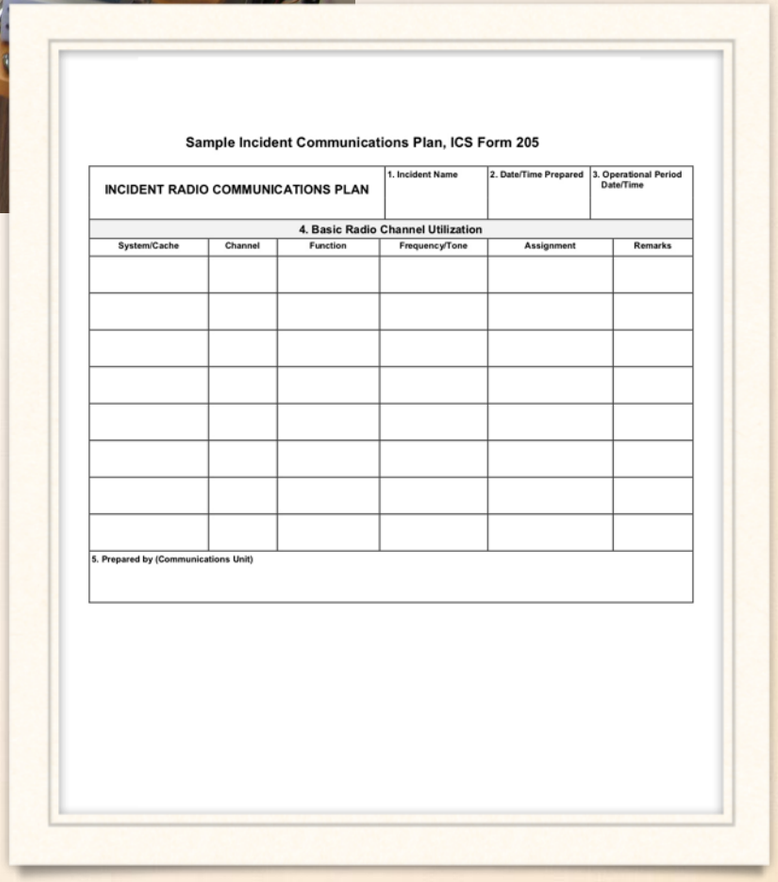
- Have **forms prepared and distributed** to your team before the event start, to inform them of scope of their activity.

- Where should you **locate the Net Control station**? The ideal location for net control:

  1. Is quiet - Noise and traffic can be a big problem when you're trying to communicate, so take into account the noise level at the location of your operations.

  2. Provides easy access to key event leaders.





Sample Incident Communications Plan, ICS Form 205

INCIDENT RADIO COMMUNICATIONS PLAN	1. Incident Name	2. Date/Time Prepared	3. Operational Period Date/Time

4. Basic Radio Channel Utilization					
System/Cache	Channel	Function	Frequency/Tone	Assignment	Remarks

5. Prepared by (Communications Unit)

PRE-PLANNING - ADVERTISING, RECRUITING, PERMISSION TO USE ANTENNAS

- **Get the Word Out** - Newsletters, Nets, Club Meetings
- **Update Web Content (Google Drive)** - For bigger events you may want to develop web forms for volunteers to fill out and a place where you can provide content
- **Recruit Volunteers** - Start with people who have volunteered in the past; Seek volunteers from clubs/groups you belong to
- **Repeaters -** Determine if you'll need to use repeaters; Contact Repeater Owners and Operators for permission
- **Event Logistics -** What Equipment is needed for net control and field operators? Will your event include SAG vehicles? If so, what radio equipment will they need? Do you need APRS (GPS tracking)? If food is provided, do you need to submit food orders for Radio Operators?
- **Documents -** Assignments Spreadsheet; Volunteer Waiver Form; Communications Guide
- **Day of Event Comms Schedule -** When should Radio Operators be in place; Check-in

EVENT OPERATIONS

- **Comm Boss**
  - Team Leader
  - Communicates/plans with Event Organizer/Contact and Radio Operators
    - Before, during, and after event
    - Coordinate Radio Operator post locations with key event/course landmarks (at a minimum, provide post location descriptions to Event Organizer/Contact)

- **Radio Operators**
  - Depends on event size/complexity
    - # of Operators (consider up to 2 Operators per post, for training and/or safety)
    - Equipment needed
    - Skills needed

- Typically, an individual should only have **one assignment**, but small events with limited help may have you doing double duty.

EVENT OPERATIONS

- No later than one week prior to event, Comm Boss should transmit Event Comm Plan to all Radio Operator volunteers - see example Info Packet from TdP 2015
- Check-In/Event Start at Event Net Control
  - Schedule check-in 60 to 90 minutes prior to event start
  - Conduct a command briefing
    - Review ICS-202
    - Each Operator performs radio check, and
    - Comm Boss confirms/updates assignments, as appropriate
    - If event requires shift changes or new Operators come on scene, they should also receive the same briefing with any additional updates. The team leader should keep an event log that can be passed along to their replacement. This makes the change-over briefing quicker and more accurate as you won't miss any important details.

