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- For additional information on training or any of our programs send an email to: info@scc-ares-races.org

0

Field Operations - Type III Part A

Test your HT

- Make sure your radio is programmed to these frequencies:
  - Primary   147.525 Simplex, No Tone
  - Backup 1   446.500 Simplex, No Tone
  - Backup 2   146.490 Simplex, No Tone

- Set your radio to its lowest power setting.
- Call Net Control using your FCC Call Sign for a radio Check.

You must use a headset or ear bud
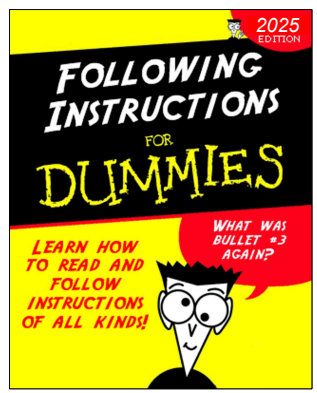
1

Field Operations Type III Part A

Santa Clara County ARES®/RACES
Last Updated 29-Dec-2024

2

Housekeeping

- Introductions
- Pen/pencil, paper, course materials
- Cell phones
- Side conversations
- Questions
- Breaks **Only water allowed in this room No food or other drinks**
- Restrooms
- In case of emergency
- **PARKING – move at first break if not parked across the street**

3

1

At the start of class you will be assigned a student number for the class exercises reviewing the homework.

Please complete the homework before coming to class.

4

Why Are We Using Radios Today

- We will practice using Tactical Calls and our FCC Call Signs during class discussions today.
- This will help build muscle memory for the correct way to use the radio.
- The instructors Tactical Call is Instructor, Yours is Student XX.
- To ask a question use your radio and say "Instructor, this is Student XX.
- The instructor will call you back by your Tactical Call.
- Ask your questions and end with your FCC Call Sign.
- If the Instructor asks you to respond to a question, reply with your Tactical Call, give your answer, and end with your FCC Call Sign.

5

Fictitious Examples Used Today

- W6XRL4: Herman Munster
  - Father in 1960's sitcom "The Munsters"
  - Was an aspiring amateur radio operator
  - Call sign: W6XRL4

- This is not a real call sign but we will treat it that way for our class today.

6

Value Add

Question:

You've got your license and a radio.

What value do you (could you) add to a planned event or emergency incident?

7

Learning Objectives

At the end of this two-part course, you should be able to:

- Describe the role of a field operator, including
  - Served agency needs, field assignment types, SCCo ARES/RACES credentialing system
- Explain and perform basic safety procedures
- Properly execute an assignment, including
  - Mobilization, selecting equipment, field operations, dealing with problems, demobilization
- Understand and use field operations checklists

8

Agenda

- Mastering Field Communications
- Supporting Our Served Agencies
- Field Communications Assignments
- Credentials
- Safety
- Simulated deployment
  - Mobilization
  - Setting up a field station

The second class will continue with:

  - Type III Field Equipment, Type II Field Equipment, On Site Operations, Traffic Types, Advanced Techniques, Dealing With Problems, Demobilization, Checklists
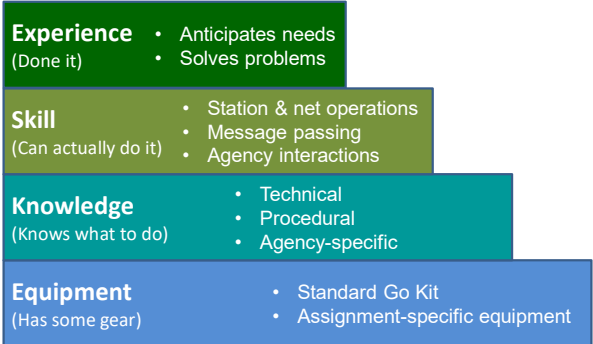
9

Try not.
DO.
Or do not.
There is no try.

Mastering Field Communications

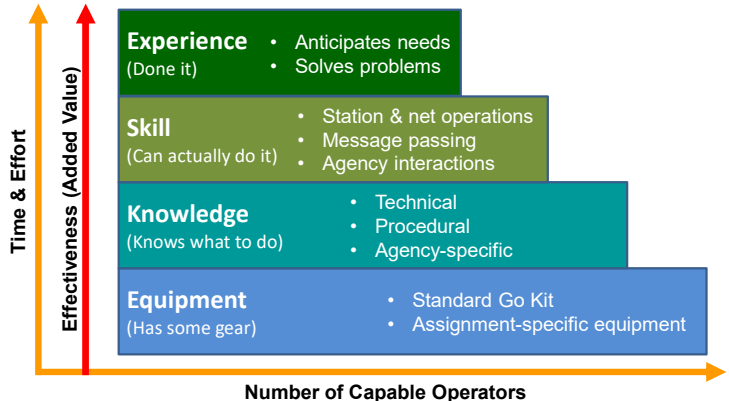Be an expert at field radio communications

15m
10

What Does It Take To Be A Great Field Communicator?

- Merriam-Webster says:
  - com·mu·ni·cate: to transmit information, thought, or feeling so that it is satisfactorily received or understood

- Just about anyone can do the first part
  - … transmit information, thought, or feeling …

- The second part is the hard part!
  - … so that it is satisfactorily received or understood

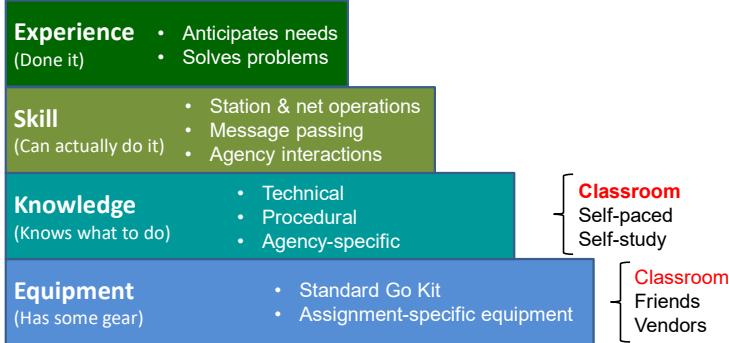- What does it take to do that really well? (And why should we?)
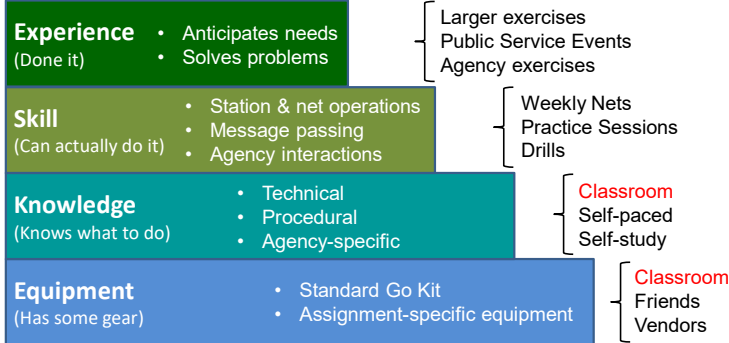
11

3

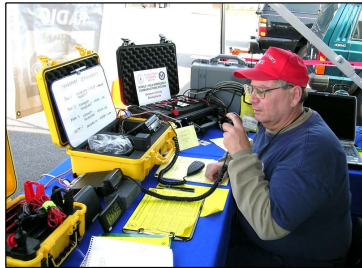## Components of Field Communications (Slide 12)

Component	Description
Experience (Done it)	• Anticipates needs • Solves problems
Skill (Can actually do it)	• Station & net operations • Message passing • Agency interactions
Knowledge (Knows what to do)	• Technical • Procedural • Agency-specific
Equipment (Has some gear)	• Standard Go Kit • Assignment-specific equipment

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Components of Field Communications (Slide 13)

Time & Effort / *Effectiveness (Added Value)* (vertical axes)

