



Field Operations Type III Part B and Type II



Santa Clara County ARES®/RACES Last Updated 30-January-2023

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Bring your ICS-214 and ICS-211 that you started in the Part A class.

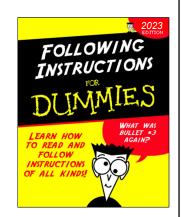
You will need a student number for the exercises. Use your student number from the Part A class.

If you did not attend Part A, please review the slides and complete the ICS-214 and 211 forms from that class. You will be assigned a student number at check-in.

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Housekeeping

- Introductions
- · Pen/pencil, paper, course materials
- · Cell phones
- · Side conversations
- Questions
- Corrected Handouts
- Breaks Water Only in this room
- Restrooms
- · In case of emergency
- PARKING move at first break



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Fictitious Examples Used Today

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



XNDEOC: City of Xanadu Emergency Operations Center



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Forms and Tactical Call Signs for Exercises

- Take out your partially completed forms from Part A of this class and the other blank forms
 - ICS-211
 - ICS-214
- Remember your tactical call sign from Part A.
 - Your tactical call sign will be "Student ##", where "##" is your number.

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Agenda

Type III, Part A (Reminder):

- Mastering Field Communications
- Supporting Our Served Agencies
- Field Comms Assignments
- Credentials
- Safety
- Simulated deployment
 - Mobilization
 - Setting Up a Field Station

Type III, Part B:

- Review of Part A
- Simulated Deployment (cont.)
 - Type III Field Equipment
 - Type II Field Equipment
 - On-Site Operations
 - Traffic Types
 - Message Passing Intro
 - Advanced Techniques (Type II)
 - Dealing with Problems
 - Demobilization
- Field Ops Checklist

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Learning Objectives (Reminder)



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

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Review:

Field Operations Type III Part A

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Review: Communicating

- The definition of "communicate" is:
 - com·mu·ni·cate: to transmit information, thought, or feeling so that it is satisfactorily _____ and _____.
- Field Emergency Communications can involve threats to ____ and
- To be effective and efficient in such critical situations, we strive to _____ field communications.

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Equipment for Field Communications, Type III

Review: Served Agency Procedures

- Most of our served agencies are required by law to use and
- It is important for us to understand these systems because
 - We can be more _____ and ____ at supporting our agencies if we understand how they work
 - Messages are usually addressed to/from ____ positions, which are grouped into these five sections:
 - Requests for resources move between agencies following the hierarchy defined in _____, which is: ____> ____> ____> ____>

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Standard Go Kit

- · 2-hour Carry Kit
 - Keep it nearby
 - Use to make resource net damage reports
- 12-hour Go Kit
 - Needed for any deploymen
- Extended Kit
 - 12+ hours
- · Includes:
 - X = Required
 - R = Recommended
 - O = Optional
- · Always wear a safety vest
 - Unless the served agency something else to wear

Lerend:	R Small backpack, vest, chest harness or other similar
	 K. Small backpack, vest, chest harness or other similar method for carrying HT while operating portable
X = Required (must have in kit at all times)	Mobile or Stationery Radio Equipment:
R = Recommended (Tkely useful on many assignments)	
O = Optional (useful on some assignments)	R 2m/70cm mobile radio (separate/removable from vehic
	25W minimum
2-Hour Carry Kit	 Dual-receive, cross-band repeat
Purpose: To be kept nearby at all times for immediate	R Radio user manual or cheat sheet
(within minutes) communication of damage reports during	R Headset (stereo recommended for VFO per ear) w/ inlin
Resource Net Level 1 cas. Also used to remain in contact	handswitch or footswitch PTT
with Resource Net Level 2 while returning home to retrieve	R Battery for 12-hours operation (20 Ah min.; 26 Ah rec.)
12-hour Go-Kit.	R Power cord adapters - connect mobile to power sources
II-los dons.	 Powerpoles
Items:	Clasrette lighter socket
X 2m/70cm dual-band radio	Vehicle battery terminals
HT recommended (min. SW on 12V/2.5W on bett)	R Powerpole splitter or fused distribution panel
Mobile 25W optional 6f vehicle will not be far away)	R Spane fuses
Programmed with Resource Net frequencies	R Coax adapter: connect mobile radio to coax
X Charged batteries for 2-3 hours operation	R Min. 25 add1 feet of 50 Ohm coasial cable w/barrel conn
X 2m/70cm dual-band mobile antenna (mag mount, window	R Extension cond. 3-wire. 3-6 ft., multi-outlet
mount or existing mobile antenna)	O Extension cord, 3-wire, 50-100 ft.
	Antennas
X Current SCCo Voice Frequency List	X Coax adapters: connect coax to existing antenna lack:
X Modified Mercall (Mike-Mike) scale	
X Notepad / pens	 BNC plug (male) & BNC socket (female)
R Cigarette lighter adapter	 UHF plug (PL-259) & UHF socket (SO-239)
R Emergency county and city telephone contact list	 N-type plug (male) and N-type socket (female)
R Cell phone	X 2m/70cm dual-band magnetic or window mount antenn.
R Water (16 cz.)	R 2m/70cm high gain HT antenna
	R 2m/70cm dual-band portable base antenna (e.g. roll-up :
12-Hour Go Kit	pole or other)
Paragas: For fully independent operation: unknown	R Portable mast (elevates antenna base min. 10 ft.)
environment (heat, cold, wind, rain); unknown time (day,	R Tripod or other self-supporting base for mast
night, up to 12 hours). Return home to retrieve.	R Window clip antenna mount (for non-metallic vehicles)
regist, up to 12 nours). Return name to retneve.	Packet Equipment:
Equipment	O Laptop with Outpost and PackitForms Installed
Portable Radio Equipment:	O USB flash drive (i.e. USB key)
X 2m/70cm dual-band handle-talicle (HT)	O TNC (may be hardware, software or built into radio)
Minimum 5W on 12V/2.5W on batteries (Note 1)	O Cables: TNC to radio; TNC to PC
Dual-receive recommended	O Shade cover for display
	O Portable printer
X Radio user manual or cheat sheet	O. Entire station can operate for min. 1 hr on battery
X Earbud or headphones minimum; headset, earbud/mic, or	Other Communications Gear:
speaker/mic/earbud, or similar recommended	R Cell phone & charger and/or cigarette lighter adapt.
X Charged batteries for 12 hours (min. 3000 mAh) [Note 2]	O FRS/GMRS Radio
X Power cord adapters - connect HT to power sources:	O Satelite phone
 Powerpoles 	Tools:
 Cigarette lighter socket 	R Duct tape
 Vehicle battery terminals 	R Electrical tape
X Spare fuses	R Nylon Tie-Wraps/wire ties
X Coax adapter: connect HT to coax	R Nylon Ne-Wraps/wire ties R Utility knife
X Min. 25 feet of 50 Ohm coaxial cable	
	R Small multi-tool or tool kit
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- Radio
 - 5 Watts
 - Dual-band (2m, 70cm)
 - Recommended: dual-receive
 - Charged batteries for 12 hours (min. 3000 mAh)
 - Be careful with AA battery packs. On some HTs it will lower the power output to about 1 Watt max!
 - Recommended:
 - · After market antenna can be a significant improvement
 - · Chest pack or vest pocket to carry radio up high, not at waist
 - "Surveyor" and "Engineer" vests usually have two chest pockets
 - Rubber band(s) for headset plugs on some HTs Beware of cheap, non-Part 97 compliant junk radios



