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Fundamentals of Emergency Communications

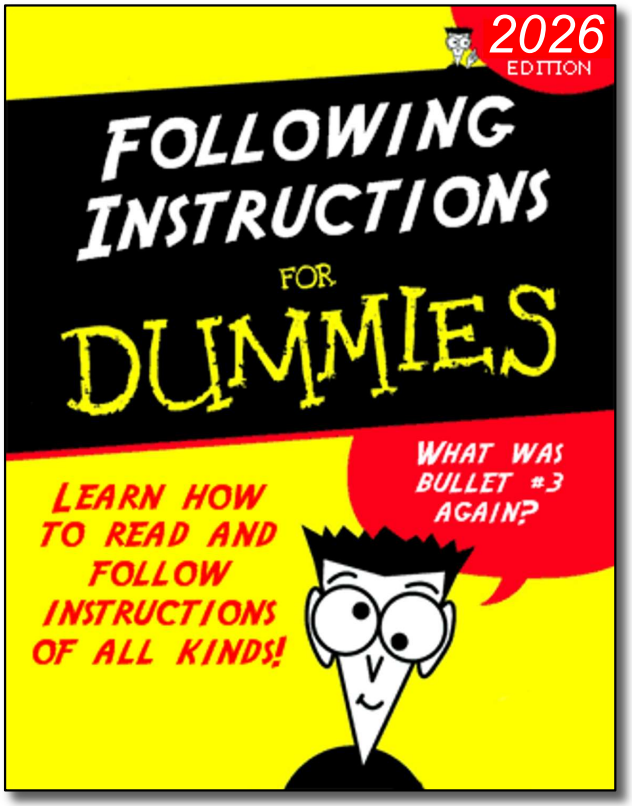
Revised: October 24, 2026

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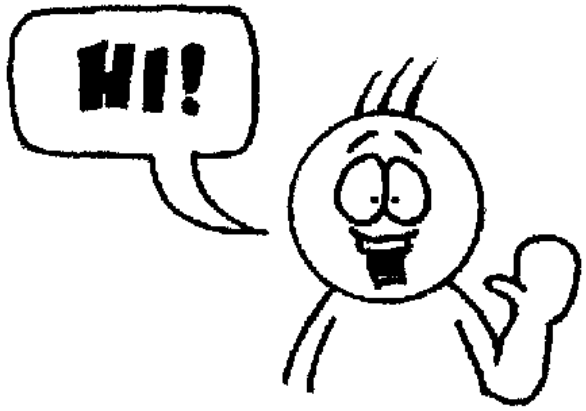
Housekeeping

- Introductions
- Pen/pencil & paper
- Cell phones on silent or vibrate
- Side conversations
- Questions
- Breaks
- Restrooms
- In case of emergency
- No wandering or exploring other areas of the building.
- Assign a Tactical Call



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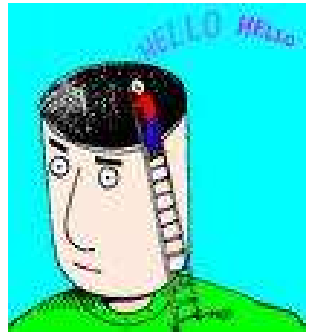
Introductions



- First Name
- City where you live
- Did you attend the “Introduction to Emergency Communications” class or did you review the slides
- Did you watch the ICS-214 Video
- FCC Call Sign

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Learning Objectives



- At the end of this class, you will be able to
  - Describe the Disaster Service Worker program, including your responsibilities as a participant
  - Describe the purpose and appropriate usage of the main Santa Clara County ARES/RACES nets
  - Properly submit a Mike-Mike report
  - Describe and execute the proper procedures for mobilization, tracking, and demobilization, including the use of the Resource Net
  - Understand how to use an ICS-205 to program your radio
  - Properly complete an ICS 214 Unit Activity Log Form
  - Properly complete an ICS 213 Message Form

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Today's Agenda

- Disaster Service Worker
- Santa Clara County Nets
- Mobilization, Tracking, Demobilization
- Logging
- Message Handling
- Additional Training
- Credentialing Program
- Mutual Aid Communicator (MAC) Endorsement
- Action Items

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Fictitious Call Signs

Examples used in this class make use of fictitious call signs:



- W6XRL4: Herman Munster
  - Character in a 1960 TV show
  - We will treat it like a real FCC call sign, even though it doesn't have the correct format
- XNDEOC: City of Xanadu Emergency Operations Ctr
  - We will treat it like a real tactical call sign
  - Used in drill and exercises



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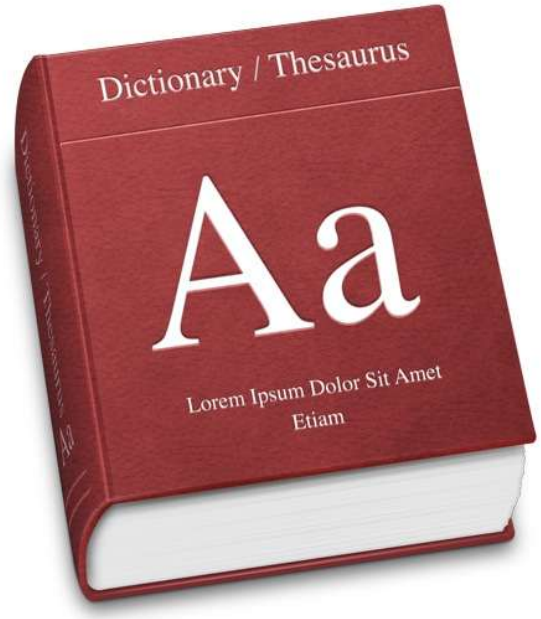
Registration and Rules

DISASTER SERVICE WORKER

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What is Disaster Service?

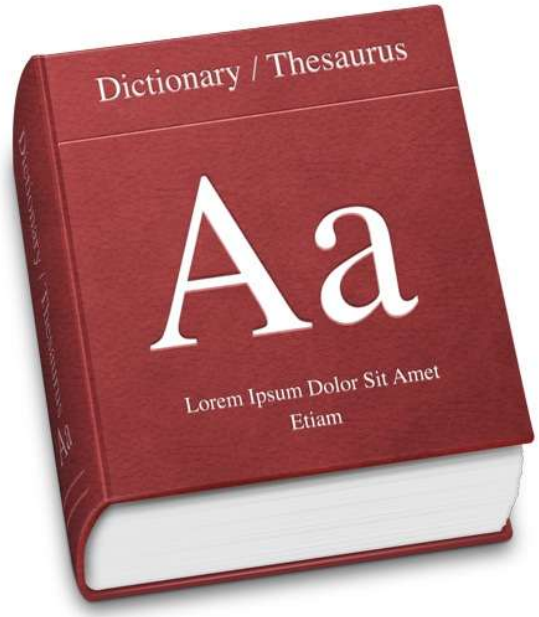
- All activities authorized by and carried on pursuant to the California Emergency Services Act, including approved and documented training necessary or proper to engage in disaster activities.



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What is a Disaster Service Worker Volunteer?

"… any natural person registered by an accredited Disaster Council … for the purpose of engaging in disaster service … without pay or other consideration."



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What's in it for me?

- Workers Compensation coverage by State Compensation Insurance Fund
  - … but it's not a windfall; have your own insurance
- Limited liability protection when acting within scope of assignment and training
  - … but we're not lawyers and this is not legal advice
- Many activities require it in order to participate
- See DSW brochure at:

  https://www.scc-ares-races.org/about/dsw

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When am I covered as a DSW?

- When **registered**
- … and when **activated**
- and **assigned by an accredited authority**
- … and while performing your duties
  - … according to an approved **training** plan
  - … while under **supervision**

- Travel to and from a drill is not covered, but it is for a real activation.

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The **5 Elements** of Disaster Service Activation

- Registration
- Training and Preparation
- Activation
- Assignment
- Supervision

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1. Registration



- Only an “authorized person” may register you
  - For county: Office of Emergency Management (OEM) official
  - For city: Appropriate city officials (ask your EC who/how)
- You must have a current DSW registration on file with the entity that is activating you
  - County DSW required for county drills and events
  - City DSW required for local city activities
- DSW registration does not expire, but the Cards do!
- Personal information must be verified every 12 months
  - Address, phone numbers, etc.
  - https://www.scc-ares-races.org/activities > My Contact Info

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The Two Most Common Questions

- *I registered for DSW with a different organization (CERT, animal rescue, fire, …). Does that cover me with your group?*
  - No. You must be registered with the proper classification. In our case: "Communications"

- *I registered for DSW in a different jurisdiction. Does that cover me with your group?*
  - No. Only the jurisdiction that registered you can activate you. (County DSWs can be activated by the county and assigned to a local jurisdiction for mutual aid support.)

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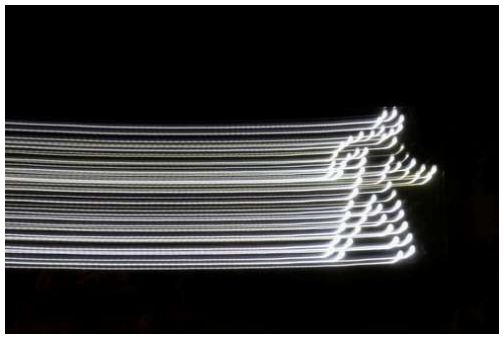
2. Training



- Everyone is responsible for their own training
- Santa Clara County ARES/RACES:
  - https://www.scc-ares-races.org/training
  - Training courses, drills, public service events
  - Credentialing Program
    - Earn qualifications in various disciplines, at various levels
- City training programs also available
  - Usually focus on city-specific procedures and capabilities
- Incident Command System (ICS) training - FEMA
  - Standardized, on-scene, all-hazards incident management approach
- Other training – Red Cross, CERT, etc.

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3. Activation



- Only an entity with whom you are registered may activate you
  - In California DSW program, county and city registrations are separate
  - City will activate you for city events
    - You must be registered with the city
  - County will activate you for county events and mutual aid situations
    - You must be registered with the county
- An “Activation Number” will be issued
  - Example county activation number: XSC-26-06
  - Example city training activation number: MTV-26-01T
- Write it down!
  - Consider it your confirmation number that you were properly activated under DSW rules

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4. Assignment



- Usually, assignment is made by radio
  - On Resource Net (county)
  - On city net (city)
- Location will be given by common name, address

  e.g., Mountain View Fire Station 4; 229 N. Whisman Rd.
- Write it down!
- Have an off-line map available at all times!
  "Google Maps", "Here WeGo", or "Apple Maps".

  Must be stored on your device and usable with no Internet
- Standard shifts are 8 to 12 hours
  - Be prepared for 12 hours
  - Go Kit: batteries, connectors, food, water, clothing, essentials
  - For full go kit contents:
    https://www.scc-ares-races.org/operations/go-kit

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5. Supervision



- You must be under continuous supervision while on your assignment
  - You must be reachable by radio at all times
  - You must have a radio that can be operated with reasonable range while you are in your car, traveling to and from your destination
- Get a magnetic mount antenna and headset!
- Know which repeaters to use from which locations
  - In particular, travel to Southern part of county requires switching repeaters and bands

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Your To Do List (so far)



- Become familiar with: https://www.scc-ares-races.org
  - At a minimum, review everything in the Operations section
- Obtain County and City DSW registration
- Inform family of Workers' Comp provisions

County DSW registration events occur several times each year. Send an email to cro@scc-ares-races.org with a Subject of 'DSW Registration Info' to be notified when the next DSW registration event is scheduled.