Component	Description
Experience (Done it)	• Anticipates needs • Solves problems
Skill (Can actually do it)	• Station & net operations • Message passing • Agency interactions
Knowledge (Knows what to do)	• Technical • Procedural • Agency-specific
Equipment (Has some gear)	• Standard Go Kit • Assignment-specific equipment

Number of Capable Operators (horizontal axis)

13

Learning Field Communications (Slide 14)

Component	Description	Learning methods
Experience (Done it)	• Anticipates needs • Solves problems	
Skill (Can actually do it)	• Station & net operations • Message passing • Agency interactions	
Knowledge (Knows what to do)	• Technical • Procedural • Agency-specific	**Classroom** Self-paced Self-study
Equipment (Has some gear)	• Standard Go Kit • Assignment-specific equipment	**Classroom** Friends Vendors

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Learning Field Communications (Slide 15)

Component	Description	Learning methods
Experience (Done it)	• Anticipates needs • Solves problems	Larger exercises Public Service Events Agency exercises
Skill (Can actually do it)	• Station & net operations • Message passing • Agency interactions	Weekly Nets Practice Sessions Drills
Knowledge (Knows what to do)	• Technical • Procedural • Agency-specific	**Classroom** Self-paced Self-study
Equipment (Has some gear)	• Standard Go Kit • Assignment-specific equipment	**Classroom** Friends Vendors

It takes time. The more you participate, the better you become!

15

Supporting Our Served Agencies

To serve them well, we must understand their needs

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Amateur Radio Support for Agencies

- In a disaster, communications is the #1 problem!

- We can help with:
  – Communications Capability
    - Create the capability where it doesn't normally exist
    - Provide backup capability where existing systems have failed
  – Information collection and dissemination

17
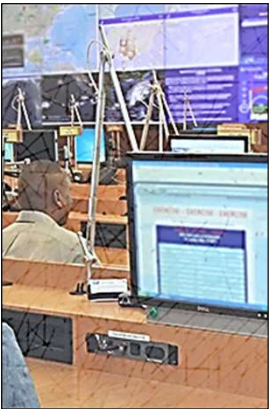
The key difference between communications for a served agency

(such as at a public service event or emergency incident)

and other amateur radio activities

(such as contesting, DXing, "talk nets", etc.)

is …

We operate on the served agency's terms:

- Can include mission critical information
  (potentially involving threats to life and property)

- Handled in the manner that they need it
  (their content, their format, their priority, their procedures, their locations, …)

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Doing Business on Served Agency's Terms

- Disaster Service Worker Program
  – Worker's compensation for injury; limited liability protection
  – If properly activated, supervised and working as assigned and trained
- ICS/SEMS/NIMS Training
  – ICS: Incident Command System
  – SEMS: Standardized Emergency Management System
  – NIMS: National Incident Management System
- Forms
  – ICS: 205, 211A, 213, 214, 309, …
  – Status: Jurisdiction Status, Shelter Status, Med Facility Status
  – Resources: 213RR, Med Resource Request, RACES Mutual Aid Req.
- Agency-specific Procedures
  – Paperwork, access, credentials, systems, …
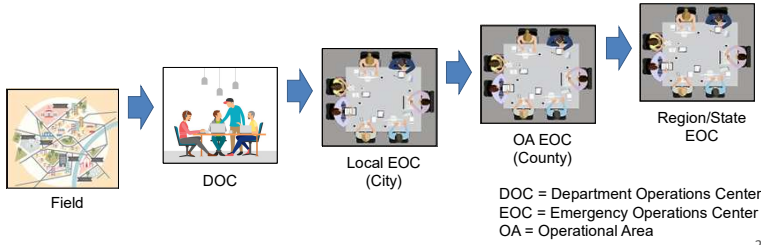
19

ICS – Incident Command System

- Born out of management challenges of rapidly moving wildfires in 1970s
- Any size/kind of incident, common management structure & terminology, logistical and administrative support, cost effective
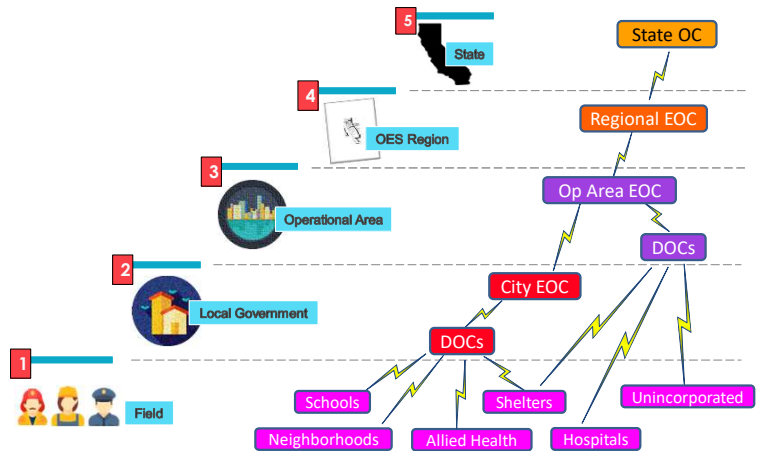- Messages are usually addressed to positions, not individuals

20

SEMS – Standardized Emergency Management System

- California specific
- Born out of coordination challenges of 1991 East Bay fires
- Improve coordination of state, local response in CA
- To be effective, know the communications flow in SEMS
  - What info? What format? Which ICS positions?

DOC = Department Operations Center
EOC = Emergency Operations Center
OA = Operational Area

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SCCo ARES/RACES is Aligned with SEMS

22

SCCo ARES/RACES is Aligned with SEMS
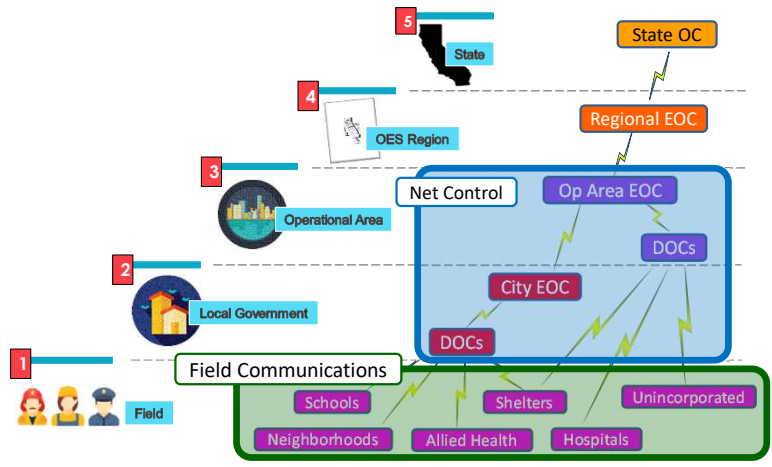
23

Agency-aligned Communications

- General ICS Forms
  - ICS 213 Message Form
  - EOC 213RR Resource Request
  - ICS 309 Communications Log
- Status Forms
  - WebEOC Shelter Status
  - WebEOC Jurisdiction Status
- Allied Health Forms
  - Allied Health Facility Status
- Hospital Forms
  - EMResource HAvBed Report
  - WebEOC Medical Facility Status
- Local
  - RACES Mutual Aid Request
  - Damage assessment

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How We Prepare For Working With Agencies

- Training: ICS/SEMS/NIMS and our own training classes
  - IS-100, IS-200, IS-700, G606 (SEMS), and this class
- Organizational structure (follows SEMS Model)
  - Cities > County > Region > State
  - Field Communications > Net Control
- Our own exercises follow ICS/SEMS structure
  - Command and general staff
  - Documentation (ICS-205, ICS-211, ICS-214, ICS-309, After Action Report (AAR, …)
- Our own planned events follow ICS/SEMS
  - DSW activation, supervision
  - ICS structure, plain English, ICS forms
- Participation in agency exercises and events
  - Yellow Command, Statewide Medical Health, Golden Eagle, various local events…

We take every opportunity to train and practice how our agencies work

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Field Communications Assignments

What to expect

20m

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Example: Field Observation

DOC   EOC

- Provide essential information for situational awareness
  - Earthquake damage (Modified Mercalli Scale), water/flooding level, checkpoints, fire watch, crowd observation, …
- Requirements: Equipment, Knowledge, Skill, Experience?