HT Headset/Mic Options

- You need to hear and be heard in noisy environments
- Minimum required: earbud or headphones
 - Only improves what you hear, not your ability to be heard by others
- Recommended: headset
 - Alternatives: earbud/mic, speaker/mic/earbud

Headset

- Usually best for
 - · Hearing
- · Being heard

manufacturers

Consistent mic position Noise cancelling mics available from some



Hard to hear in noisy environment May support attached earbud

Simple, inconspicuous

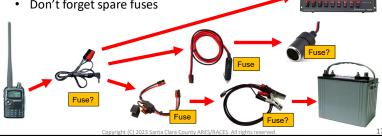
up surrounding noise

· Poor mic location, picks

- Mic location depends on how used · Not ideal if left clipped to clothing

Radio Power Adapters

- Required: adapters to get power from three sources
 - 1) Anderson Powerpoles, 2) cigarette lighter socket, 3) car battery
- Many options exist; pick what works for you
- ALWAYS fuse the connection to the battery
- Don't forget spare fuses



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Coax

More Info: Antenna Fundamentals Class

- Need to connect to existing installed antenna
 - Required
 - · 25 feet of 50 ohm
 - Adapters to connect radio, coax to common antenna connector types
 - Recommended
 - 25-50 feet of low-loss (LMR-400 UF equiv.) to reach station
 - · When you add an antenna and mast (Field Type II):
 - 25 feet of lightweight (LMR-240 UF or equiv.) to go up antenna mast

Usually UHF (or N) male on both ends

· Sufficient adapters to connect radio, coax(es), antenna

Your Radio HT: Usually SMA or BNC

Usually female, but some HTs

may have reverse polarity

Mobile: Usually UHF









· BNC (male or female)

- · UHF (male or female)
- N (male or female)

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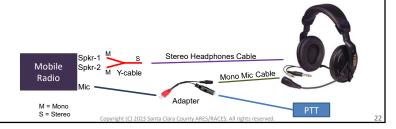
Equipment for Field Communications, Type II

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Headset

- · Stereo headset is best for dual-receive
- Y-cable needed for most dual speaker-jack mobile radios
- Radio-specific adapter cable needed for external PTT, headset
- · Foot switch or hand switch for PTT



Radio - Mobile



- · Minimum 25 Watts (50 Watts recommended)
- Dual band (2m, 70cm)
- · Dual-receive
- Cross-band repeat capable (CW-ID recommended)
- · Data connector for packet is recommended
- Power adapters (with fuses) for: Anderson Powerpoles, cigarette lighter socket, vehicle battery







https://www.scc-ares-races.org/operations/vhf-uhf-mobile-voice-radio-considerations.htr

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Push-to-Talk (PTT) Options for Headsets

- · Headset needs hand or foot-switch for PTT
- Hand switch (usually best for outdoors)
 - Doesn't sit on the ground good in dirt or rain, vehicle
 - One hand occupied
 - But can now be repositioned; can hold down papers
 - Hard to type and use a computer
- Foot switch (usually best for indoors)
 - Frees both hands for typing, computer logging
 - Beware of hinged, gas-pedal style
 - Ankle fatigue; chasing it around under the desk
 - Round, heavy is preferred by many
 - · Stays put, allows different foot positioning, prevents fatigue
 - Local contesting favorite: Linemaster Gem V2 (shown here)
 - Not ideal outdoors (in dirt or rain)

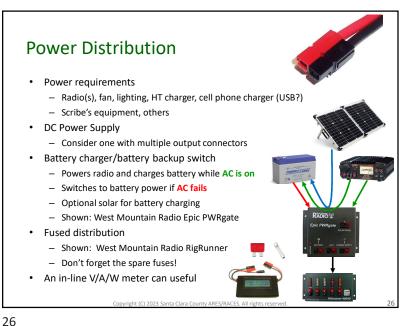
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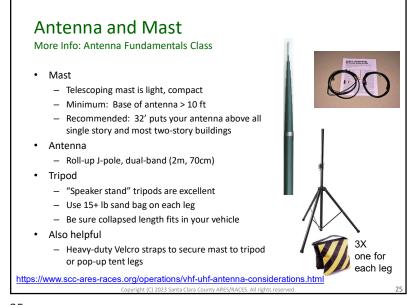