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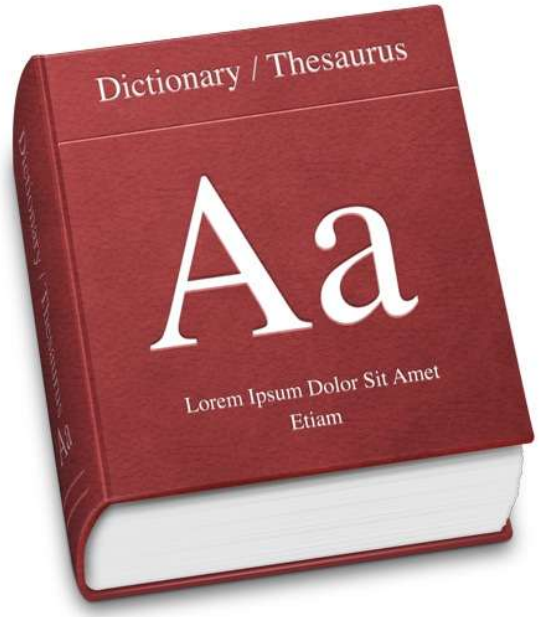


SANTA CLARA COUNTY ARES/RACES NETS

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What is an Amateur Radio Net?

- An Amateur Radio Net exists whenever 3 or more operators are in simultaneous contact with each other for the purpose of exchanging information or passing operational or official (3rd Party) traffic.



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Types of Nets

- Open Net
  - Stations call each other directly to pass traffic
- Directed Net
  - Stations call only net control directly; they go direct to other stations only with net control permission

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Santa Clara County Primary Amateur Radio Emergency Nets

- Resource Net
  - Usually the first county net activated
  - Official traffic; type of traffic depends on level of operation
- Message Net
  - Usually the second county net activated
  - Official message traffic for served agencies
- City and Tactical Nets
  - Official and unofficial traffic of a local nature
- Command Net
  - Official traffic between Operational Area (county) command staff, and agency or city Emergency Operations Centers (EOCs) command staff
- Hospital Net
  - Official traffic between Dept. of Public Health and hospitals

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Frequency List

- Keep an up-to-date copy
  - County frequency list
  - Any additional frequency list(s) for your city
- Program your radio
  - Your city's frequencies
  - County frequencies
    - at least the Resource Net frequencies

Santa Clara County Frequencies (Reviewed 2024-01-07)					
Channel	Call Sign	Frequency	PL	Note	Updated
Message Net	W6TI	147.360 +	110.9		2011-02-11
Message Net Alt (Linked)	K6FB	145.450 –	100.0	H	2012-06-28
Message Net Alt (Linked)	K6FB	442.575 +	100.0	H	2012-06-28
Command	W6GGF	442.500 +	100.0		2016-05-16
Resource, Primary	AA6BT	146.115 +	100.0	D	2011-02-11
Resource, North	W6ASH	145.270 –	100.0	E	2011-02-11
Resource Alt, North	W6ASH	440.800 +	100.0	E	2017-07-11
Resource, South	K6SNY	443.275 +	107.2	G,T	2024-08-25
Hospital Net	N6NFI	145.230 –	100.0		2011-02-11
NTS	WR6ABD	146.640 –	162.2		2011-02-11
220 Simplex	223.400, 223.420, 223.440, 223.460, 223.480, 223.500				
440 Simplex	441.000, 446.000, 446.500				

American Red Cross Frequencies					
Channel	Call Sign	Frequency	PL	Note	Updated
Command	W7AFG	444.300 +	173.8		2011-02-11
Command Alt	WB6OQS	444.600 +	141.3		2011-02-11
Tactical 1	KB6FEC	147.165 +	162.2		2011-02-11
Tactical 2	WG6LEE	147.675 –	162.2		2022-11-23
Tactical Alt	WB6OQS	146.760 –	151.4		2011-02-11

www.scc-ares-races.org/operations/voice/freqs

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Resource Net

- Usually, the first net activated at the county level
- Directed net
- Three levels of operation
  - Level 1: Information gathering (initial damage reports)
    - Earthquake Modified Mercalli ("Mike-Mike") reports; flood levels; power; etc.
  - Level 2: City EOC check-ins and referral to city tactical nets
    - City EOCs check-in and announce status; individuals referred to city nets
  - Level 3: Coordination of mutual aid; tracking county resources
    - Mobilization (resource check-ins, activations and assignments)
    - Location/Travel tracking (you MUST be in contact while traveling)
    - Demobilization (resource release, tracking during return home)
- Frequencies (https://www.scc-ares-races.org/operations/voice/freqs)
  - ~~Primary AA6BT 146.115 (+) 100.0~~ (currently off-line)
  - North W6ASH 145.270 (-) 100.0
  - South K6SNY 443.275 (+) 107.2 (South of 101 & 85; South San Jose)

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Message Net

- Usually the second net activated at the county level
- Directed net
- Official message traffic for served agencies
  - Typically: cities to/from county; agencies to/from county
  - 3rd Party messages (for others, usually non-hams)
    - Official Message Forms (I.E., ICS 213-SCCo)
    - All messages and responses numbered and tracked
  - Operational messages (operator to operator)
    - "Los Altos EOC is checking in …, the creek is at 12'…"
- Frequencies (https://www.scc-ares-races.org/operations/voice/freqs)
  - Primary W6TI 147.360 (+) 110.9
  - Alternate K6FB 145.450 (-) 100.0

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Tactical Nets

- Usually a directed net, but may start up as an open informal net
- Established when and where needed
  - Staging areas, checkpoints, rovers, shadows
  - Each city has one or more tactical frequencies; one is for main city net
- Each city activates their city net as soon as possible
  - Handle local resource check-ins, notifications
  - Check-in here first if you want to be released to the county
- Localized, often informal messages
  - "checkpoint 3 reports Dead Man's creek at 1 foot below flood level …"
  - "rover 2 reports all runners have now passed rest stop 4 …"
- May also include 3rd party messages
  - Resource request from school or shelter to city
- Frequencies (https://www.scc-ares-races.org/operations/voice/freqs)
  - May also be assigned at time of activation

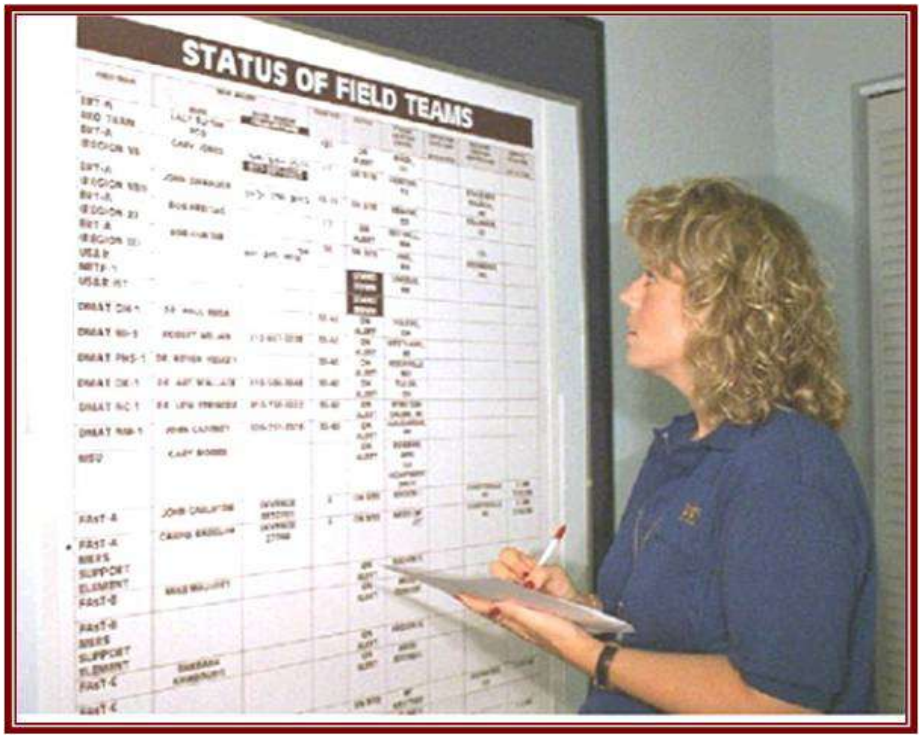
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Your To Do List (so far)



- Become familiar with: https://www.scc-ares-races.org
  - At a minimum, review everything on the Operations page
- County and City DSW registration
- Inform family of Workers' Comp provisions
- Learn the nets and their usage
- Obtain Frequency lists (county, city); program your radio

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The County Resource Net in Action

ALERTING, MOBILIZATION, TRACKING, DEMOBILIZATION

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Alerting vs Activation

- Alerting
  - You are alerted when you become aware of a situation where Amateur Radio support may be requested
  - You can monitor your radio and check into a net
  - You are not authorized to do anything or go anywhere unless the served agency has pre-authorized your role
- Activation
  - A government entity has requested Amateur Radio support
  - An activation number is provided to you along with a job assignment
  - You accept the assignment

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Alerting Types



- Self alerting
  - Earthquakes (you can feel them)
  - Floods (you can see them)
  - Other situations where you know there's a problem
- Non-self alerting
  - Hazardous material spills
  - Local infrastructure failure
  - Other situations where you don't know a problem has occurred until someone alerts you
- Some situations are both
  - April 2009 partial county telecom outage – some were not affected, unaware; some were affected but only became aware when they were contacted or tried to use a telephone.
- Either way, once you learn of an incident, go to the Resource Net (or to your city's net if that's the procedure for your city.)

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Alerting Methods for Non-Self Alerting Events

- AlertSCC – phone call, SMS text message, or e-mail with instructions
  - Important to keep contact information updated
  - AlertSCC is updated from the SCCo ARES/RACES database
- Voice telephone call from someone
- Someone knocking on your door (unlikely but possible)
- You happen to hear traffic on the Resource Net or your city net
- Again, once you learn of an incident, go to the Resource Net (or to your city net if that's the procedure for your city.)
- If your city net is not active, go to the Resource Net.

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Menu

My Profile

- My Contact Info
- My Equipment
- My Activity Record
- My Completion Certificates
- My Credentials
- My Credential-Qualifying Events
- Cities/Agencies I Support
- Change My Call Sign
- Change My Password

If you have a County DSW you can be contacted during an activation via these methods.

My Contact Information

Personal Information

Call Sign*	W6XRL4
First Name*	Herman
Last Name*	Munster
Address 1*	1313 Mockingbird Ln
Address 2	
City*	Mockingbird Heights
State*	TZ
Zip*	00000

Emergency Contact Information

Emergency contact*	Lily
Contact number*	408-555-1212

Supported Agencies

You are on the rosters of these agencies:

None

My Primary Agency

None

If you are on multiple rosters, "Primary Agency" is the agency that you will most likely respond to first in case of a wide-spread incident.

* denotes required field

Contact Information

Home Phone#	408-555-1212
Work Phone#	
Cell Phone#	
Pager	
e-mail #1 *	none1@none.com
e-mail #2	none2@none.com

* denotes required field
# at least one number is required

AlertSCC Information

(format for phone & SMS numbers: 999-999-9999)

Phone #1 :	408-555-0001
Phone #2 :	408-555-0002
Phone #3 :	408-555-0003
e-mail #1 :	email1@gmail.com
e-mail #2 :	email2@gmail.com
e-mail #3 :	email3@gmail.com
SMS #1** :	408-555-1000
SMS #2** :	408-555-2000

** SMS stands for Short Messaging Service which is synonymous with text messaging.

Note: These entries are prioritized. Put your primary information as #1, your second as #2, etc.