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7

Example: Parades, Races, Festivals

- Provide essential information for situational awareness
  - Checkpoints and rovers provide crowd estimates, report event status, assist with lost children and report important conditions to officials
- Requirements: Equipment, Knowledge, Skill, Experience?

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Example: Neighborhoods / Local EOC

- Community Emergency Response Teams report to neighborhood command posts (CPs); CP reports to city EOC
  - Damage assessments, team status
- Amateur Radio: Neighborhood CP to EOC
- Requirements: Equipment, Knowledge, Skill, Experience?
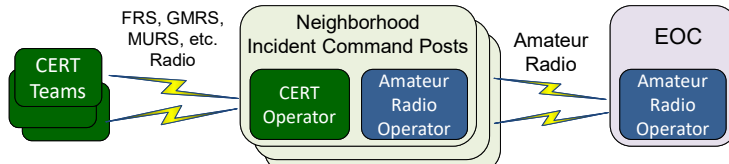
29

Example: Schools / Local EOC

- Schools report to school district; school districts report to the city EOC
  - Status (damage, injuries, …), resource requests, H&W
- Amateur Radio:
  - Individual schools to school districts (backup)
  - School districts to City EOC (primary or backup)
- Requirements: Equipment, Knowledge, Skill, Experience?
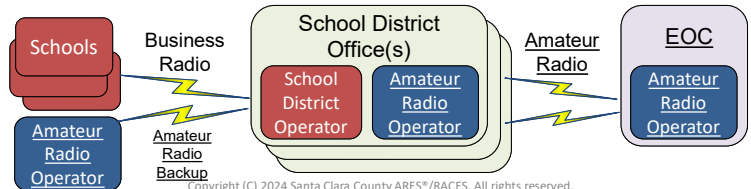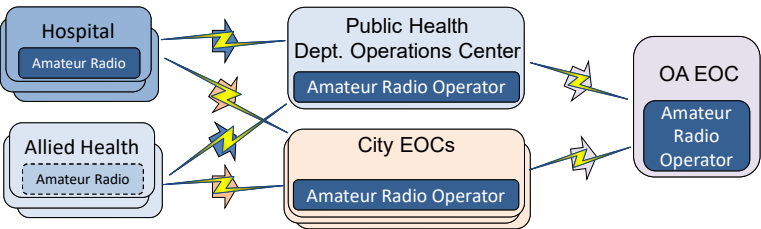
30

Example: Shelters

- Shelters may be managed by a local jurisdiction or by a non-governmental organization (NGO) such as the Red Cross. Shelter status and other municipal issues are reported to the jurisdiction EOC. Shelter resource support may come from the NGO.
  - Shelter status, resource requests, municipal issues, H&W
- Amateur Radio:
  - Shelter to (City EOC and/or NGO) to OA EOC
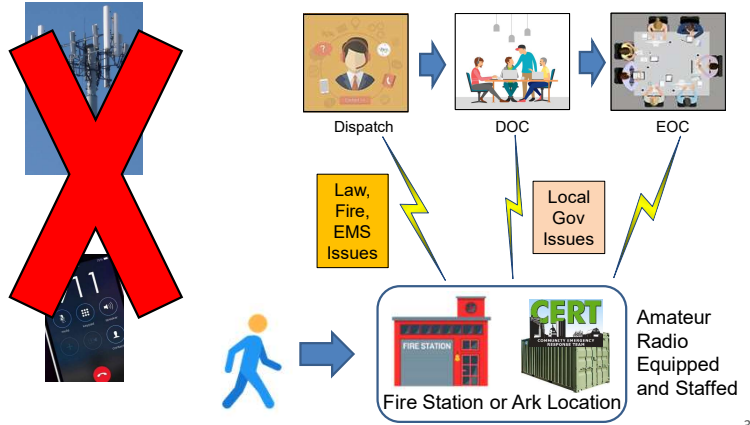- Requirements: Equipment, Knowledge, Skill, Experience?
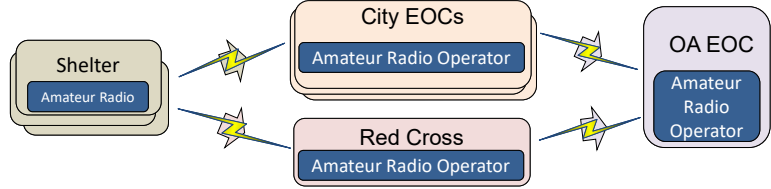
31

Example: Hospitals, Allied Health

- Medical info is reported to the PHDOC; municipal issues are reported to the city EOC; OA EOC supports both
  - Bed status, facility status, resource requests, municipal issues, H&W
- Amateur Radio:
  - Hospital to (PHDOC or City EOC) to OA EOC
  - Support for Allied Health facilities is new
- Requirements: Equipment, Knowledge, Skill, Experience?

Example: Alternate 911

Requirements: Equipment, Knowledge, Skill, Experience?

Dispatch   DOC   EOC

Law, Fire, EMS Issues   Local Gov Issues

Amateur Radio Equipped and Staffed

Fire Station or Ark Location

Example: Distributing Public Info

PIO — Public Information Officer

→ Broadcast Media

→ Social Media

What about those who don't have access or locations where communications systems are damaged?

Amateur Radio

- Post info at: schools, shelters, neighborhoods, wherever needed…
- Requirements: Equipment, Knowledge, Skill, Experience?

Amateur Radio Operator as Coach

- We exist to serve these agencies (government and non-government), not manage or direct them
  - We are NOT there to tell them what to do or how to do it
- But most agency message originators/recipients don't know how to utilize amateur radio
  - They simply haven't practiced with us before (or in a long time)
  - May not be familiar with paper forms (usually use web-based system)
  - May not know our communications methods
  - May not know how/where to address messages
  - May not know what to do with paper form when received
- We can help by acting as a coach
  - But be VERY careful to only suggest, not tell

How We Make Personnel Assignments

- We know the specific training, equipment, knowledge, experience and operating skill level needed to complete each type of assignment correctly

- But how do we know who has those combinations of skills?

- How do we pick who to activate for any given assignment?

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Credentials

Different assignments require different skills.
Who is qualified for a given assignment?

15m 37

Resource Assignment Challenges

- Very different types of assignments:
  - Flood watch:
    - Monitor and report on water levels at a creek location
  - School, shelter, hospital, allied health facility:
    - Formal message passing
  - Larger or more remote locations, DOCs, …
    - Formal message passing on two nets simultaneously
  - Event/Incident main point of contact
    - Provide field communications for an entire event/incident
- Who should we assign?
- How do we know they can complete the assignment correctly? How do we know they have the appropriate equipment?