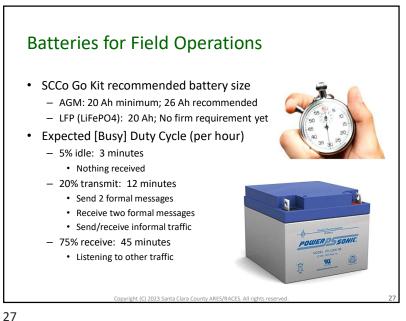


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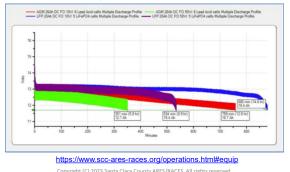






Field Operations Duty Cycle Testing

- Tested: 10 W and 50 W transmit power; AGM and LiFePO4 batteries
- Results: Use 10 W
 - 50 W with 26 Ah AGM battery will not last a full shift
 - 50 W with 20 Ah LFP battery will last 8+ hours





Operating On-Site, in the Field

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Battery Runtime Rule of Thumb



- · Recommended size:
 - AGM: Minimum 20 Ah minimum; 26 Ah Recommended (SCCo Go Kit)
 - LFP (LiFePO4): 20 Ah Recommended (no required min. value defined yet)
- · Battery size rules of thumb:
 - AGM: runtime (hr) = 50% of Rated Capacity (Ah) / weighted avg. current (A)
 - LFP: runtime (hr) = Rated Capacity (Ah) / weighted avg. current (A)
- Example: Field Operator field operator using 50 W transmit power
 - Duty cycle = 5% idle @ 0.5A; 20% transmit @ 9.2A; 75% receive @ 0.6A
 - Weighted avg. current = (0.05)(0.5 A) + (0.20)(9.2 A) + (0.75)(0.6 A) = 2.3 A
- Example: 26 Ah AGM Battery
 - Runtime = (0.50)(26 AH) / (2.3A) = 5.7 hours (actual test result = 5.8 hours)
- Example: 20 Ah LFP Battery
 - Runtime = (20 Ah) / (2.3A) = 8.7 hours (actual test result = 8.9 hours)

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Example Deployment - Operations

- · Net Check-in
- Logging
- · Voice Technique
- Examples

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Check-In



- As soon as your station is set up ...
- Check into the assigned net
 - Use phonetics for your call sign since this is the first time net control is hearing it
- If you were assigned a tactical call sign
 - You are checking in as a function or location, not yourself
 - Say: Net Control, <tactical call sign> checking in, <FCC call sign>
 - Example: Net Control, Shelter 1 checking in, W6XRL4
- If you were not assigned a tactical call sign
 - You are checking in as yourself
 - Say: "Net Control, <FCC call sign> checking in"
 - Example: "Net Control, W6XRL4 checking in"
- Update your ICS-214

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Exercise: ICS-214 Update

- · Exercise:
 - Assume the time is now 09:00
 - You have set up your station
 - You have checked out of the staging net
 - You have checked into the student net
 - Update your ICS-214

The date on your forms are from last months class, use that date

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Example: Updated ICS-214

Time (24:00) Major Activities & Events / Occasional Messages (indicate From / To / Mag# / Mag Text) 08:00 Assignment: attend Field Ops III/II Training Class. Sheriff's Office 08:05 Depart home, initial odometer 123 08:25 Arrive staging, final odometer 134 08:50 Assignment: participate as student, tactical call "student <your number="">" 09:00 Station set up complete; checked out of staging, into student net; see ICS-309</your>	6.	ACTIVITY LOG						
08:05 Depart home, initial odometer 123 08:25 Arrive staging, final odometer 134 08:50 Assignment: participate as student, tactical call "student <your number="">"</your>	Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text)						
08:25 Arrive staging, final odometer 134 08:50 Assignment: participate as student, tactical call "student <your number="">"</your>	08:00	Assignment: attend Field Ops III/II Training Class. Sheriff's Office						
08:50 Assignment: participate as student, tactical call "student <your number="">"</your>	08:05	Depart home, initial odometer 123						
	08:25	Arrive staging, final odometer 134						
09:00 Station set up complete; checked out of staging, into student net; see ICS-309	08:50	Assignment: participate as student, tactical call "student <your number="">"</your>						
	09:00	Station set up complete; checked out of staging, into student net; see ICS-309						

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ICS-309 Communications Log

- · ICS-309 is used by all field positions
 - Checkpoints, rovers, command posts, shelters, hospitals, ...
- Log all communications that involve you / your position
 - Check-in/out
 - Health and welfare checks
 - Other operator to operator traffic
 - Message traffic
- For Resource Net and Staging Net, ICS-309 is maintained by net control only

i.			COMMUNICA	ATIONS LC	og.	
Time	FRO	M	TO	>	Nessage	
(24:00)	Call SignitD	Msg #	Call SignitD	Mag #	message	
	_		_			
	_		-			
			_			
			_			
			_			
			_			
			_			
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	_		_			
			-			
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			_		+	
			_			
Prepared	By (Name, Call S)	sm)	GA. Signature		7. Date & Time Prepared	6. Page of

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Exercise: ICS-309 Communications Log

- You just checked into the student net
- Assume the time is 09:00
- · Log your communications
- We are still using the assignment from the Part A class:
- Activation # TC-23-02T
- Operational Period used in last class
 MM/DD/YYYY 09:00 to MM/DD/YYYY 12:00

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Communications Technique



- · Verbal communication must be effective, clear and concise
 - Plain English; No 10-codes, Q-codes, etc.
 - Proper (ITU) phonetics, prowords, numbers
 - Follows standard procedures
- Radio technique is effective
 - Proper power levels: repeaters vs. simplex
 - Pause for repeaters, especially when linked
- Written communication is effective, clear, concise, legible
 - Correct forms used for each function; properly completed
- · Call signs and tactical calls are used properly

Reference: SCCo Performance Standards, page 7

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Exercise: ICS-309 Communications Log

COMM Log ICS 309-SCCo ARES/RACES 7C-23-02T 7S. Radio Net Name (for NCOs) or Position/Tactical Call Student <your number=""></your>				4. Rad	2. Operational Period (Date/Time)	
5.	5. COMMUNICATIONS					
Time	FROM		то			Message
(24:00)	Call Sign/ID	Msg #	Call Sign/ID	Msg	#	message
09:00			NC			Check-in
,	leave the		esenting y		,	position blank, fills up
		Commission	(0) 2022 6			ACES. All rights reserved.