You last reviewed this information on: 10/04/2022

I have reviewed the information on this page ☐

Save Changes

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BREAK

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Resource Net – Level 1



- Purpose: Damage reports during initial stages of an incident
- Trigger: Being alerted to a problem
- First, make sure everything is okay at home
- Tune to a Resource Net repeater
  - ~~Primary AA6BT 146.115 (+) 100.0~~ (currently off-line)
  - North W6ASH 145.270 (-) 100.0
  - South K6SNY 443.275 (+) 107.2 (best for South of 101 & 85 in S. San Jose) (also near East side hills)
- Resource Net Level 1 operations
  - Net Control will be asking for damage reports, flood levels or other info
  - Respond with your call sign
  - When called, respond with call sign, city, report, call sign; use a minimum of words
  - Example using Modified Mercalli scale for an earthquake: "W6XRL4, Xanadu, Mike-Mike-4, W6XRL4"
- Monitor to determine if further escalation will occur

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Example of Resource Net Level 1: Earthquake Damage Reports



- Use the Modified Mercalli ("MIKE-MIKE") scale
  - Mike-Mike 1 – Not felt at all
  - Mike-Mike 2 – Felt by persons at rest, especially on upper floors
  - Mike-Mike 3 – Felt indoors, objects swing; like light truck passing
  - Mike-Mike 4 – Windows, dishes rattle; standing cars rock; walls creak
  - Mike-Mike 5 – Felt outdoors; liquids disturbed/spilled; pictures move; doors swing; small items displaced
  - Mike-Mike 6 – Windows, dishes, glassware broken; books off shelf; pictures off walls; furniture, lamps moved/toppled
  - Mike-Mike 7 – Difficult to stand; noticed by drivers of cars; waves on ponds; furniture broken; chimneys, plaster falls
  - Mike-Mike 8 – Steering of cars affected; damage to masonry; towers & elevated tanks fall; branches broken; frame houses move
- Response format: call sign, city, mike-mike #, call sign
- Keep a wallet card handy
  www.scc-ares-races.org/operations/forms/go-kit-doc/mercalli

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Resource Net – Level 1 – Example

- May 5, 2012 County Drill - Simulated Earthquake
- Objective: Practice Level 1 and Level 2 Resource Net
- Individuals call in their simulated Mike-Mike reports
- Net control keeps tally by city
- The net started like this …



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Who Will Be The Net Control??



- It could be you!!
- Come up on the Resource Net
- Listen for active stations
- If no net currently exists, announce that you are organizing a net to collect damage information
- Inform that you have no ability to dispatch help
- Take gross reports of damage until relieved
  - Earthquakes: use the Modified Mercalli (“MIKE-MIKE”) Scale (1-8)
- Be prepared to pass summary information to a more experienced Net Control operator

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Mike-Mike Report Summary Form - Example

SCCo ARES/RACES Mike-Mike Summary	1. Incident Name (if any): Classroom Exercise	2. Incident Date / Time: Todays Date & Time

3. City	4. Mike-Mike Tally (use tick/tally marks)								5. Reporting Totals (numerical)					
	MM-1	MM-2	MM-3	MM-4	MM-5	MM-6	MM-7	MM-8	MM1-3	MM4	MM5	MM6	MM7	MM8
Campbell					11	𝍸	11	1			2	5	2	1
Cupertino						111	𝍸	11				3	5	2
Gilroy					111		1111				3		4	
Loma Prieta														
Los Altos						11	11	1				2	2	1
Los Altos Hills					1	111	111	1			5	2	1	
Los Gatos							1						1	
Milpitas					𝍸	11	1					1	2	
Monte Sereno						1	11					1	2	
Morgan Hill				1111	11					4	2			
Mountain View							1	1				1	1	
NASA/Ames														
Palo Alto					111	1	1				3	1	1	
San Jose				1	111	𝍸	11	1		1	3	5	2	1
Santa Clara					11	111					2	3		
Saratoga						111	11					3	2	
Stanford Univ				1	11	1				1	2	1		
Sunnyvale				11	1	𝍸	1			2	1	5	1	
Other:_____														

6. Prepared by (Name, Call Sign) Herman Munster W6XRL4	7. Date & Time Prepared	Page 1 of 1

SCCo ARES/RACES Mike-Mike Summary (rev: 05-Jul-2018)

https://www.scc-ares-races.org/operations/forms/go-kit/MikeMike_Summary_v20240228.pdf

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Example Damage Survey Net

- **Net Control**
  - "This is <call sign>. Is there a net on this frequency?" (none heard)
  - "This is <call sign>, net control for the Santa Clara County Resource Net."
  - "I will now take reports of damage using the Mike-Mike scale."
  - "I do NOT have the ability to dispatch resources."
  - "I will ask for call signs by severity. When I call you, please report using call sign, city, mike-mike number, and call sign"
  - "I'll take the first five call signs **only**" … "with Mike-Mike 7 or higher"

    [*work your way down the Mike-Mike numbers until you have everyone*]
- **Class**
  - When NC responds report in your damage report using the Mike-Mike scale
  - Use the last digit in your telephone number; use "8" instead of "0" or "9".
  - Example:
    - NCO: "W6XRL4"
    - You: "W6XRL4, Xanadu, Mike-Mike 4, W6XRL4"

      call sign city mike-mike # call sign

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City Specific Procedures

- Some cities want the hams in their city to check in with the city net first.
- In that case the city will provide summary (roll-up) data to the county periodically.
- Know your city's procedures.

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Resource Net – Level 2



- Purpose: Transition operators to local nets
- Trigger: A city/agency announces it has activated its local net and/or its EOC
- Listen on the Resource Net for your city EOC to activate
  - Example: “Resource Net Control, Los Altos EOC is now active and accepting check-ins on 146.595 simplex, this is <FCC call sign>”
- Switch to your city net frequency (typically a tactical freq.)
  - Check-in to the city net
  - If you’re joining later in the incident, check your city net first
  - If your city doesn’t activate, check-in on county resource net; they may have alternative instructions for you
- City Net Control decides where you are needed
  - City will request you monitor city frequency for possible assignment
  - City may release you to county; if so, return to county resource net

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Resource Net – Level 2 – Example

- May 5, 2012 County Drill – Simulated Earthquake
- As Resource Net level 1 continues
  - Net control is now taking reports of MM-5 and higher
- Some cities have determined that the situation is severe enough (simulated) to activate their city EOCs
- The net continues …



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City/Agency-Level Tactical Nets

- At this point, some or all cities will have activated their city nets
- City residents switch to their city nets and follow instructions there
- If city resources are overwhelmed, city may contact the county for “mutual aid”
- Unaffected or lightly affected cities may release some of their operators to the county to provide mutual aid

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Resource Net – Level 3



- Purpose: tracking mutual aid resources
- Trigger:
  - A city has requested amateur radio mutual aid, or
  - A mutual aid communicator (MAC) has checked in after being released from his or her city
- Activity:
  - Assignments, activation, and tracking during mobilization and demobilization
- Example check-in:
  - Net Control, this is W6XRL4, Herman Munster. I've been released by my city and I'm available for an assignment. My credentials are F2, N3, and P3.

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Resource Net – Level 3



- Important: You must first be released by your city's Emergency Coordinator (EC) / Radio Officer (RO), or their designee
  - Check with your city tactical net first
  - If your city net is not up and you can't locate your EC, then check-in with county – they may have alternative instructions
- Check-in to County Resource Net Level 3 only if:
  - You have been released by your city
  - You have a County DSW
  - You are available for county-wide assignment (family/home, training, your 12-hr go-kit is complete and ready)
  - You are ready to go (car is loaded, gassed up; you are ready to walk out the door)

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Preparation While Waiting

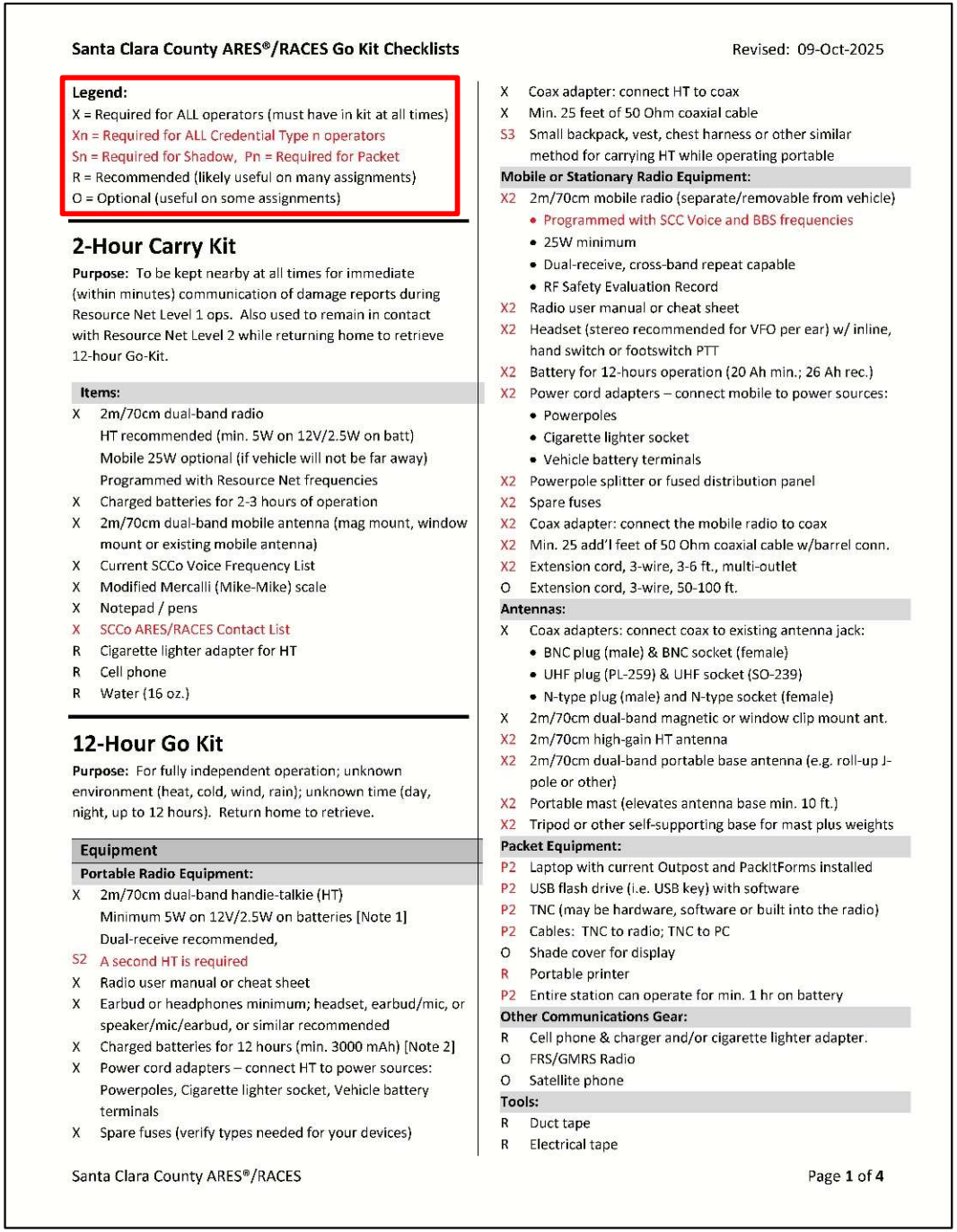


- Net Control may or may not make an immediate assignment
  - It may take time for incident command to determine what resources are needed and where they need to be deployed
  - Be patient; pay attention; monitor closely; respond promptly
  - If you are unable to monitor inform Net Control that you need to leave the net and provide an alternative contact method
- If not immediately activated, use the time wisely to prepare
  - Double check your personal situation: home, family
  - Double check your go-kit, including batteries, food, water, etc.
  - Review proper emergency communications procedures & techniques "Performance Standards & Best Practices"

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Go Kit

- 2 Hour Carry Kit
  - Keep nearby at all times
  - Resource Net Level 1
    - Damage Reports
  - Resource Net Level 2
    - City net Check-ins
- 12 Hour Go kit
  - Fully independent operations for 12 hrs
  - Return home to retrieve
- Extended Kit (optional)
  - 72 hour or longer



Santa Clara County ARES®/RACES Go Kit Checklists Revised: 09-Oct-2025

Legend:
X = Required for ALL operators (must have in kit at all times)
Xn = Required for ALL Credential Type n operators
Sn = Required for Shadow, Pn = Required for Packet
R = Recommended (likely useful on many assignments)
O = Optional (useful on some assignments)

2-Hour Carry Kit

Purpose: To be kept nearby at all times for immediate (within minutes) communication of damage reports during Resource Net Level 1 ops. Also used to remain in contact with Resource Net Level 2 while returning home to retrieve 12-hour Go-Kit.