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Resource Typing Is The Answer

- Incident Command System (ICS) resource "Types" identify capability
  - Applies to equipment (fire apparatus, aircraft, …)
  - Applies to personnel roles (incident commander, section chief, …)
- SCCo ARES/RACES credentials: four resource types across four roles
  - Type IV requires sign-off by city Radio Officer
  - Types III, II, I require operational evaluation by peer evaluator
  - Each resource type includes operator and equipment appropriate for the role

Type	Skill Level	Field	Net Control	Packet	Shadow
I	Specialist	Field I	Net Control I	Packet I	Shadow I
II	Advanced	Field II	Net Control II	Packet II	Shadow II
III	Independent	Field III	Net Control III	Packet III	Shadow III
IV	Basic	Type IV Communicator			
V	Unknown	Licensed Amateur Radio Operator (w/DSW)			

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Communicator Type IV

C4

- Capabilities
  - Standard SCCo ARES/RACES go kit
  - Respond anywhere in jurisdiction
  - Basic net usage procedures
  - Simple damage/status reports
  - Handle low traffic levels
- Assignment Types
  - Parades, festivals, races
  - Checkpoints, flood watch
  - Damage surveys
  - CERT team support (simple reports)

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Field Operator Type III

F3

- Capabilities
  - Type IV plus …
  - Fully independent operator
    - Has the equipment, training, knowledge, skill, and experience to handle basic assignments correctly, without the need for assistance or coaching
  - 3rd Party traffic
  - Low to medium traffic volume
- Typical Assignments
  - CERT team support (complex reports)
  - Schools, shelters
  - Jurisdiction DOC/EOC (smaller, not for net control)
  - Hospitals
  - Allied health facilities
  - Fire stations

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Field Operator Type II & Type I

- Field Operator Type II = Advanced Operator
  - Capabilities **F2**
    - Type III plus …
    - Medium to high traffic volume, multiple nets
    - Cross-band repeat
    - Standard Go Kit + mobile (25+W) radio, antenna, mast, coax, …
  - Assignments
    - Larger, more critical, or more remote sites
    - Help plan small events
- Field Operator Type I = Specialist Operator **F1**
  - Type II plus
  - Extended operations (72+ hours)
  - Most critical and complex assignments
  - Principal interface for planning, design, set-up, operations

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Credentialed Operators Follow Performance Standards and Best Practices

- Covers all performance aspects of operating in ARES/RACES
  - Professionalism and Training
  - Communications Technique
  - Safety
  - Methods and Procedures
  - Equipment
  - Documentation
- Applies to all operators
- Standard used for credential performance evaluations

Santa Clara County ARES®/RACES

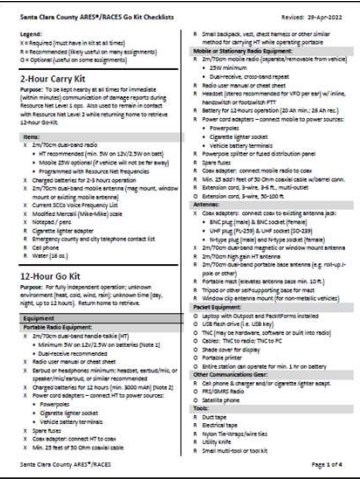**Performance Standards and Best Practices**

Version 2.2
Revised: 27-Apr-2022

http://www.scc-ares-races.org/operations.shtml

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Credentialed Operators Come With Standard Go Kit

- 2-hour Carry Kit
  - Keep it nearby
- 12-hour Go Kit
  - Needed for any deployment
- Extended Kit
  - 72+ hours
- Includes:
  - Required
  - Recommended
  - Optional
- More on equipment later …

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Earning a Credential

- Equipment
  - Standard 12-hour go kit, plus more as appropriate
- Training
  - SCCo ARES/RACES courses: technical and role-specific
  - ICS/SEMS/NIMS courses
- Knowledge
  - Able to explain key concepts (general and role-specific)
- Experience
  - Participation in nets, events, incidents
- Performance
  - Peer-reviewed, based on Performance Standards
  - Conducted at regular events (no special circumstances needed)

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Resource Assignments By Type

- Very different types of assignments:

C4 – Flood Watch
  - Monitor and report on water levels at a creek location

F3 – School, shelter, hospital, allied health facility
  - Formal message passing

F2 – Larger or more remote location, DOCs, …
  - Formal message passing; operate two nets simultaneously; cross-band

F1 – Event/Incident main point of contact
  - Organize field communications for an entire event/incident

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Mutual Aid Communicator (MAC) Endorsement

- An amateur radio operator that meets certain minimum requirements and is <u>willing to help outside own city/agency</u> when needed
  - Only called upon when not needed within own city/agency
- Must hold at least Type IV Credential:
  - Encouraged to earn role-specific credentials (Type III, II, I)
- Some additional administrative requirements
  - County DSW Registration
  - Background check

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Other Endorsements

- County EOC Radio Operator (ERO)
  - Work in the County EOC Radio Room as Net Control or Packet operator
- County Fire Station Operator (FRO) [pending]
  - Work in a County Fire Station as a Field or Packet Operator
- County EOC Races Unit Leader (RUL)
  - Work in the County EOC as the RACES Unit Leader
- More information on endorsement can be found at:

  https://www.scc-ares-races.org/credentials

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Credentialing Program Information

- https://www.scc-ares-races.org/credentials
  - Documentation
    - Credentialing Program Handbook
    - Performance Standards and Best Practices
  - Forms
    - Credential and Endorsement Forms
    - Approved Activity Forms
  - Training Guidance – required classes
  - Program Management & Support
    - Input and Guidance
    - Submitting Records
    - Program Manager

Santa Clara County ARES/RACES
Herman Munster
W6XRL4

Credentials:	
Evaluator	E2
Field Comms	F1
Net Control	N3
Packet Comms	P2
Shadow Comms	S1

Endorsements:	
Mutual Aid Comm	MAC
Fire Station Radio Oper	FRO
EOC Radio Operator	ERO
EOC RACES Unit Lead	RUL

Expires: Jan 31, 20##

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Value Add – Round Two

Question:

What value do you (could you) add to a planned event or emergency incident?

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Value Add – Round Two

Question:

What value do you (could you) add to a planned event or emergency incident?

Answer:

For credentialed operators …

The **equipment**, **knowledge**, **skill** and **experience** necessary to provide the **communications capability** needed by served agencies to **collect and disseminate information** in **the manner they need it** (content, format, priority, procedures, locations, …).

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Safety

Safety is Everyone's Responsibility

Personal Safety

- Don't accept an assignment until you and your family are safe
- On assignment, actively & continually assess personal safety
  - Maintain awareness of surroundings and potential for safety issues
- Call 911 or other official emergency number if fire, medical or public safety issue exists
- Wear proper attire, even for drills, public service events
  - Vest (lime yellow, ANSI Class 2)
  - Personal attire
    - Long pants (unless otherwise authorized)
    - Sturdy footwear with closed toe, no sandals
    - Protection from the elements (long sleeves, hat, …)
  - Other personal protective equipment (PPE) as needed (gloves, safety glasses, hearing protection, …)

Antenna Safety

- LOOK UP when placing antennas
- Assume all overhead cables are energized and dangerous
- Location, location, location
  - No possibility to contact power lines, even if the support should fail
- Take care with "launchers"
  - When using slingshots, arrows, or power-assisted antenna launchers to string up the antenna, be sure no one is in range before you launch, and there are no hidden or unseen power lines.
- Use a safety spotter
  - Nobody can do the work alone and assess safety distances. A safety spotter's only job it to keep people and equipment safely away from power lines.