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Methods and Procedures - General

- Understands and is able to describe the purpose and appropriate usage of the main nets
 - Resource, Message, Command, Hospital, City, Tactical, Packet, EOC, ...
- Makes proper use of the Resource Net
- · Passes messages appropriately
- · Maintains contact with Net Control
- · Keeps logs and records correctly
- Follows served agency protocols and procedures
- Provides complete and accurate relief briefings
- · Attends debriefing, if available

Reference: SCCo Performance Standards, pp 10-13

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Responding to Health & Welfare Checks

Health and Welfare Checks

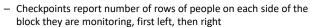


- Key Points
 - Field operators responded with tactical call (good)
 - Identified any problems or needs (none in this case)
 - · Ended with FCC call sign, as requested (excellent)
- Note:
 - Checkpoint 1A has Yaesu Wires turned on. Notice the beep and the suppression of audio at the beginning of his transmission. The words "Checkpoint 1 Alpha" are completely missed!
 - · If you have a Yaesu radio, you MUST disable and avoid activating that terrible "feature"!

Making Reports

· Example: crowd count reports





- Technically, they should use the proword "figure(s)" before saying the number. But the requested information is a number. So, the answer is understood to be a number anyway.
- Key points for both example recordings:
 - They are called by their tactical call sign
 - They answer as their tactical call sign
 - They give the required information, nothing more, nothing less
 - They end with their FCC call sign to satisfy the FCC and indicate that the transmission is completed

Keep Net Control Informed At All Times

· Example: assignment change



- Staging has reassigned this operator to a new position
- He does an excellent job of telling net control:
 - · Old assignment (old tactical call sign)
 - · New assignment (new tactical call sign)
 - · The fact that he is on his way there
- Ends with FCC call sign
- Example: restroom break



- Never leave the net without telling net control
- Operator arranged for a stand-in, reducing the load on net control
- Ends with FCC call sign

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Requesting / Receiving Information

Example: directed net, always go through net control



- Both checkpoint 10 and staging use their tactical call signs to communicate
- Both stations go through net control
- Both end their transmissions with their FCC call signs. Excellent.

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Exercise: ICS-309 Logging (1)

- At 09:30, net control conducts a health and welfare check
- At 09:45, you ask Xanadu EOC (XNDEOC) for some water
- At 09:50, Xanadu tells you that water is on the way
- At 10:00, net control performs a health and welfare check

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Traffic Types

Typical for field operators

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Exercise: ICS-309 Logging (1)

ICS 309 ARES/F 3. Radio Net Student	e and Activation Nun / Training T Tactical Call		4. Rad	2. Operational Period (Date/Time) MM/DD/YYYY MM/DD/YYYY From: 09:00 To: 12:00 io Operator (Name, Call Sign) ur name>, <your call="" sign=""></your>		
5.			COMMUNICA	ATIONS	LOG	
Time		FROM	то		Message	
(24:00)	Call Sign/II	Msg#	Call Sign/ID	Msg	#	wessaye
09:00			NC	С		Check-in
09:30	NC		1			H&W
09:45			XNDEOC			Requested Water
09:50	XNDEO	С				Water on the way
10:00	NC					H&W
	-					
	-					
	-					
	1					
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Traffic Types in the Field

- Operator-to-Operator Traffic
 - Ex: Check-in/out, health & welfare, damage reports, status reports, etc.
- 3rd Party Traffic (messages we deliver for others)
 - Spoken
 - · Message that are told to us; usually brief
 - Ex: "Ask Steve to call Jenny at 867-5309"
 - · Common for shadows
 - Written
 - Messages that are written down and handed to us
 - Ex: ICS-213 and other forms, message written on plain paper

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3rd Party Spoken Messages



- · For simple spoken messages, no need for a message form
 - Example: Most messages between shadows are simple, spoken messages
 - "Ask Steven to call Jenny at 867-5309"
- · Use your judgement
 - IF message is longer or more complicated
 - Such as: a complicated message that needs to be delivered exactly
 - OR if it needs routing information for delivery outside the radio room
 - Such as: a message to be delivered to an ICS position in an EOC
 - OR if the message should be tracked
 - Such as: the 3rd parties may need to refer to it again
 - THEN write it down on the appropriate form; handle as a written message
- Log all 3rd party spoken messages on an ICS-309 Comm Log
 - (Shadows can log on their ICS-214)

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Shelter Status

- · 2 page form
- Who:
 - From: Shelter
 - To: Managing jurisdiction
 - · City or County EOC
 - Red Cross
- When:

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- Responding to info requests
- Submitting updated info
- Instructions
 - Last page

Series Clara OS Series Statis:

Saids diseased city; Organ to, as:

Saids diseased city; Organ to, as:

South diseased city; Organ to, as:

3rd Party Written Messages



- 3rd party written messages always use an appropriate form
 - General messages on ICS-213; resource requests on EOC-213RR; etc.
- If the message is not on the appropriate form:
 - Best: Ask the author to use the correct form
 - If they don't have one, provide it to them
 - Else: Transcribe the message to the form, asking the author to clarify and fill in missing information as you go
 - · Clarify spelling, other details
 - Last Resort: Staple to an appropriate form only if necessary
 - · Papers can become detached, separated
 - Staples, paper clips, and odd paper sizes can cause problems when scanning/copying
- Log all 3rd party written messages on an ICS-309 Comm Log
- See: https://www.scc-ares-races.org > Operations > Forms

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Allied Health Status

- Who
 - From: Allied Health Facility
 - Skilled nursing, assisted living, dialysis, out-patient surgical, clinic. ...
 - To: Public Health or EMS
- When:
 - Responding to request for bed counts
 - Submitting updated general info
- Instructions
 - Last page



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EOC-213RR Resource Request

- Used to request non-mutual aid resources from the county
 - Not for Law. Fire. EMS or RACES mutual aid
- Usually sent from city EOC to county EOC (Op Area)
- Other uses
 - County-managed shelter or unincorporated area command
 - Some cities for internal requests
- Instructions
 - Last page(s)



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ICS-213 Message

- Any general message that isn't better suited for a more specific form
- If someone hands you a message on a scrap of paper, politely ask that they fill in an ICS-213
 - If they refuse, do it for them!
- Instructions
 - Last page



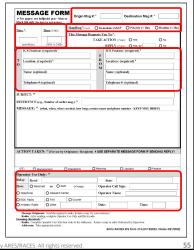
Other Forms

- · Hospital Forms
 - HAvBed Report, Medical Facility Status, Medical Resource Request
- City/Agency specific
 - CERT Damage Assessment
 - Other: Message, ... Status, Resource Request
- Vendor specific
 - Food orders, Equipment orders
- In general, use the most appropriate form for the specific message. Otherwise, use an ICS-213 Message form.

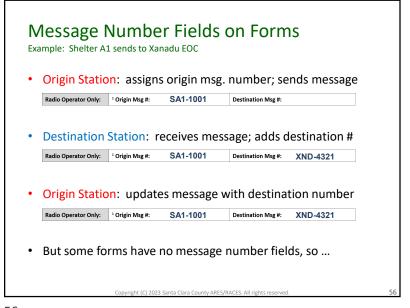
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What is Radio Routing Info?

- The extra information that a radio operator needs to send, deliver, and track a message
 - Message Numbers
 - Date, Time, Handling Order
 - To/From
 - Radio Operator Info



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Message Prioritization

• Prioritize messages by:

- Handling Order

- Date

- Time

- Set by message author (3rd party)

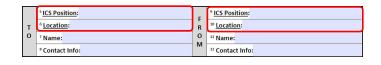
* Date: 2 ** Time (24hr): 3 ** Handling: Olmmediate (ASAP) OPriority (<1 hr) ORoutine (<2 hr)

• But some forms have no prioritization fields, so ...

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3rd Party Message Addressing

- Messages are addressed <u>TO</u> and <u>FROM</u> ICS Positions and Locations
 - These are required fields on all messages
- Individual names and contact info are optional fields and are usually not present



• But some forms have no To/From fields, so ...

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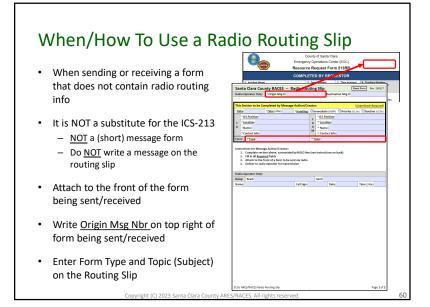
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Radio Routing Slip

- Like a fax cover sheet or departmental routing slip
- A place to put the radio routing info if the form doesn't have those fields
 - Message Numbers
 - Date, Time, Handling Order
 - To/From
 - Radio Operator Info
- Reference info about the message form
 - Form Type
 - Topic/Subject of message

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Recommended Form Routing Sheet · Recommended values for key form fields To Position/Location Handling Order · Can help get forms to the right place faster when sent by radio 2 sided Front is General EOC **Forms** - Back is Medical Forms and **RACES Mutual Aid** Request form

Where do we get the missing information · Handling Order To ICS Position · To Location · These forms are normally sent via WebEOC over the Internet. The message author often does not know where the form goes.

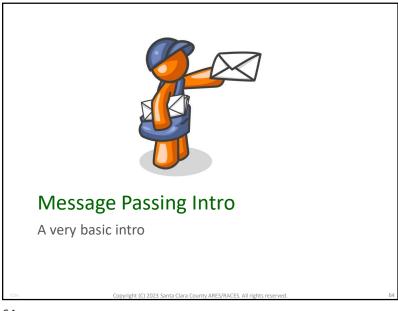
Form Handling Exercise

- · For each of these forms:
 - Shelter Status (city managed)
 - Allied Health Facility Status (мнлос open)
 - EOC-213RR Resource Request
 - ICS-213 Message
 - Jurisdiction Status



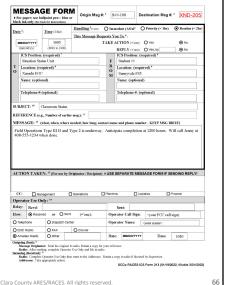
- Does it need a routing slip? Why or why not?
- · What is the recommended Handling?
- What is the recommended To Location?
- What is the recommended To Position?

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Message Logging

- Assume you sent this message to Xanadu EOC
- Assume Xanadu (receiver) assigns message number: XND-205
- The time is now 10:10
- Log it! On which form?