Items:

- X 2m/70cm dual-band radio
  HT recommended (min. 5W on 12V/2.5W on batt)
  Mobile 25W optional (if vehicle will not be far away)
  Programmed with Resource Net frequencies
- X Charged batteries for 2-3 hours of operation
- X 2m/70cm dual-band mobile antenna (mag mount, window mount or existing mobile antenna)
- X Current SCCo Voice Frequency List
- X Modified Mercalli (Mike-Mike) scale
- X Notepad / pens
- X SCCo ARES/RACES Contact List
- R Cigarette lighter adapter for HT
- R Cell phone
- R Water (16 oz.)

12-Hour Go Kit

Purpose: For fully independent operation; unknown environment (heat, cold, wind, rain); unknown time (day, night, up to 12 hours). Return home to retrieve.

Equipment

Portable Radio Equipment:

- X 2m/70cm dual-band handie-talkie (HT)
  Minimum 5W on 12V/2.5W on batteries [Note 1]
  Dual-receive recommended,
- S2 A second HT is required
- X Radio user manual or cheat sheet
- X Earbud or headphones minimum; headset, earbud/mic, or speaker/mic/earbud, or similar recommended
- X Charged batteries for 12 hours (min. 3000 mAh) [Note 2]
- X Power cord adapters – connect HT to power sources: Powerpoles, Cigarette lighter socket, Vehicle battery terminals
- X Spare fuses (verify types needed for your devices)
- X Coax adapter: connect HT to coax
- X Min. 25 feet of 50 Ohm coaxial cable
- S3 Small backpack, vest, chest harness or other similar method for carrying HT while operating portable

Mobile or Stationary Radio Equipment:

- X2 2m/70cm mobile radio (separate/removable from vehicle)
  - Programmed with SCC Voice and BBS frequencies
  - 25W minimum
  - Dual-receive, cross-band repeat capable
  - RF Safety Evaluation Record
- X2 Radio user manual or cheat sheet
- X2 Headset (stereo recommended for VFO per ear) w/ inline, hand switch or footswitch PTT
- X2 Battery for 12-hours operation (20 Ah min.; 26 Ah rec.)
- X2 Power cord adapters – connect mobile to power sources:
  - Powerpoles
  - Cigarette lighter socket
  - Vehicle battery terminals
- X2 Powerpole splitter or fused distribution panel
- X2 Spare fuses
- X2 Coax adapter: connect the mobile radio to coax
- X2 Min. 25 add'l feet of 50 Ohm coaxial cable w/barrel conn.
- X2 Extension cord, 3-wire, 3-6 ft., multi-outlet
- O Extension cord, 3-wire, 50-100 ft.

Antennas:

- X Coax adapters: connect coax to existing antenna jack:
  - BNC plug (male) & BNC socket (female)
  - UHF plug (PL-259) & UHF socket (SO-239)
  - N-type plug (male) and N-type socket (female)
- X 2m/70cm dual-band magnetic or window clip mount ant.
- X2 2m/70cm high-gain HT antenna
- X2 2m/70cm dual-band portable base antenna (e.g. roll-up J-pole or other)
- X2 Portable mast (elevates antenna base min. 10 ft.)
- X2 Tripod or other self-supporting base for mast plus weights

Packet Equipment:

- P2 Laptop with current Outpost and PackItForms installed
- P2 USB flash drive (i.e. USB key) with software
- P2 TNC (may be hardware, software or built into the radio)
- P2 Cables: TNC to radio; TNC to PC
- O Shade cover for display
- R Portable printer
- P2 Entire station can operate for min. 1 hr on battery

Other Communications Gear:

- R Cell phone & charger and/or cigarette lighter adapter.
- O FRS/GMRS Radio
- O Satellite phone

Tools:

- R Duct tape
- R Electrical tape

Santa Clara County ARES®/RACES Page 1 of 4

https://www.scc-ares-races.org/operations/go-kit

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Assignment and Activation



- Net Control may call you at some point and offer an assignment
  - Applies to both city and county nets
- If you accept the assignment, you will be activated
  - Do not accept any assignment if you don't understand it, don't feel safe, aren't properly trained for it, or don't have the right equipment for the assignment
  - Do not accept an assignment if you're not ready to depart
    - You should only be on Resource Net Level 3 if you're ready for an assignment
- Before leaving home, notify Net Control that you are ready to depart
  - Report your location (closest major intersection) and last three digits of odometer
- You will be given travel instructions & arrival instructions (may come later)
  - Write it down! Often includes important travel restrictions
- You will be given the activation number
- Begin filling out your ICS-214

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Health and Welfare Checks

- Disaster Service Worker (DSW) rules require you to be supervised at all times
- Part of that supervision is regular health & welfare checks
- Net control will usually initiate every 20-30 minutes
  - Listen for H&W checks and respond promptly
  - If they don't call you, speak up
- Response if OK:
  - When traveling: location, odometer, FCC call sign
  - On assignment: tactical call sign (if any) and your FCC call sign
- If you're not OK, say so
- Don't make Net Control ask you for the information
  - You know what's needed; be prepared to provide it

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Driving



- Drive safely, do not speed, follow all applicable laws
- Do not drive off-road unless trained and authorized to do so
- Do not go anywhere that you feel is not safe
- Professionally and responsibly withdraw from situations that become risky; advise net control and/or served agency promptly
- Observe “distracted driving” laws
- Follow any instructions Net Control gives you

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Distracted Driving Law

- California Vehicle Code 23123.5 restricts the use of handheld wireless communication devices while driving.
- The law wasn't intended to affect amateur radio operators, but the wording is vague and, as written, could be interpreted to include us.
- We're not lawyers; use your own judgement
  - If you don't feel safe responding to net control while driving, then pull over when and where it's safe before responding to net control.
  - Do not stop on a freeway; pull off the freeway to a parking lot then contact Net Control
  - You can be distracted in a variety of ways, and the officer may only consider that and not the type of radio you are using.
- Review the information on our website about this law and make your own decision on how to proceed with using your radio while driving.

www.scc-ares-races.org/operations/voice/driving/SCCo_Mobile_Ops_Safety_v20250302.pdf

Note the repeated use of the word "mounted" in the CHP memo, the press release, and CHP 100.68 Policy Manual. Holding an HT in your hand may get you into trouble. A wired microphone may not.

- Inform NC of your intentions when checking into a Resource/Travel Net.

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Arriving on Scene



- Pick an appropriate and safe place to park
- STAY in your vehicle and do the following:
  - Update your ICS-214
  - Tell the Resource NC you've arrived at Staging and the last 3 digits of your odometer
  - Resource Net control will inform you of the staging net
  - Tell Resource NC you are checking out of the resource net and checking into the staging net
  - End with your FCC call sign

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Arriving on Scene (con't)



- Contact Staging net control
- If you CANNOT make contact with local tactical Net Control, return to the Resource Net and ask for further instructions
- Tell the staging net control your call sign, that you have arrived at staging, and that you are in your vehicle
- Do all this FROM YOUR VEHICLE using the more powerful mobile radio and/or antenna
- Follow net control's instructions. Do NOT leave your car and walk to the event unless instructed to do so
  - They may not want you there yet and this violates the County's standards of operation.

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Interacting With Local Authorities



- Approach in the field of vision of the officer
- Keep hands in plain sight
- Greet the officer
- Identify yourself
- Show identification
- State who sent you
- State where you are headed
- State what you will do there
- Request permission to pass
- Thank the officer
- If you have difficulty, do not argue!
  - Walk away (as appropriate) and contact net control to ask for instructions

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Checking In at the Scene



- At the event, check in where instructed
  - ICS-211A Check-In List (if there isn't one, create one)
  - Fill out paperwork (ICS-214, safety briefing, T-card, etc.)
- Follow the instructions of the local team
  - Be patient; you may be asked to wait until others arrive
  - Attend the briefing
  - Be courteous; you are there to help, not run the show
- Remain in constant contact with the staging net
  - If you need to go off the air, inform Net control
  - If we lose track of you, you have become part of the problem; we have to go find you!

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ICS-205 Communications Plan

- You will be provided with an ICS-205 Communications Plan
  - Before the event for most public service events
  - At the event for non-planned events and drills
- Lists all frequencies to be used during the event including backups.
- These should be programmed into your radio
  - before the event for public service events
  - at Staging for non-planned events and drills
  - Initially program only those needed for your assignment and the backups

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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	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)	7.Prepared Date/Time	8. Page
	Herman Munster, W6XRL4	06/02/2018 09:30	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)

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Conducting Yourself at the Scene

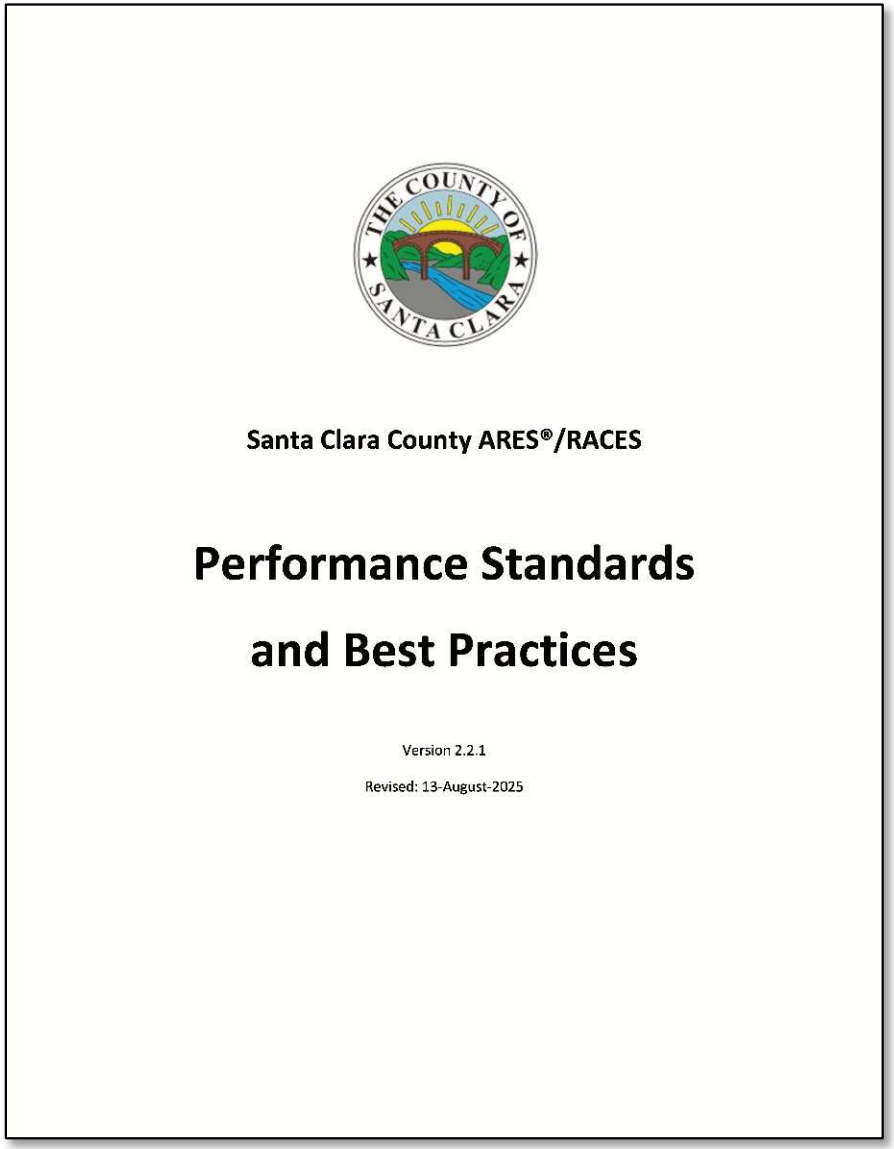


- You are there to assist with communications
  - You are not there to manage the incident, nor to manage all comms
- You must be courteous and respectful at all times
  - You are an ambassador for ALL amateur radio!
  - What you do and how you act reflects on ALL of us
  - If you experience difficulty, contact your supervisor or net control
- Your job is to be a communicator
  - Do NOT direct vehicle traffic, climb towers, move barricades, etc.
    - You are not trained for these; you will not be covered by DSW!
  - Do NOT take on tasks that will interfere with duties as a **communicator**
  - Do NOT take on tasks or go places if you do not feel safe
  - Do be the best, most effective communicator you can be
- At all times, remain in contact with net control