RF Safety Evaluation

- Your license requires an RF Safety Evaluation. The FCC rules changed and existing stations had until May 03, 2023 to comply.
- Controlled vs. uncontrolled environment: you (or other hams) and your household vs. unsuspecting public bystander
- Example scenarios from ARRL rf-exposure-calculator (146 MHz, FM, duty cycle is 5 min Tx / 10 min Rx), minimum safe distances shown:
  - Mobile radio, antenna on push-up mast:
    25W, 25 ft coax, total gain 3 dB
    controlled: 3 ft.   uncontrolled: 4 ft. 3 in.
  - Car mag mount antenna (metal roof): 50W, total gain 2dB
    controlled: 3ft. 9 in.   uncontrolled: 5 ft. 5 in.
- ARRL RF exposure page and calculator
  - https://www.arrl.org/rf-exposure
  - https://www.arrl.org/rf-exposure-calculator
- See the Antenna Class Slides for more details
- Will become part of Credential Evaluations

Human Factors

- Both fatigue and stress can result in
  - Poor communications skills; slower task performance
  - Difficulty concentrating and thinking clearly; forgetfulness
  - Inattention to important details

- Avoidance
  - Work at moderate pace as applicable to the assigned task
  - Switch jobs with partner; take periodic breaks
  - Adjust duties to alternate between heavy and light duty tasks
  - Look for signs of impairment in your team-mates

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Environment

- Sun, heat, cold, rain, wind, lightning
  - Dress appropriately; use layers
    - Wool and synthetics are best for cold & wet situations
    - Protect exposed skin from sun, wind, cold
  - Stay hydrated
    - Cool liquids in the heat, warm liquids in the cold
  - Use protective shelter (existing or bring it with you)
    - Pop-up tents/shelters are always in need at drills, public service events
      - Use weights to keep pop-ups secure in the wind (suggest 40 lbs. per leg)
    - For lightning: move indoors, disconnect antennas
  - Watch for signs of medical problems related to heat or cold
    in yourself and others

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Disasters

- Floods, land/mudslides, fires, earthquakes
  - Do not enter affected area
    - Do not proceed past an active fire line
    - Do not enter water deeper than six inches, flowing water, flooded underpass
    - Do not try to cross land/mudslide, even after it stops moving
    - Do not enter suspect structures
  - Increase vigilance, alert level near affected areas
    - Wind direction can shift fire dramatically and cut off escape
    - Flash flooding can occur in … a flash; know where high ground is
    - Fire followed by rain will likely yield land/mudslides; stay away
    - Be alert for smell of natural gas or hissing sounds after earthquakes, slides

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Simulated Deployment

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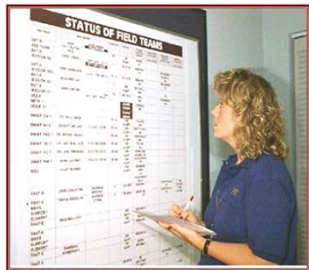
Mobilization

Field Operations

(Review material from the Fundamentals Class)

Review: Mobilization
(Covered in Fundamentals Class)

- Alerting
- Resource Net Levels 1,2,3
- Assignment
- Activation
- Travel
- Arrival
- Sign In

Review: Alerting

- Definition of alerting:
- Alerting Types
  - Self-alerting
    - Examples:
  - Non-self-alerting
    - Examples:
  - Both
    - Examples:
- Alerting Methods
  - Examples:

Review: Resource Net Level 1

- Trigger:

- Purpose:

- Repeaters/Frequencies:

- Activity:

- Example report:

Review: Resource Net Level 2

- Trigger:

- Purpose:

- Repeaters/Frequencies:

- Activity:

- Example:

66

Review: City Nets

- Trigger:

- Purpose:

- Repeaters/Frequencies:

- Activity:

- Example:

68

Review: Resource Net Level 3

- Trigger:
  1.
  2.

- Purpose:

- Repeaters/Frequencies:

- Activity:

- Example check-in:

70

Review: Assignment

- What type of assignment should you accept?
  1. I _____ the assignment
  2. I will be _____ while performing the assignment
  3. I have been properly _____ for the assignment
  4. I have the right _____ for the assignment
  5. I am _____ to go

- What type of assignment should you decline?

- What if you're not ready to accept any assignment?

72

Review: Activation

- When ready to depart, what info does net control need?
    1. I am _____ to depart
    2. My _____ is: _____
    3. My starting _____ is <last ____ digits>
    4. End with your _____ _____ _____

- What key info should you get from net control?

- Begin filling out your ICS-_____

74

Exercise: ICS-214 Unit Activity Log

Did you view the ICS-214 Video Training?

- Assume the time is currently 08:00
- The resource net gives you the following general assignment:
    - Participate in the Field Ops Type III Training Class
    - Use the class location (we'll keep it simple)
    - The event will be from 09:00 to 12:00 today (operational period)
    - The incident/mission/activation number is TC-25-01T
- You depart from home 5 minutes later
    - Your starting odometer is 123

- Start an ICS-214 Unit Activity Log and keep it updated throughout the class

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Exercise: ICS-214 Unit Log

UNIT LOG ICS 214-SCCo ARES/RACES	1. Incident Name and Activation Number Field Ops Type III Training Class TC-25-01T	2. Operational Period (Date/Time) MM/DD/YYYY MM/DD/YYYY From: 09:00 To: 12:00	
3. Unit Name / Tactical Call / Designators		4. Unit Leader (Name, Call Sign, ICS Position) <your name>, <your call sign>	
5.	Personnel Roster Assigned		
Name	Call Sign	ICS Position	Home Base/City
	This section only used by team leaders. Used when a group of operators are dispatched together.		
6.	ACTIVITY LOG		
Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text)		
08:00	Assignment: attend Field Ops Type III Training Class at <location>		
08:05	Departed home, odometer 123		

77

Example: Resource Net Departure

- Check-in for Public Service Event
    - Assignment, activation number, other details already known
    - Instructions were to check-in when ready to depart
- Example check-in
    - Identifies and states intended communication (ready to depart)
    - Provides information requested, nothing more, nothing less
    - Ends with call sign, which satisfies FCC and indicates transmission is completed
- Example check-in
    - Same as above, but
    - Street names are complicated, so he uses "I spell" correctly. Excellent!

78

Travel

- Follow _____ _____'s instructions

- Listen and respond promptly to _____ & _____ checks

- Key safe driving behaviors
  -
  -
  -
  -
  - Observe "distracted driving" laws
    - Key: wired microphone, mounted radio

79

Example: Resource Net Health & Welfare

- Health and welfare checks usually done in a batch
- Each person called sequentially
- Example batched health & welfare check
  - Both provide location, odometer and end with call sign. Excellent.
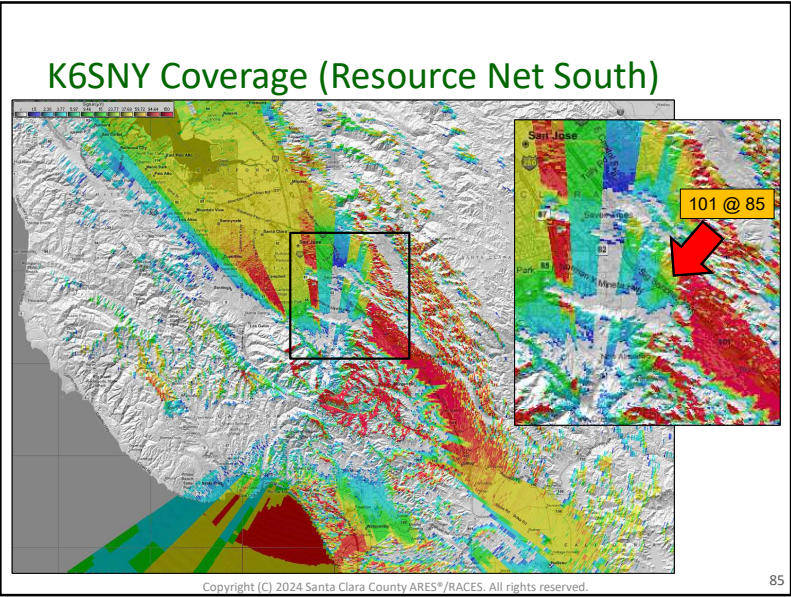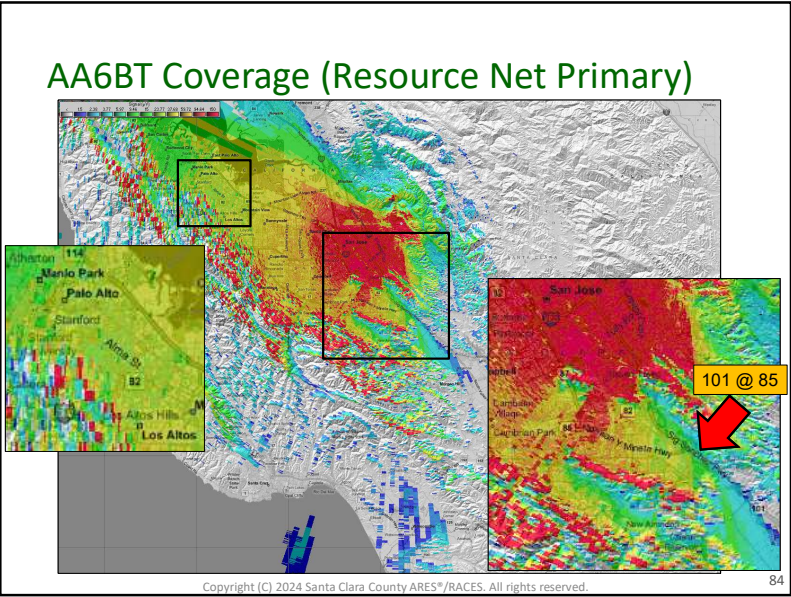
81