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Message Initiation

- · Step 1: Announce quantity and handling order
 - Sender calls receiver (Example: Sender is Shelter 1; Receiver is Net Control)
 - "Net Control, I have 2 Priority messages for you"
 - "Net Control, I have 1 Immediate and 1 Routine message for you"
 - Receiver prioritizes by handling order
 - · "Shelter 1, go ahead with your Immediate message"
- Step 2: Announce message type [and need for routing slip]
 - Sender tells receiver

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- "Message type is ICS-213"
- "Message type is Shelter Status form"
- "Message type is EOC-213RR with routing slip"
- Receiver readies the right form, then:
 - "Go ahead" or "Go"
- Step 3: Send the message as usual
 - Five groups/fields at a time, starting with "Message number ..."

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Exercise: ICS-309 Logging (2)

COM	no I N	1. Incident Name	and Activation Nu	mber	2. Operational Period (Date/Time)
ICS 309-SCCo		Field Ops I	II/II Training	Class	MM/DD/YYYY MM/DD/YYYY
ARES/F	RACES	TC-23-02T			From: 09:00 To: 12:00
3. Radio Net	Name (for NC	Os) or Position/T	actical Call	4. F	Radio Operator (Name, Call Sign)
Student	<your nu<="" td=""><td>ımber></td><td></td><td> < y</td><td>our name>, <your call="" sign=""></your></td></your>	ımber>		< y	our name>, <your call="" sign=""></your>
5.			COMMUNIC	ATIONS LO	G
Time	F	ROM	Т	О	M
(24:00)	Call Sign/ID	Msg #	Call Sign/ID	Msg #	Message
09:00			NC		Check-in
09:30	NC				H&W
09:45			XNDEOC		Requested Water
09:50	XNDEO	С			Water on the way
10:00	NC				H&W
10:10		S##-100	XNDEOC	XND-20	5 [213] Classroom Status
	ı	Conveigh	t (C) 2022 Santa C	ara County ARE	ES/RACES. All rights reserved.

Message Passing Training/Practice

- Message Passing Class
 - Message Passing is what we do; it's a critical skill
 - A separate class focuses solely on message passing technique
 - Be sure you attend at least every two years!
 - The best operators attend every year it's THAT important!
 - Next Class: Saturday July 1st (pre-class homework)
 - Review Message Handling Procedures Document https://www.scc-ares-races.org/operations.html#standards
- Practice
 - https://www.scc-ares-races.org > Training > Practice Sessions
 - On Air Practice from Home
 - Monthly Training Net 3rd Tuesday of each month @ 20:30, after SVECS net On Resource Net Repeaters Sign-up on web site
- Other Drills and Exercises

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Exercise: ICS-309 Logging (3)

- At 10:20, you send an EOC-213RR Resource Request form asking for more donuts.
- Your message number is S##-101. Xanadu's message number is XND-206.
- Log it on your ICS-309.

Message Logging Logging with message numbers 69

COMM Log ICS 309-SCCo ARES/RACES 1. Incident Name and Activation Num Field Ops III/II Training TC-23-02T			Class		2. Operational Period (Date/Time) MM/DD/YYYY MM/DD/YYYY		
	t Name (for NCO S		factical Call			io Operator (Name, Call Sign) ur name>. <your call="" sign=""></your>	
5.	-your man		COMMUNIC			ar namer, syour can signi	
Time FROM		ROM		0			
(24:00)	Call Sign/ID	Msg #	Call Sign/ID	Msg #	•	Message	
09:00			NC		一	Check-in	
09:30	NC				T	H&W	
09:45			XNDEOC			Requested Water	
09:50	XNDEOC					Water on the way	
10:00	NC					H&W	
10:10		S##-100	XNDEOC	XND-	205	[213] Classroom Status	
10:20		S##-101	XNDEOC	XND-	206	[213RR] More donuts	

Exercise: ICS-309 Logging (4)

- At 10:30, Net Control performs a health and welfare check
- At 10:45, Xanadu sends you an ICS-213 Message form with a subject of "Donut Status". Their message number is XND-207. Your message number is S<your number>-102.
- · Log these messages.

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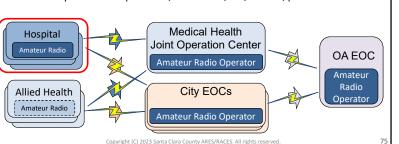


Exercise: ICS-309 Logging (4) **COMM Log** 1. Incident Name and Activation Number 2. Operational Period (Date/Time) Field Ops III/II Training Class MM/DD/YYYY MM/DD/YYYY ICS 309-SCCo From: 09:00 12:00 ARES/RACES TC-23-02T 3. Radio Net Name (for NCOs) or Position/Tactical Call 4. Radio Operator (Name, Call Sign) Student <your number> <your name>, <your call sign> COMMUNICATIONS LOG FROM (24:00) Call Sign/ID Call Sign/ID 09:00 S## Check-in 09:30 NC S## 09:45 S## XNDEOC Requested Water S## 09:50 XNDEOC Water on the way S## 10:00 10:10 S## S##-100 XNDEOC XND-205 [213] Classroom Status XNDEOC XND-206 [213RR] More donuts S## S##-101 10:20 10:30 NC H&W 10:45 XNDEOC XND-207 S##-102 [213] Donut status

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- Some field assignments require simultaneous operation on two nets
- Example:
 - Hospital Net: Hospitals to MHJOC; medical issues
 - City Net: Municipal issues, such as fire, law, utilities, public works



Operating on Two Nets Simultaneously

- · Establish your primary net
 - All other things being equal, which net will you answer first?
- · Use at least a dual-receive mobile radio, stereo headphones
 - If possible, use a separate radio for the secondary net so you can hear both nets while you are transmitting
 - An HT with an earbud under your headphones usually works well
- Use a separate ICS-309 Message Log for each net
 - Include net name in field 3: Radio Net Name or Position/Tactical Call
 - Ex: "Hospital Net / Kaiser SC" and "Santa Clara Tac 1 / Kaiser SC"
- Inform both net controls
 - "Net control, be advised that I am operating two nets simultaneously. This is my {primary | secondary} net. I may not hear you or be able to answer right away if I'm handling higher priority traffic on the other net."
- Work at your own pace; you're still just one person
- · Use previously covered techniques to avoid stress, fatigue