EXAMPLE - AFTER-ACTION COMMENTS (1 OF 3)

TOUR DE CURE / SEQUOIA CENTURY, AUGUST 2019 (ADAPTED FROM KK6GTJ)

COMM PLAN

- Simplify Comm Plan as much as possible. Backup frequencies are great, but no more than 2 primary frequencies is recommended.l
- Supply Comm Plan, maps, and cell numbers to all Operators at least two days in advance.
- Obtain cell phone numbers of all Operators and include cell numbers in the Comm Plan.
- Obtain cell numbers of key event officials and leaders, along with role/title, and provide as a supplement to Net Control.
- Obtain cell numbers of all Rest Stop leaders and SAG drivers and provide as a supplement to Net Control.
- Test route(s) for weak radio signals. Know the dark spots, and identify dark spots in Comm Plan and on maps.

EXAMPLE - AFTER-ACTION COMMENTS (2 OF 3)

TOUR DE CURE / SEQUOIA CENTURY, AUGUST 2019 (ADAPTED FROM KK6GTJ)

SAG VEHICLES / ROVERS / MEDICAL / MAPS (SAG = SUPPLIES AND GEAR)

- If allowed, assign an Operator to accompany / shadow each SAG vehicle and Rover (if any), or ensure that each SAG driver / Rover also serves as an Operator.
- Conduct a location check of all SAG vehicles / Rovers approximately every 15 minutes; track locations on maps
- Know locations and phone numbers of all first aid stations, paramedic / EMT staging areas and closest two hospitals. Identify these locations on Comms Plan maps.
- Identify LILY PAD locations for afternoon fatigued-rider pickup. Mark on maps. Make sure that all Radio Operators are familiar with these locations.
- Make sure any SAG vehicles phone number applies to SAG team leaders, not to Net Control.

EXAMPLE - AFTER-ACTION COMMENTS (3 OF 3)

TOUR DE CURE / SEQUOIA CENTURY, AUGUST 2019 (ADAPTED FROM KK6GTJ)

REST STOPS / LOGISTICS

- Anticipate the needs of Rest Stop locations. Be proactive.
- Estimate how many event participants are expected at each Rest Stop location. Do the math yourself, don't trust others.
- Rest Stop locations should have clickers to count riders or runners as they pass (or use cell phone app). Track event progress per route; Net Control should assess progress at 25%, 50%, 75%, 100%.
- Identify all supply inventory needs and supply quantities for each Rest Stop or other serviced locations, based on participants expected to pass.
- When re-supply is requested, have the requestor check other items on the inventory list, to help avoid multiple requests from the same location. (know how much is needed per rider, and how many riders have yet to pass).
- Have name, radio and/or cell contact info for the designated Sweep for each route. Make sure the Sweep checks in at each Rest Stop location and communicates with both the Rest Stop leader AND the radio Operator at EACH STOP during the day. Operators should pass this routine info to Net Control for tracking purposes.

SOME PAST COMM BOSSES

Comm Boss	Event Title / Duration	Event Range	Typical Equipment for Radio Operators
Gary Aden, K6GDA	Redwood City, Silent Night / 4 hrs	Redwood City	HT, 2 to 3 mobile
Gary Aden, K6GDA	Redwood City, July 4 Parade / 4 hrs	Downtown Redwood City	HT
Gary Aden, K6GDA	Redwood City, Halloween Watch / 4 hrs	Redwood City	HT, 2 to 3 mobile
Linda Leong (KJ6AJN), Lindsay Jones (K6LMJ), Rachel Kinoshita (KK6DAC)	Tour de Peninsula (historic) / 6 to 10 hrs	Millbrae to Los Gatos	HT, 2 to 3 mobile
Richard Tidd, KE6HNY	The Relay / 24 hrs	Calistoga to Santa Cruz County	Mostly mobile
Peter Liljequist, AA6PL, Richard St. Claire, K6VJ	San Carlos Hometown Days / 4 hrs	Downtown San Carlos	HT
Jon Mosby KF6RFQ	Bike for Breath / 4 hrs	????	????
George Kranen, KG6YIR	Tour de Cure / 6 to 12 hrs	????	HT, up to half mobile
Bob De Franco, KK6CBL	Sequoia Century / 6 to 12 hrs	Foothill College to the coast (Pescadero). Three routes, with longest route being about 100 miles.	SAG radios - HT with magmount or mobile. Rest stops - some HT with gain antenna, but mostly mobile rigs are needed.

ACKNOWLEDGEMENTS

1. https://www.jpole-antenna.com/blog/ - by Michael Martens, KB9VBR
2. Keith Fuller, KK6GTJ
3. Rachel Kinoshita, KK6DAC
4. Gary Aden, K6GDA

QUESTIONS?