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Procedures & Techniques

- Contents
  - Professionalism & Training
  - Communications Technique
  - Safety
  - Methods & Procedures
  - Equipment
  - Documentation
- Keep a copy in your Go Kit
- Review before/during each assignment



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

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Checking Out at the End of Assignment

- If you sustained an injury during your assignment that hasn't already been reported to your supervisor, report it before checking out.
- Check out at the location where you checked in
  - Turn in all documents and forms as instructed
  - Sign out on ICS-211A Check-In List
- Check OUT of the local event tactical net

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Demobilization



- Check IN on the Resource Net (or other travel tracking net)
- Inform Resource Net control that you are proceeding home
  - Give current street location and last three digits of odometer
- Do H&W every 20-30 minutes on the way home
  - Give street location (“Highway 101 at 280”) and last three digits of odometer
- Check out when you arrive home
  - Give location (“arrived at home”) and mileage and state you are checking out
- You are responsible for maintaining contact with net control at all times
- If you have somewhere else to go, you can check out early, before arriving home
  - You will not be covered under DSW after checking out
  - For drills and public service events you may be able to opt out of being tracked home if tracking is offered. For real activations you **will** be tracked home.
    - In that case do not check into the Resource Net (Unless you are taking part in a Credential evaluation)

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Your To Do List (so far)



- Become familiar with: https://www.scc-ares-races.org
  - At a minimum, review everything on the Operations page
- County and City DSW registration
- Inform family of Workers' Comp provisions
- Learn the nets and their usage
- Obtain Frequency lists (county, city); program your radio
- Prepare Go Kit, Review Performance Standards
- Learn mobilization, tracking, demobilization procedures

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BREAK

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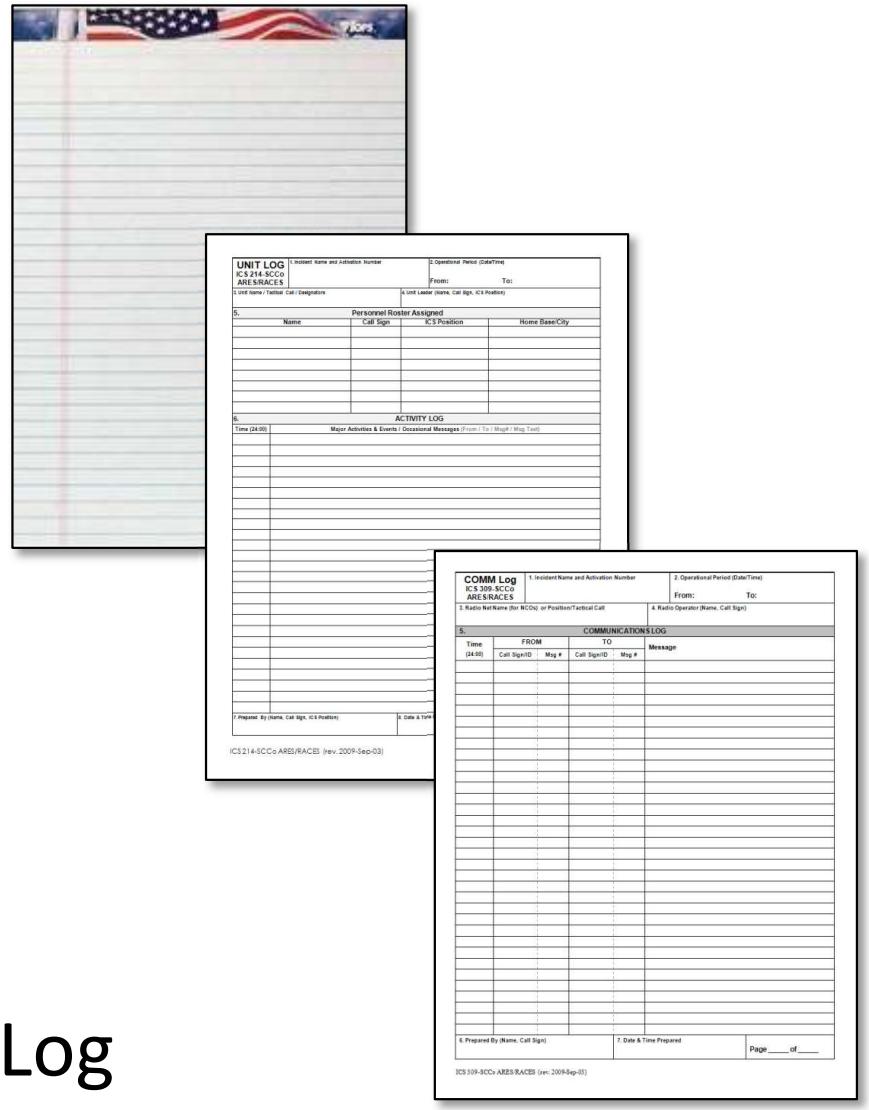
Tracking activities and message traffic

FUNDAMENTALS OF LOGGING

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Three Primary Logging Forms

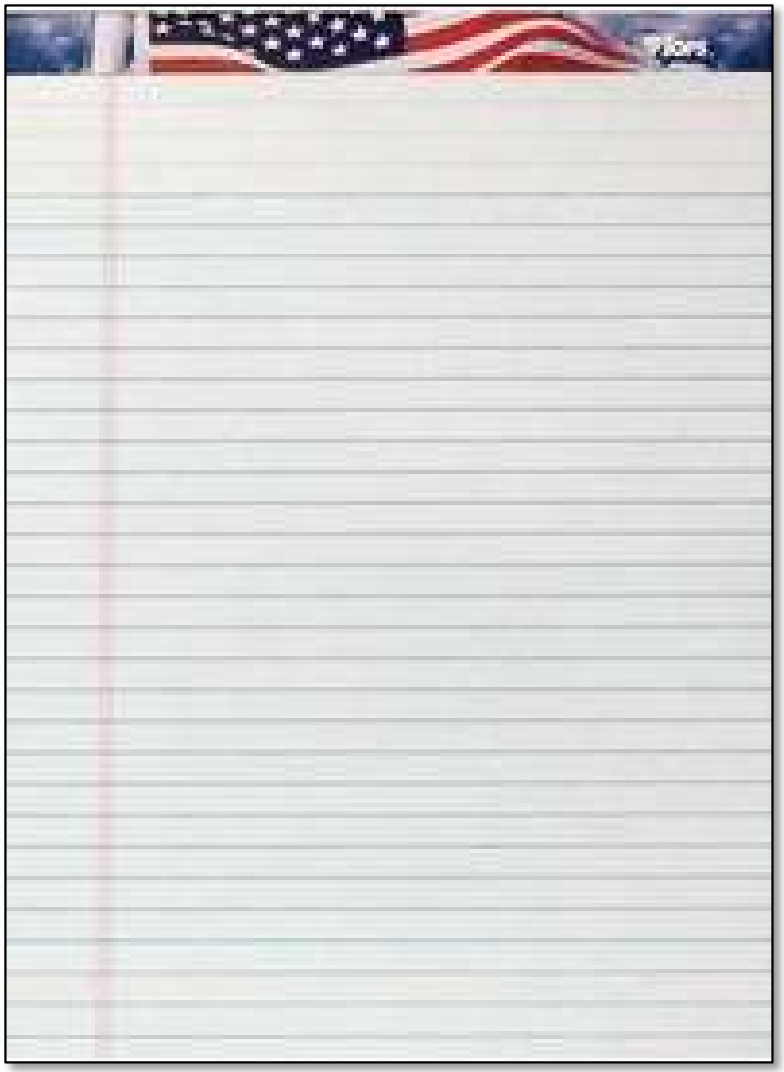
- Form 1
- ICS 214 – Unit Activity Log
- ICS 309 – Communications Log



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Form 1

- Clear documentation is required
- A simple writing tablet works
- Lots of uses
  - Writing down assignment
  - Writing down activation number
  - Copying directions
  - Informal notes and messages
  - Scratch paper
  - Food and drink orders for the team
  - … when you run out of the right form
- Turn in all documents and forms as instructed
  - (yes, even informal notes!)

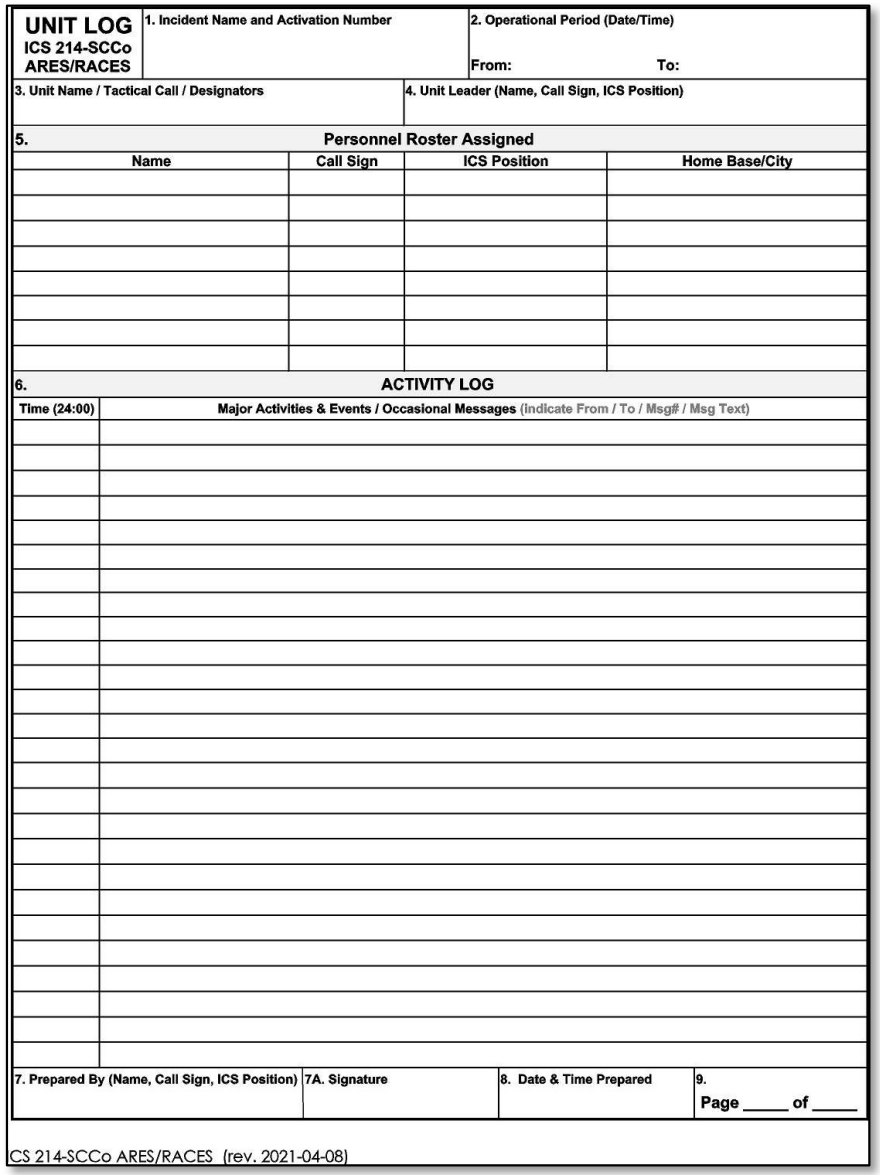


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ICS 214 – Unit Activity Log

Review of Video Training

- SCCo version: ICS 214-SCCo
- A record of all major activities
  - Assignment, departure, arrival, etc.
- Start when you are assigned/activated
- EVERYONE fills out a 214
  - Individuals: a unit of one **(normally)**
  - Teams: Team leader **(seldom)**
- Use multiple pages if necessary
- Turn into supervisor at end of shift