Resource Net Linked Repeaters

- To cover the entire county, we use three linked repeaters
- Pre-program all of them into your radio
- Know the coverage areas
- Remember to switch to the correct repeater as you drive

82

W6ASH Coverage (Resource Net North)

83

AA6BT Coverage (Resource Net Primary)

101 @ 85

84

K6SNY Coverage (Resource Net South)

101 @ 85

85
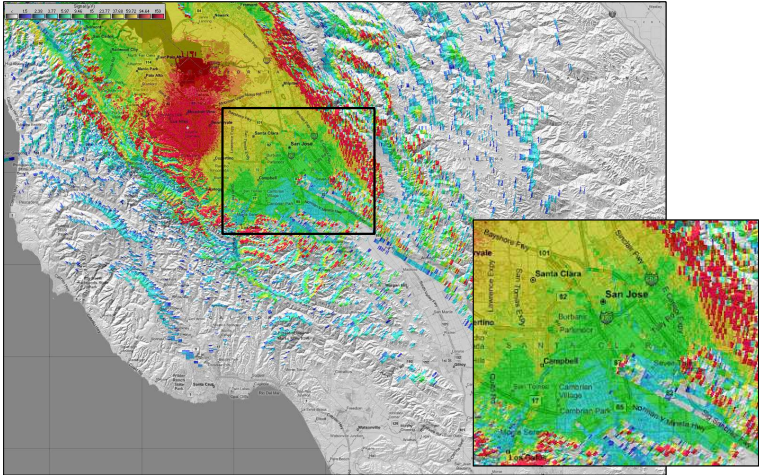
Linked Repeaters Exhibit Audio Delays

- Normally, the repeaters used for Resource Net are not linked
- When linked there is a delay -- you need to allow for it
- Max delay when sending from W6ASH to K6SNY (or reverse)

| W6ASH | Remote | | AA6BT | Remote | | K6SNY |
| North | | | Primary | | | South |

86

Example: Linked Repeater Delay

MM Report on Resource Net – Level 1
(The same conversation as heard on three linked repeaters.)

K6SNY

AA6BT

W6ASH

Record the call signs as you hear them.
Can you tell who they are?

IMPORTANT: After keying up, wait 2 seconds before talking on linked repeaters

87

20

Arrival at Staging

- Stay in your _____
- Update your ICS-____
- Contact resource _____ _____
- Provide the following info:
  - I have _____ at _____
  - My ending _____ is <last ___ digits>
  - I am _____ _____ of the _____ net and _____ into the _____ net
  - End with your _____ _____ _____
- Then, contact _____ net control
- Say:
- Follow _____ _____'s _____
- If you can't reach the _____ _____, then:

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Exercise: ICS-214 Unit Activity Log

- Assume the time is 08:25 and you have arrived at staging
- Your final odometer is 134
- Update your ICS-214

90

Example: Updated ICS-214

UNIT LOG ICS 214-SCCo ARES/RACES	1. Incident Name and Activation Number *Field Ops Type III Training Class TC-25-01T*	2. Operational Period (Date/Time) *MM/DD/YYYY MM/DD/YYYY* From: *09:00* To: *12:00*
3. Unit Name / Tactical Call / Designators		4. Unit Leader (Name, Call Sign, ICS Position) *<your name>, <your call sign>*

5. Personnel Roster Assigned

Name	Call Sign	ICS Position	Home Base/City

6. ACTIVITY LOG

Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text)
08:00	Assignment: attend Field Ops Type III Training Class at <location>
08:05	Departed home, odometer 123
08:25	Arrive staging, odometer 134

91

Example: Switch To Staging Net

- Stay in vehicle
- Check out of resource net
  - Same three pieces of info: location, odometer, call sign
  - You: "I have arrived at staging, final odometer 134, checking out, W6XRL4"
  - NC: "W6XRL4, roger"
  - Example: Checking out of resource net
- Check into incident/event staging net if there is one
  - You: "Staging net control, W6XRL4, I'm at the parking lot, checking in"
  - NC: "W6XRL4 proceed to staging tent"
  - You: "Roger, W6XRL4"
- Proceed according to instructions

92

Sign-In

- Locate and sign-in on ICS-_____

- If one doesn't exist, then:

- Stay in constant contact on the _____ net

- Fill out _____

- Get/attend a _____

93

What If There Is No Staging Location?

- In some cases, you may be a single resource going directly to a specific location where there is no need for staging
  - Example: you are assigned to go directly to a specific shelter or hospital or command post
- The same activities that we are going to discuss would apply
  - You will likely have paperwork to fill out
  - You will likely get a more detailed assignment briefing
- The main difference will likely be
  - You will likely be told to contact the local team directly on their tactical net instead of a separate staging net
- If you are the first one there
  - You will create the paperwork (ISC-211 Check-In Form)
  - You will set up the tactical net, …

95

Exercise: Sign-In

- Assume the time is 08:30; you have arrived at <class location>
- Sign in on the ICS-211
- Assume you are the first person to arrive, so create an ICS-211
- You should know your City/Agency Code

American Red Cross	ARC	Mountain View, City of	MTV
Campbell, City of	CBL	NASA/Ames	NAM
Cupertino, City of	CUP	Palo Alto, City of	PAF
Gilroy, City of	GIL	San Jose, City of	SJC
Hospitals (all SCCo) & PHDOC	HOS	San Jose Water Co	SJW
Loma Prieta Region (Santa Cruz Mtns.)	LMP	Santa Clara, City of	SNC
Los Altos, City of	LOS	Santa Clara County	XSC
Los Altos Hills, Town of	LAH	Santa Clara Valley Water District	VWD
Los Gatos, Town of / Monte Sereno, City of	LGT	Saratoga, City of	SAR
Milpitas, City of	MLP	Stanford University	STU
Morgan Hill, City of	MRG	Sunnyvale, City of	SNY

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ICS 211A Check-in List (Communications)

ICS 211A CHECK IN LIST (COMMUNICATIONS)	1. INCIDENT NAME: Field Ops Type III Training	2. DATE: MM/DD/YYYY	3. INCIDENT NUMBER: TC-24-02T	4. CHECK IN LOCATION <location>

5. INFORMATION

PERSONNEL NAME	CALL SIGN	AGENCY	TIME IN	TIME OUT	HOURS	REMARKS
<your name>	<your call>	<your org>	08:30			

American Red Cross	ARC	Mountain View, City of	MTV
Campbell, City of	CBL	NASA/Ames	NAM
Cupertino, City of	CUP	Palo Alto, City of	PAF
Gilroy, City of	GIL	San Jose, City of	SJC
Hospitals (all SCCo) & PHDOC	HOS	San Jose Water Co	SJW
Loma Prieta Region (Santa Cruz Mtns.)	LMP	Santa Clara, City of	SNC
Los Altos, City of	LOS	Santa Clara County	XSC
Los Altos Hills, Town of	LAH	Santa Clara Valley Water District	VWD
Los Gatos, Town of / Monte Sereno, City of	LGT	Saratoga, City of	SAR
Milpitas, City of	MLP	Stanford University	STU
Morgan Hill, City of	MRG	Sunnyvale, City of	SNY

ICS 211A SCCo RACES	6. NUMBER OF PAGES: _____ of _____	7. PREPARED BY (RESOURCE UNIT):	8. MISSION NUMBER XSC -

97

Be On Time!