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Cross Band Repeat

For more detail, consult the Cross Band Repeat course

- Advantages
 - Freedom of movement within the shelter, base, or command post for message pick-up and delivery, or locating people with the information you need
 - May be the only practical option you have if you're the only operator
- Challenges
 - HT audio is usually not very good, for either TX or RX
 - · Use a headset with boom mic, instead of earbud with inline mic
 - Monitor your duty cycle
 - · HT batteries will run down
 - Use extra-low power, have extra batteries charging at all times
 - · Cross band repeater radio will overheat
 - Use low power on local/user side
 - Use a good antenna and lowest possible power on the remote/uplink side
 - Consider using a base station radio capable of higher duty cycle
 - · Remember to use tone squelch to prevent repeating of noise

Cross Band Repeat For more detail, consult the Cross Band Repeat course Base, mobile, or portable station located up high Freedom of Movement Shelter, Base or Command Post

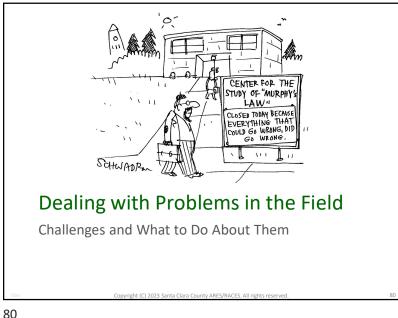
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Higher Traffic; Higher Speed



- A Type II operator is expected to have higher traffic levels
- Speed comes with practice and following procedures
- Net procedures
 - Proper net procedures speed up overall net operations
 - · Check-in/out, constant monitoring, pauses, reporting formats, phonetics
- Message passing procedures
 - Most net traffic is message traffic
 - Proper message passing procedures speeds up most nets
 - · Message prioritization, prowords
 - Those skilled at message passing can transfer a message two to four times as fast as others; as much as 10 more messages per hour!
- Take every opportunity to practice
 - On air message passing practice, weekly nets, drills and exercises

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Loss of Repeater



- How to recognize
 - No courtesy tone (and there used to be one)
 - No squelch tail
 - Not receiving responses
 - No health & welfare checks; no traffic at all
 - You might hear people on the input but not the output
 - · Use "Reverse" button to check

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Loss of Repeater – What to Do



- Check your equipment
 - Volume turned up? On the right frequency?
 - Equipment is operational; adequate battery power
- · Switch to simplex on repeater output
 - Switch to high power; include tone, in case others are using tone squelch
 - Program into your radio memory for fast recovery
- Alternate paths of communications
 - Check your Comm. Plan (ICS 205)
 - Check your briefing notes/documents
 - Have a list of frequencies for the area you are in.
- Try tactical simplex frequency for served agency
- · Contact other fielded operators on tactical simplex

Power & Phone Outages



- Field station
 - Check to be sure it's not your equipment
 - Have your flashlights and or battery-operated lanterns nearby, at all times.
 - Configure station to automatically switch to back-up power
 - · Batteries multiple sources and types
 - · Back-up generator
 - Vehicle
 - Safety, safety, safety (particularly at night)
 - May affect your ability to call 911
 - Check Comm. Plan (ICS 205) for alternative method of reaching emergency services
- Traveling
 - ATM's, gas stations, banks, stores all may be closed
 - Signage may be dark and hard to read
 - · Keep flashlights handy

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High Temperature



 You are operating in the middle of the summer in an area with very high temperatures which could affect equipment performance and your health.

Action

- Use a pop-up or other means to create shade for yourself and radio
- Use lowest radio power possible
- Switch radios
- Position radio for sufficient air flow
 - · Sufficient space around cooling fins
 - "Radio in a box" is not the best approach in a hot environment unless it includes forced air (fan) ventilation
 - · Consider sealed "blue" ice packs (but watch for condensation!)
- Use a 12v DC fan (consider CFM > 50 and dB < 25)



Difficult People

- Situation
 - People may be scared, tired, stressed, or all of the above
 - This applies to other staff as well as the general public
- Action
 - Stay calm; project calmness, confidence
 - Focus on the problem, not the personality
 - Most people will calm down when they see their concern is being addressed
 - If you are unable to address the problem or if the situation persists, seek help from your supervisor

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Rain, Wind





- Situation
 - You have to operate in rain, wind or both
- Action
 - Protect your paperwork and equipment from wind, rain
 - · Plastic bags for radio, clipboard
 - Clipboard(s) and weights for paperwork
 - Use a pop-up or other means to create shelter
 - · Add sides to protect from blowing rain
 - · Add weights to protect against wind, especially if pop-up has sides
 - Typically 40+ lbs per leg are needed
 - Keep electrical connections off wet ground

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Safety

- Pay attention to your health and those around you
 - Hydration
 - Cold and heat
 - Stress
 - Fatigue
- Do not go places that you feel are not safe
 - Moving water
 - Mud/Land slides
 - Active fires

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Safety

 Perform an RF Exposure Calculation http://www.arrl.org/rf-exposure-calculator

Example: Kenwood TH-F6A HT with 4 dB gain antenna

POWER	CONTROLLED	UNCONTROLLED
5 W	0.9468' (11.36")	1.339' (16.0737")
.5 W	0.2994' (3.59")	0.4234' (5.081")
.05W	0.0947' (1.14")	0.1339' (1.607")

• More details in the Antenna Class

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Demobilization

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Key To Success ...

Semper Gumby

("Always Flexible")

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Demobilization

- Shift Change
- Closing out your assignment
- Paperwork
- Returning home

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Shift Change

- If someone will be relieving you, they should arrive early to set up their station and receive a relief briefing from you
 - See SCCo Performance Standards for relief briefing contents
- What are some key elements of the relief briefing?