UNIT LOG
ICS 214-SCCo
ARES/RACES

1. Incident Name and Activation Number
2. Operational Period (Date/Time) From: To:
3. Unit Name / Tactical Call / Designators
4. Unit Leader (Name, Call Sign, ICS Position)

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)

ICS 214-SCCo

Any Questions From Video

UNIT LOG ICS 214-SCCo ARES/RACES	1. Incident Name and Activation Number	2. Operational Period (Date/Time) From: To:
3. Unit Name / Tactical Call / Designators	4. Unit Leader (Name, Call Sign, ICS Position)	

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)

7. Prepared By (Name, Call Sign, ICS Position)	7A. Signature	8. Date & Time Prepared	9. Page _____ of _____

ICS 214-SCCo ARES/RACES (rev. 2021-04-08)

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Example 214

Individual field communicator

Complete the form for your attendance at a simulated class held using the following fictional information:

- Your Tactical ID was assigned at the start of class - **Student XXX**
- Activation # TRA-26-04T
- Fundamentals of EmComm Class is from 6 pm to 9:30 pm
- Departed Home 5:25 pm, odometer of 543
- Arrived at class location at 5:52 pm, odometer of 554
- Started class at 6 pm
- Assigned your Tactical Call at 6:05 pm
- Took a break at 7:08 pm
- Took another break at 8:14 pm
- Completed class at 9:30 pm

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Example 214

Individual field communicator

Your form should look similar to this.

UNIT LOG
ICS 214-SCCo ARES/RACES

1. Incident Name and Activation Number	2. Operational Period (Date/Time)
Fundamentals Class TRA-26-04T	<todays date> <todays date> From: 1800 To: 2130

3. Unit Name / Tactical Call / Designators	4. Unit Leader (Name, Call Sign, ICS Position)
Student-xxx	<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)
1725	Departed Home OD 543
1752	Arrived at parking lot for class OD 554
1800	Started class
1805	Assigned Tactical Call Sign of Student xxx
1908	Took a break
2014	Took a break
2130	Completed Assignment

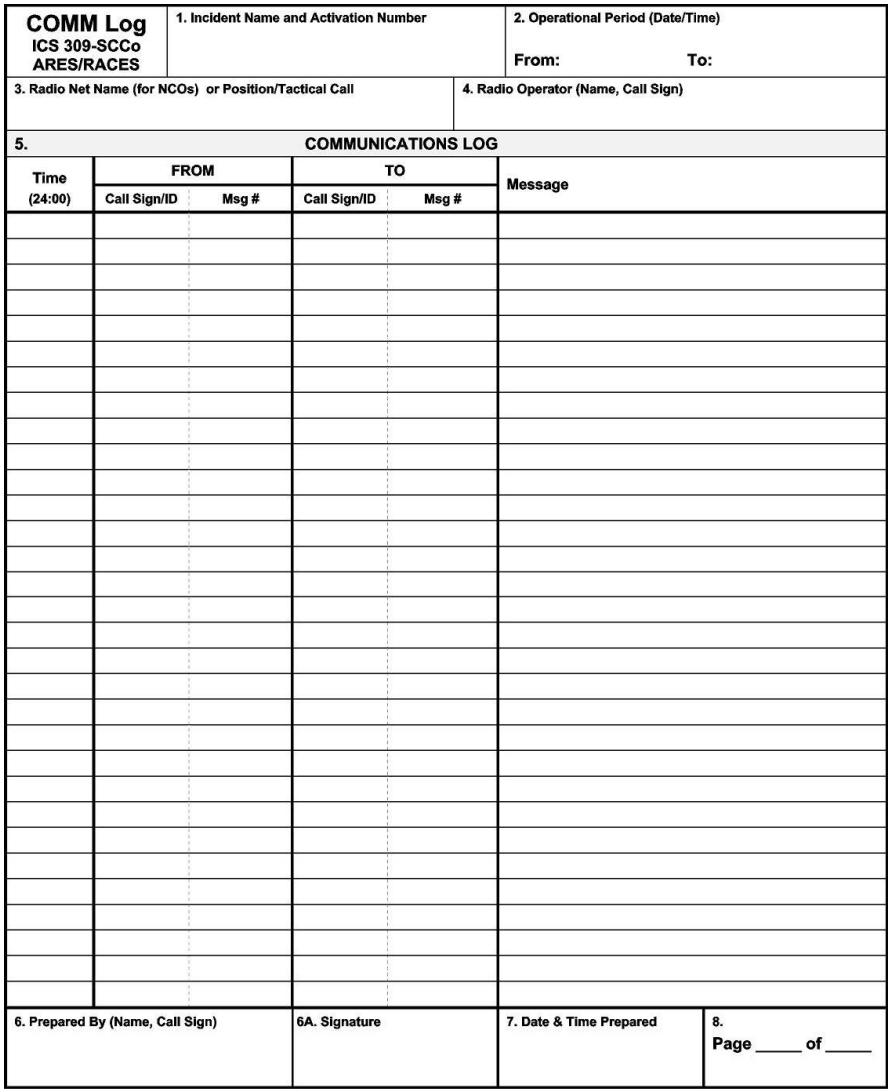
7. Prepared By (Name, Call Sign, ICS Position)	7A. Signature	8. Date & Time Prepared	9.
<your name><your call sign>	Sign Here	< date> 2145	Page 1 of 1

ICS 214-SCCo ARES/RACES (rev. 2021-04-08)

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ICS 309 – Communications Log

- Our version: ICS 309-SCCo
- Used by everyone except Shadows
- Columns help organize key message tracking info
  - Time
  - From
  - To
  - Message subject
- Does not replace ICS-214
  - ICS-214 is a Unit Activity Log
  - EVERYONE fills out an ICS-309 Communications Log
  - There are exceptions for Shadows
- Turn in to supervisor at end of shift



COMM Log ICS 309-SCCo ARES/RACES	1. Incident Name and Activation Number	2. Operational Period (Date/Time) From: To:
3. Radio Net Name (for NCOs) or Position/Tactical Call		4. Radio Operator (Name, Call Sign)

5. COMMUNICATIONS LOG

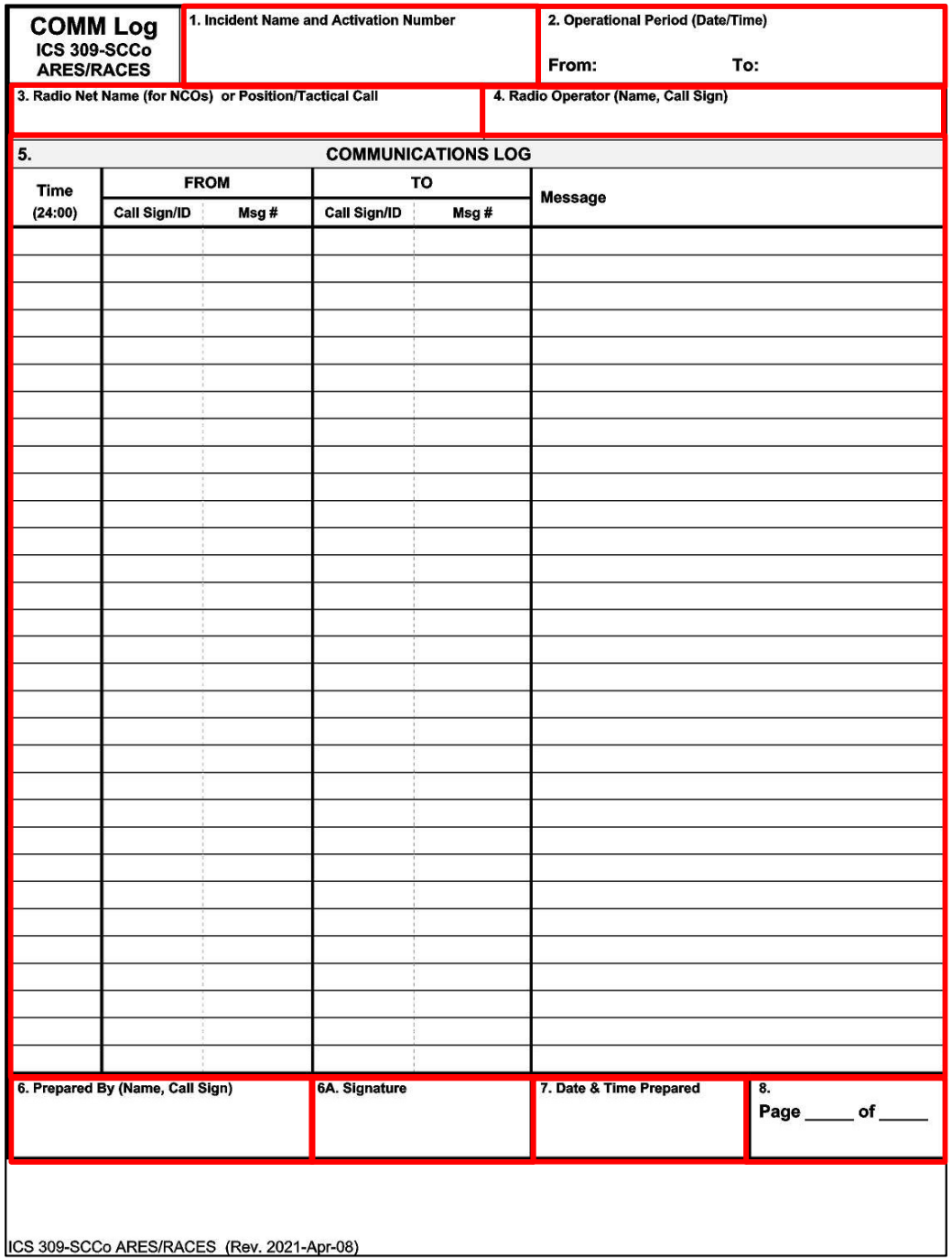
Time (24:00)	FROM		TO		Message
	Call Sign/ID	Msg #	Call Sign/ID	Msg #	

ICS 309-SCCo

Field-by-field instructions on back:

1. Incident Name & Activation Nbr
2. Operational Period (date, time)
3. Radio Net or Position Name
   - NCOs: Radio Net Name
   - Individuals: Position/Tactical Call
4. Radio Operator (name, call sign)
5. Communications Log
   - Time (local 24:00 hour time)
   - From (Call Sign/ID & Msg #)
   - To (Call Sign/ID & Msg #)
   - Message Summary
6. Prepared by 6A. Signature
7. Date & Time Prepared
8. Page Numbers