- Notice that the assignment is for 09:00 to 12:00
- Yet, you have arrived at Staging at 08:30. Excellent!
- Take into account all activities that must be completed prior to the start of your assignment
  - Checking in and out of nets takes time
  - Unexpected traffic can cause delays
  - Finding a parking place takes time
  - Going through staging takes time
  - Programming your radio takes time
  - Getting to your assignment takes time
  - Setting up your station, takes time
- Be sure to work backwards from when you need to be on the air and plan your travel, arrival accordingly
  - For most activities arrive at staging no later than 30 minutes before your shift

98

Staging: Paperwork

STAGING AREA S

- Staging personnel will usually have some paperwork for you to fill out
  - T-card
  - DSW registration, if needed
  - Safety forms, releases, …
- Be prepared with clip board, pen, flashlight (if dark)
  - Table space may be limited (or non-existent)
- Write neatly

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T-Cards

- Cards
  - T-shaped cards slip into slots in rack without falling through
  - First line visible in rack
  - May be plain, lined or pre-printed with specific fields
- Racks
  - Organizes cards for easy viewing
  - May be mounted on wall or flexible canvas for deployment
  - Can be constructed out of CD visor holders

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T-Cards – Typical Information

- Name (Last, First)
- Agency Code
- Call sign
- Credentials (only list highest)
- Other information as requested
  - Home city (Agency Code)
  - Cell Phone
  - Additional info based on event needs
- Staging will define the specific information and required format
- Complete a T-Card with your information
- Staging will keep track of your assignment

EXAMPLE

Munster, Herman	*W6XRL4*
XXX (Agency Code)	
F3, N3, P2, S3, MAC	
or	
C4, MAC	
09:00 Assigned to Field Ops III	

BW-366

101

Staging: Review Information

- You will likely be given other information while at staging as part of a briefing
  - Event/Incident overview information
  - Maps, procedures, safety info, …
  - ICS-205 Communications Plan
- Familiarize yourself with the information
- Use the ICS-205 to program your radio

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Example ICS-205 Communications Plan

COMMUNICATIONS PLAN SCCo ARES/RACES/ACS	1. Incident Name/Location Boris Karloff Memorial Mummy Race / Mockingbird Heights Stage		2. Activation Number MHT-15-05	3. Operational Period Date/Time From Date: 10/31/2018 To Date: 10/31/2018 From Time: 18:00 To Time: 24:00				

4. Communications Resources

Ch #	Function	Call Sign and/or Sys / Net / Ch / TG Name	Assignment	Rx Freq N / W or NAC	Rx Tone or NAC	Tx Freq N / W or + / - / S	Tx Tone or NAC	Mode A,D,M	Remarks
1	Resource	K6ABC3/R Resource Net-West	Mutual Aid Activation & Tracking	146.115 W	N/A	+	100.0	A	Use when approaching from the west.
2	Resource	N6XYZ0/R Resource Net-East	Mutual Aid Activation & Tracking	440.800 W	127.3	430.800 W	114.8	A	Use when approaching from the east.
3	Command	WA6WK9/R Command Net	Event Staff	442.500 W	100.0	+	100.0	A	Open net. All event staff should monitor.
4	Command	KZ6MHT1/R Command Net - Alt	Event Staff	146.640 W	N/A	-	162.2	A	Backup.
5	Staging	Staging Net	Unassigned Communicators	147.420 W	N/A	S	N/A	A	Contact Staging upon arrival and when traveling between assignments.
6	Operations	KZ6MHT1/R Race Net	Checkpoints and Rovers	146.640 W	N/A	-	162.2	A	All communicators must be in contact with net control when performing their assigned duties.
7	Operations	WA6WK9/R Race Net –Alt	Checkpoints and Rovers	442.500 W	100.0	+	100.0	A	Backup.
8	Operations	MHT EOC	Command Post	3.878 LSB	N/A	S	N/A	A	HF 75m NVIS with Mockingbird Heights EOC
9	Operations	W1MHT-1	Packet BBS Access	145.750 W	N/A	S	N/A	D	1200 baud.
10	Emergency	9-1-1	Police/Fire/Medical Requests	N/A	N/A	N/A	N/A	-	Call 9-1-1 to request first responder assistance, THEN notify net control.

5. Special Instructions
Resource Net repeaters will be linked. All nets are Directed Nets unless otherwise indicated.

ICS 205 SCCo RACES	6.Prepared by (Communications Unit Leader) Herman Munster, W6XRL4	7.Prepared Date/Time 06/02/2018 09:30	8. Page 1 of 1

See reverse for instructions. All channels are shown as if programmed in a base station, mobile or portable radio. Repeater stations must be programmed with the Rx and Tx reversed.

ICS 205-SCCo ARES/RACES/ACS (rev. 2018-Jul-04)

103

Personal Radio Programming

- You must be able to program your radio to whatever is listed in the ICS-205 Communications Plan
  - Simplex: Frequency, Tone/Tone-squelch, disable offset
  - Duplex (repeaters): Frequency, Offset, Tone/Tone-squelch
- Make sure you can also turn off other, inappropriate, unnecessary and troublesome features
  - Battery saver, VOX, Yaesu Wires, …
- Programming manually, on the fly, via the keypad, without hesitation, is the only viable option for real assignments
  - Programming via computer and software is NOT practical in the field
- Take personal responsibility for mastering the operation of your own radio BEFORE you arrive

104

Staging: Wait Time

- While in staging, monitor the staging net at all times
- Use the time to:
  - Program your radio and verify its operation
  - Familiarize yourself with the information provided
- At some point, you will receive a local, specific assignment
  - The assignment may include a tactical call sign to use
  - Alternatively, net control may assign the tactical call sign
  - Again, if you don't feel safe or ready, you can refuse
- Proceed to local assignment when/as instructed

105

Review: FCC Call Signs vs. Tactical Call Signs

- FCC is your legal call sign
  - FCC Part 97 requires you to identify yourself with your FCC call sign every 10 minutes (during an extended conversation) and at the end of your communication
  - In EmComm, we also use the FCC call sign at the end of our conversation as a signal that we are finished speaking
- Tactical Call Signs represent a function or location
  - Example: shelter 1, checkpoint 5, rover 3, fire station 2, rover 9, …
  - They are used when we want to communicate with that function or location, regardless of who the individual happens to be
  - If assigned a tactical call sign, use it like you normally would use a call sign, but end your communication with your FCC call sign

106

Example: FCC vs. Tactical Call Signs

- Example: Using FCC Call Signs
  - Call and answer using FCC call sign
  - End with FCC call sign

- Example: Using Tactical Call Signs
  - Call and answer using tactical call sign
  - End with FCC call sign

- In both cases, FCC call sign at the end satisfies FCC rules and signals the other person that your communication is finished

107

Exercise: Local Assignment

- Assume the time is now 08:50
- Staging gives you the following assignment
  - Your assignment is to participate as a student in the classroom
  - Set up your station and check into the student net on 147.525 MHz
  - Your tactical call sign will be "Student <number>"
    - Where <number> is the number you received at the beginning of class
  - Pay attention at all times
  - Volunteer answers to all questions
  - Participate enthusiastically in all exercises
- Update your ICS-214