 - _
 - _

 - _

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Exercise:

- Assume it is 12:00 and your assignment is completed
- You checked out of your assigned net
 - In this case, the student net
 - Typically, a tactical net
- You checked into the staging net
 - Or whatever net is appropriate (local tactical, resource, ...)
 - In this case, it's the staging net
- Update your ICS-309, ICS-214

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Closing Out Your Assignment

- Check out of the net you've been using
- · Check into the staging net

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Exercise: ICS-309 Logging COMMUNICATIONS LOG Call Sign/ID Call Sign/ID (24:00) 09:00 Check-in NC 09:30 NC 09:45 XNDEOC Requested Water 09:50 XNDEOC Water on the way 10:00 NC H&W 10:10 S##-100 XNDEOC XND-205 [213] Classroom Status 10:20 S##-101 XNDEOC XND-206 [213RR] More donuts NC 10:30 H&W 10:45 XNDEOC XND-207 S##-102 [213] Donut Status --- other activities ---12:00 NC Check-out 6. Prepared By (Name, Call Sign) 7. Date & Time Prepared Page _1 _ of _1 MM/DD/YYYY 12:00 <your name>, <your call sign> **Your Signature** Required Next operator (if any) begins a new 309 form

Example: Updated ICS-214

6.	ACTIVITY LOG
Time (24:00)	Major Activities & Events / Occasional Messages (indicate From / To / Msg# / Msg Text)
08:00	Assignment: attend Field Ops III/II Training Class. Sheriff's Office
08:05	Depart home, initial odometer 123
08:25	Arrive staging, final odometer 134
08:50	Assignment: participate as student, tactical call "student <your number="">"</your>
09:00	Station set up complete; checked into student net; see ICS-309
	other activities
12:00	Shift complete; checked out of student net; check into staging net

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Return to Staging

- · Pack up your station
- Complete any procedures requested by local staff
 - Debriefing, review forms, time accounting, etc.
- Return to staging
- Close out your ICS-214
- Turn in all paperwork
- · Sign-out on the ICS-211A
- Check out of Staging Net

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Return or Hand Off Forms

- If a new operator is relieving you
 - Take only your ICS-214 Unit Activity log with you
 - Leave everything else at the station for the next operator
 - ICS-309 Communications Log, various message forms, notes, ...
 - The new operator may need to refer to previous communications
- If you are the last operator at the site
 - Bring all forms and notes with you to staging

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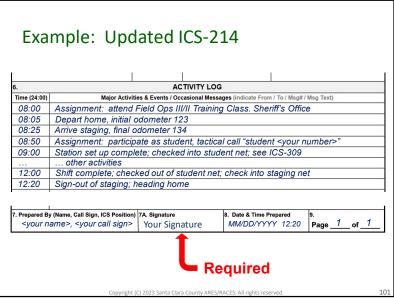
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Exercise: Finish Up at Staging

- The time is now 12:20
- Close out your ICS-214
- Sign-out on the ICS-211A
- · Check out of staging net

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Return Home

- · Check into resource net for tracking home
 - Exception:
 - IF AND ONLY IF the event is a public service event (not a real emergency incident, not a drill), ...
 - AND IF you don't need/want to be tracked home,
 - THEN you can skip the resource net on the way home
 - No need to wait around just to "check-in/checkout"
- Same Resource Net operating procedures apply
 - Check-in with your FCC call sign
 - Provide location, odometer, FCC call sign for health & welfare checks
 - Check-out when you reach your destination (Do not forget)

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Congratulations!

ICS 211A CHECK IN LIST (COMMUNICATIONS)

ICS 211A

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<your name>

You have completed a simulated full activation

ICS 211A Check-in List (Communications)

5. INFORMATION

<your call> <your org> 08:30 12:20

Field Ops III/II Training

MM/DD/YYYY TC-23-02T

PREPARED BY (RESOURCE UNIT):

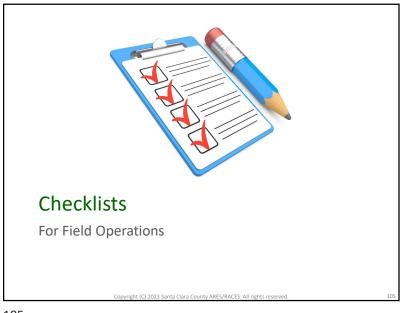
<your name and call sign>

Sheriff's Office

- Mobilization
- Operations
- Demobilization
- You learned about equipment
- · You learned about handling problems
- Can you remember it all?
- Can you repeat it over and over without missing anything?

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Summary

You should now 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
 - Selecting equipment, mobilization, field operations, dealing with problems, demobilization
- · Understand and use field operations checklists

Checklists

- · Each role has a checklist
 - Field
 - Net Control
 - Packet
 - Shadow
- Doesn't replace proper training
- Operator expected to
 - Review checklist at each stage of deployment
 - Understand meaning of each step
 - Complete each step correctly
- The Performance Standards & **Best Practices** has a more extensive list.

Santa Clara County ARES/RACES Field Operations Checklist

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Final Assignment

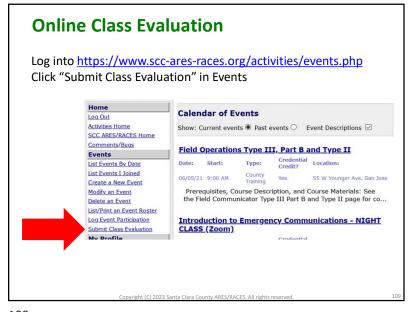
Please complete the Class Evaluation within one week.

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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If you have questions or feedback about this or other training activities, please join our Training discussion group: https://scc-ares-races.group.io/g/training

Sign up for:

- -- Message Passing Class July 1st
- -- Monthly Training Net (3rd Tuesday each month)

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