More details in Net Control and Field Operations classes and in on-line training



COMM Log
ICS 309-SCCo
ARES/RACES

1. Incident Name and Activation Number	2. Operational Period (Date/Time) From: To:
3. Radio Net Name (for NCOs) or Position/Tactical Call	4. Radio Operator (Name, Call Sign)

5. COMMUNICATIONS LOG

Time (24:00)	FROM Call Sign/ID	FROM Msg #	TO Call Sign/ID	TO Msg #	Message

6. Prepared By (Name, Call Sign)	6A. Signature	7. Date & Time Prepared	8. Page ____ of ____

ICS 309-SCCo ARES/RACES (Rev. 2021-Apr-08)

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Summary of Your Logging Responsibilities

- Everyone fills out an ICS-214 Unit Activity Log (ICS 214-SCCo)
- All operators
  - Use an ICS-309 Communications Log for logging message traffic
    - There are exceptions for Shadows
  - Does not replace the need to maintain a 214 Unit Activity Log
- Start your ICS-214 as soon as you receive your assignment
- Must be legible!
- Turn in your log(s) at the end of your shift

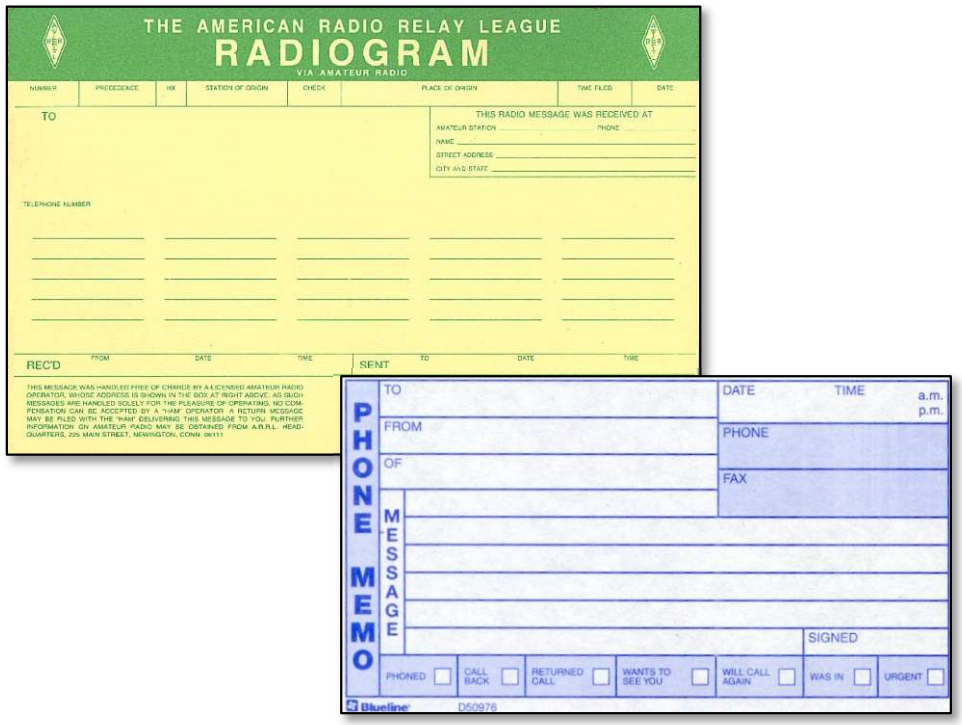
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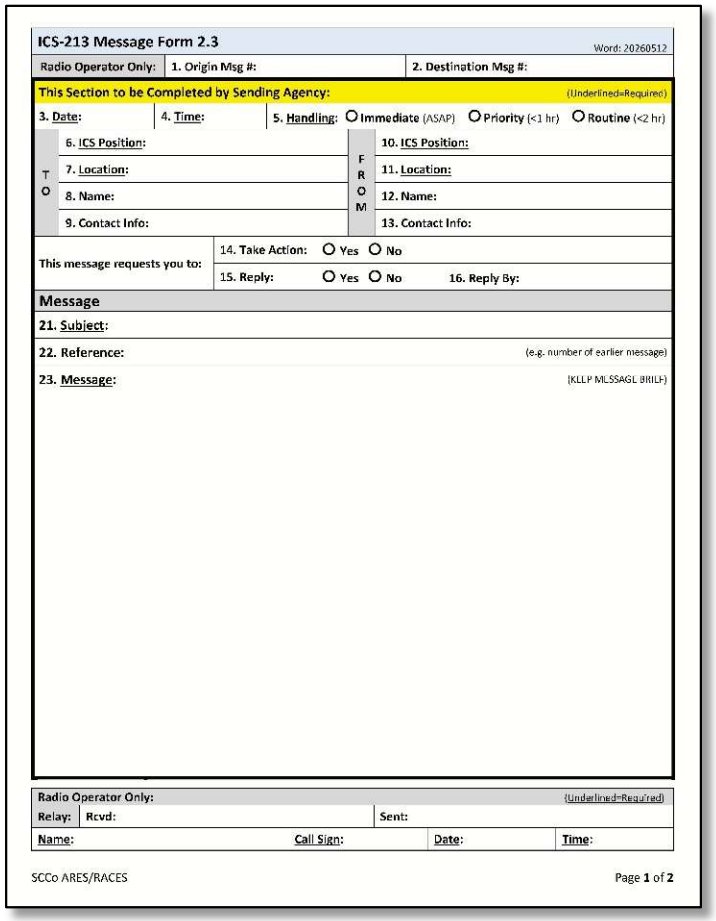
Your To Do List (so far)



- Become familiar with: https://www.scc-ares-races.org
  - At a minimum, review everything on the Operations page
- County and City DSW registration
- Inform family of Workers' Comp provisions
- Learn the nets and their usage
- Obtain Frequency lists (county, city); program your radio
- Prepare Go Kit, Review Performance Standards
- Learn mobilization, tracking, demobilization procedures
- Learn and use the ICS-214 Unit Activity Log

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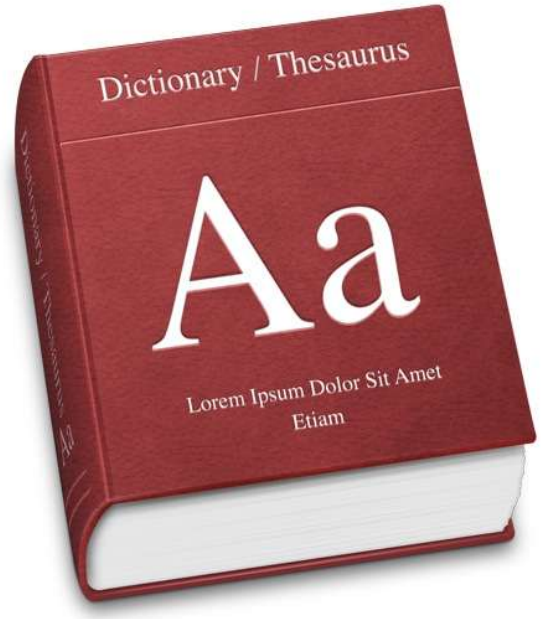
The Message Net in Action

FUNDAMENTALS OF MESSAGE HANDLING

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What is a Message Net?

- A network of Amateur Radio Operators acting in an official capacity to pass traffic to or receive traffic from a served agency.



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Types of Message Nets

- County Message Net
  - Between City/Agency and County
  - Between Operational Area (county) and Region
- Local Message (tactical) Net
  - Between Field Stations and City/Agency EOC (Emergency Operations Center)

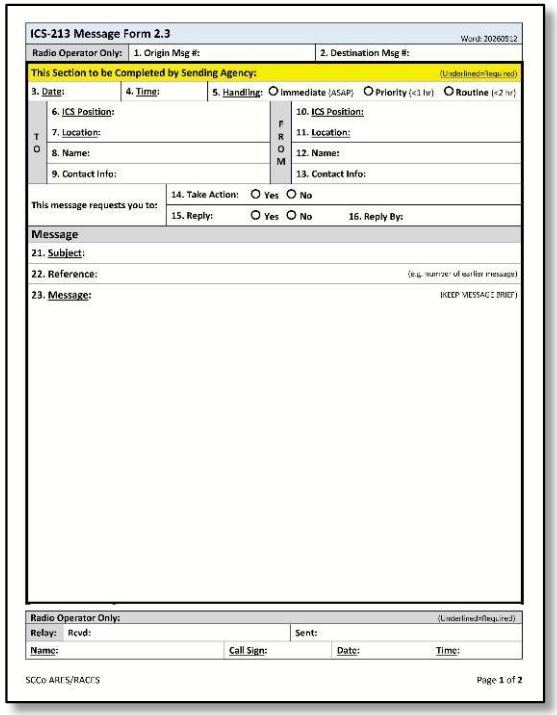
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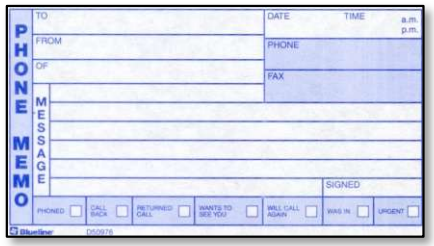
Types of Messages

- 3rd Party Messages (for served agencies)
  - Typically, between field site and city; between city and county; between agency and county.
  - Use official ICS Forms where appropriate.
    - ICS = Incident Command System
  - Other messages - use dual-copy phone message form or other acceptable form.

- Operational messages (operator to operator)
  - Simple, tactical messages.
  - Ex: Check-in/out, health & welfare (H&W), simple status reports, etc.
- All messages are always logged on an ICS-309.

ICS-213 Message Form





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Message Traffic Operator Skills

A good radio operator …

- … is as concise as possible
- … frequently identifies tactical call
  - Don’t forget FCC call sign at end of traffic
- … clearly states the nature of the traffic
  - “I have one priority message for you.”
- … passes or copies messages exactly as written
- … uses the appropriate message form
- … keeps an accurate log (ICS-309)
- … uses proper phonetics, numbers and pro-words
- … passes messages five words at a time
  - and only as fast as you can write them yourself

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Standard ITU Phonetics

A - alfa (AL-fa)
B - bravo (BRAH-voh)
C - charlie (CHAR-lee)
D - delta (DELL-tah)
E - echo (ECK-oh)
F - foxtrot (FOKS-trot)
G - golf (GOLF)
H - hotel (hoh-TELL)
I - india (IN-dee-ah)
J - juliet (JU-lee-ETT)
K - kilo (KEY-loh)
L - lima (LEE-mah)
M - mike (MIKE)
N - november (no-VEM-ber)
O - oscar (OSS-cah) *
P - papa (pah-PAH) *
Q - quebec (keh-BECK) *
R - romeo (ROW-me-oh)
S - sierra (see-AIR-rah)
T - tango (TANG-go)
U - uniform (YOU-ni-form)
V - victor (VIK-tah) *
W - whiskey (WISS-key)
X - x-ray (ECKS-RAY)
Y - yankee (YANG-key)
Z - zulu (ZOO-loo)

* non-standard voicing

- If there is a chance of misunderstanding, spell it out with "I spell":
  - "go to Kay Street" → "go to Kay, I spell kilo alfa yankee, Street"

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Pronouncing Numerals

0 - zero (ZEE-row)
1 - one (Wun)
2 - two (Too)
3 - three (Tree) *
4 - four (FOH-wer) *
5 - five (Fife) *
6 - six (Sicks)
7 - seven (SEV-vin)
8 - eight (Ate)
9 - nine (NINE-er) *