108

Example: Updated ICS-214

UNIT LOG ICS 214-SCCo ARES/RACES	1. Incident Name and Activation Number *Field Ops Type III Training Class* *TC-25-01T*		2. Operational Period (Date/Time) *MM/DD/YYYY MM/DD/YYYY* From: *09:00* To: *12:00*
3. Unit Name / Tactical Call / Designators *Student <your number>*		4. Unit Leader (Name, Call Sign, ICS Position) *<your name>, <your call sign>*	

5.	Personnel Roster Assigned		
Name	Call Sign	ICS Position	Home Base/City

6.	ACTIVITY LOG
Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text)
08:00	*Assignment: attend Field Ops Type III Training Class at <location>*
08:05	*Departed home, odometer 123*
08:25	*Arrive staging, odometer 134*
08:50	*Assignment: participate as student, tactical call sign "student <your number>"*

109

Orient Yourself to the Assignment Location

- Who we support
  - Government agencies
    - Santa Clara County (Office of Emergency Management, County Fire, …), city agencies, water districts, …
  - Non-government organizations ("NGO"s)
    - Hospitals, Red Cross, Salvation Army, CERT, community-and faith-based organizations, general public
- Find out who you should report to
  - Introduce yourself; clarify expectations (in both directions)
  - Verify information/message workflow
- Get a briefing or else find out for yourself
  - Food, water, restroom, telephone, copy machine, comms reqs, …
  - Determine the best location for your gear
- Set up your station

110

Assignment Is Not Well Defined?

- If relieving someone, ask for a relief briefing
- Ask your Supervisor and/or Net Control for any clarification
- Discuss with the person in charge at the served agency
  - Query them if they are not sure what you can provide
  - What are their communication needs
  - Who might they need/expect to communicate with
  - What type of information or forms will they need sent or received
  - Inform them of the services you can provide and be clear on what you cannot provide
  - What key information/status are they interested in receiving

111

Setting Up A Field Station

Where, how, …

15m

112

You may be assigned:

Fixed - Indoors

Fixed - Outdoors

Mobile - Vehicle

Mobile - Bicycle

Pedestrian

113
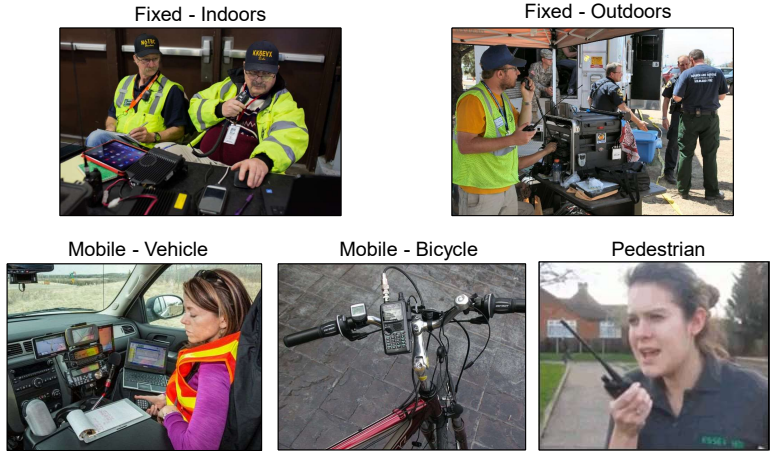
Select an Appropriate Operating Location

- Convenient
  - For the agency
    - Near their command/management staff (where message traffic is)
    - Consider vehicles, pedestrians, access & functional needs, unique facility reqs
  - For you
    - Access to food, water, restrooms, …
    - Near antenna feedline (or a window where you can run cable outside)
- Quiet (however much is possible)
  - For the agency
    - Your talking on the mic shouldn't interrupt their activities
  - For you
    - Background noise can hinder the ability of others to hear you, or you to hear them
- Comfortable
  - Standing next to a jack on the wall won't work for an 8-hour shift
  - Consider table, chair, pop-up shelter, lighting, weather, extra coax, …

114

Organize the Work Space

- Sufficient room (at your table, in your vehicle, in your backpack)
  - Radio equipment (including power source)
  - Computer equipment (situation specific)
  - Forms: Currently in use ICS 205, ICS 214, ICS 309, various message forms
  - Procedures, other documentation
- Clipboards – several can be handy
  - Protect papers from blowing in the wind
  - Hand to message senders so they can write message without taking up space on your table
- Make it safe – especially at night
  - Antenna support is out of the way, can't fall on or poke someone/something
  - Mark or cover cable paths, guy wires/ropes
  - "Caution" tape, gaffer's tape, safety cones can be helpful
  - Lights, beacons or other safety devices as appropriate

115

Ensure Adequate Visibility and Presence

- Make sure people know where you are and what you do

- Deploy "Radio Communications" or other signage
  - As appropriate for the situation
  - See: SCCo ARES/RACES website > Operations > Forms and Signs

  RADIO Communications
  Santa Clara County ARES/RACES

- Wear safety vest at all times – even indoors
  - Unless told to wear something else by the served agency
  - It helps people find you in a crowd

116

Bring Your Full Go Kit

- Even if you "know" you won't need it
  - The situation is usual dynamic
  - You may be redirected to a different assignment
- Even if you'll be using pre-installed equipment
  - Equipment failures
  - Improper installation, configuration
- Each resource type includes specific gear
  - The person requesting the typed resource knows that
  - The person dispatching a typed resource knows that
  - As a typed resource, it's your responsibility to be properly equipped and bring with you what everyone is expecting

117

You Represent All Of Us!

- <u>You are an ambassador to the public</u> for SCCo ARES/RACES. How you perform reflects on all amateur radio operators.
- **Your Responsibilities before an event**
  - Learn your radio and other equipment.
  - Keep your go-kit updated (everything working, batteries charged, etc.)
  - You are responsible for staying current with SCCo documentation (frequency lists, procedures, training material, forms, etc.).
  - Verify preparation and that everything is working before arriving at your assignment.
- **Your Responsibilities during an event**
  - You need to be trained and fully prepared to perform the duties assigned.
  - Do not take an assignment unless you have the confidence that you can provide dependable and reliable communication services to a <u>served agency</u> in benefit to the <u>public</u> for real and public service events.

118

In The Second Part of this Course …

- We will add to your ICS-211 and ICS-214. So, save them and bring them with you to the second part
- We will continue with our simulated deployment:
  - Equipment for Type III Field Comms
  - Equipment for Type II Field Comms
  - On Site Operations
  - Types of Message Traffic
  - Advanced Techniques
  - Dealing With Problems
  - Demobilization
- We will also review checklists that can be used to keep us on track
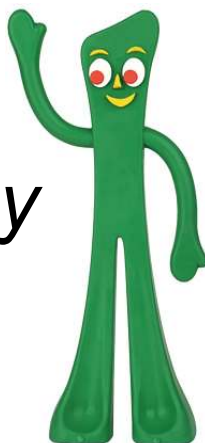
119

Whatever the Problem, Remember …

Semper Gumby

("Always Flexible")

120

Final Assignment

Please complete the On-Line Class Evaluation within one week.

To get course credit you need to:
  a) Attend at least 90% of the class
  b) Participate in class
  b) Complete the class evaluation

If you do these, you will get credit for the course.

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Online Class Evaluation

Log into https://www.scc-ares-races.org/activities/events.php
Click "Submit Class Evaluation" in Events menu

Thank You!

If you have questions or feedback about this or other training activities, you can join our Training discussion group.
https://scc-ares-races.groups.io/g/training
This is a moderated group.

Reminder:
Field Operations Type III Part B & Type II is Saturday 02/01/25
See: https://www.scc-ares-races.org/activities/events.php
Class presentation with homework should be posted by Monday 1/27/2025
An email will be sent to those signed up when it is posted.

Message Passing class is on Saturday 01/25/25