* non-standard voicing

- Multi-digit numbers are spoken as a string of single digits:
  - 600 = “sicks zero zero”
- Preceded by the word “figures”
  - “Please copy 109” → “Please copy figures, one zero niner”
  - “Requesting 16 blankets” → “Requesting figures, one sicks, blankets”

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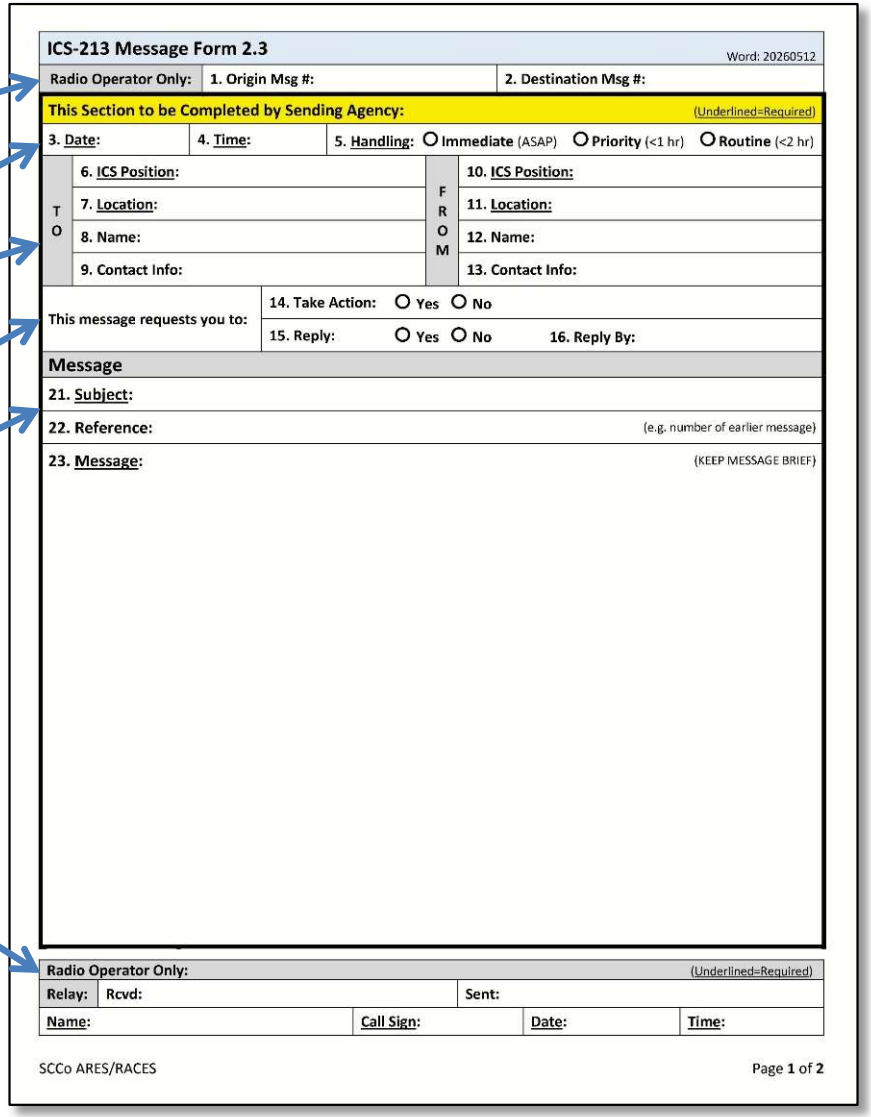
Message Handling Prowords

SAY AGAIN … Repeat – usually used with other prowords	
WORD AFTER	“Say again word after …”
WORD BEFORE	“Say again word before …”
BETWEEN	“Say again between … and …”
ALL AFTER	“Say again all after …”
ALL BEFORE	“Say again all before …”
I SPELL	“I spell, Alfa, Bravo …”
FIGURES	“Figures Wun, ZEE-row, NINE-er” (= 109)
INITIALS	“Initials Echo, Oscar, Charlie” (= “EOC”)
MIXED GROUP	“Mixed Group Foxtrot, Wun, Fife, ZEE-row” (=“F150”)

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ICS 213 Message Form

- Message Numbers
- Date, Time, Handling
- Address Info
- Take Action, Reply
- Message Body
- Radio Operator Use
- All standard message forms have Field Numbers. Use then rather than Field Names.



ICS-213 Message Form 2.3 Word: 20260512

Radio Operator Only: 1. Origin Msg #: 2. Destination Msg #:

This Section to be Completed by Sending Agency: (Underlined=Required)

3. Date: 4. Time: 5. Handling: O Immediate (ASAP) O Priority (<1 hr) O Routine (<2 hr)

TO: 6. ICS Position: 7. Location: 8. Name: 9. Contact Info:

FROM: 10. ICS Position: 11. Location: 12. Name: 13. Contact Info:

This message requests you to: 14. Take Action: O Yes O No 15. Reply: O Yes O No 16. Reply By:

Message

21. Subject:

22. Reference: (e.g. number of earlier message)

23. Message: (KEEP MESSAGE BRIEF)

Radio Operator Only: (Underlined=Required)

Relay: Rcvd: Sent:

Name: Call Sign: Date: Time:

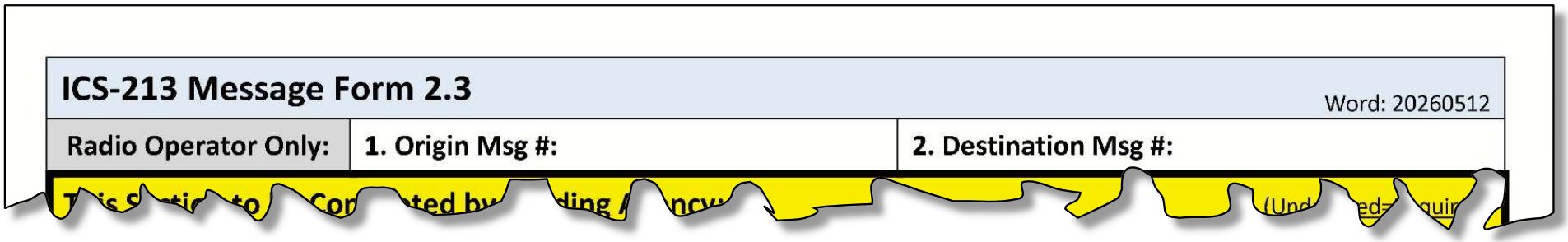
SCCo ARES/RACES Page 1 of 2

https://www.scc-ares-races.org/operations/forms/go-kit

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Message Form – Message Numbers

- Critically important for tracking messages
- If you are Sending
  - Your message number goes in the Origin Msg # box (it's often pre-stamped on the form)
  - Write the receiver's message number in the Destination Msg # box
- If you are Receiving
  - Your message number goes in the Destination Msg # box
  - Write the sender's message number in the Origin Msg # box
- You will have <u>both</u> blocks filled in when finished



ICS-213 Message Form 2.3		Word: 20260512
Radio Operator Only:	1. Origin Msg #:	2. Destination Msg #:

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City/Agency Codes

- Cities and agency EOCs will use these codes as the prefix of their message numbers.
- Hospitals use codes for each facility. These are available on the website for Hospital Net operators.

Agency	Prefix
Campbell	CBL
Cupertino	CUP
Gilroy	GIL
Loma Prieta	LMP
Los Altos	LOS
Los Altos Hills	LAH
Los Gatos / Monte Sereno	LGT
Milpitas	MLP
Morgan Hill	MRG
Mountain View	MTV
NASA/Ames	NAM
Palo Alto	PAF
San Jose	SJC
Santa Clara	SNC
Santa Clara County	XSC
Saratoga	SAR
Stanford	STU
Sunnyvale	SNY

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Message Form - Header

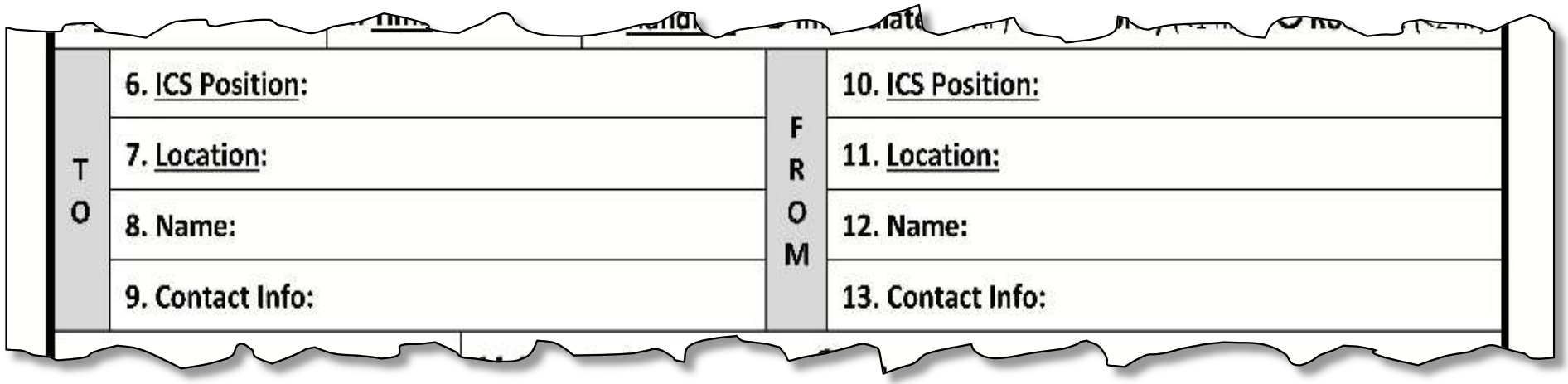
- Date, Time (when message author created it)
  - Date format is mm/dd/yy
  - Use 24-hour clock, local time
- Handling Order
  - Always prioritize according to handling order first
  - If author message is unsure of the recommended Handling Order, refer to the Recommended Form Routing Sheet which is part of the Go-Kit forms package



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Message Form - Address

- To, From
  - ICS Position (required)
    - Planning, Logistics, Operations, Finance, Shelter Manager, …
  - Location (required)
    - Santa Clara County EOC, Los Altos EOC, Shelter 2, Check Point B, …
  - Name (optional)
  - Contact Info (optional)

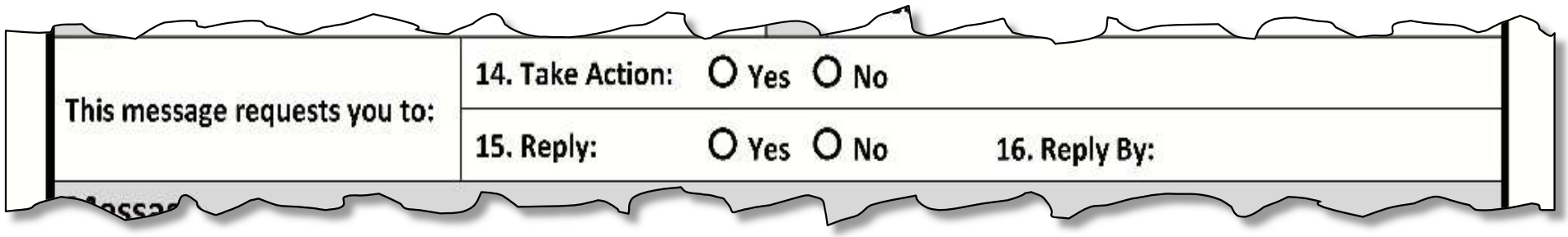


TO	6. ICS Position:	FROM	10. ICS Position:
	7. Location:		11. Location:
	8. Name:		12. Name:
	9. Contact Info:		13. Contact Info:

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Message Form – Take Action, Reply

- Take Action, Reply
  - Often neglected by untrained personnel; check to make sure message author filled it in

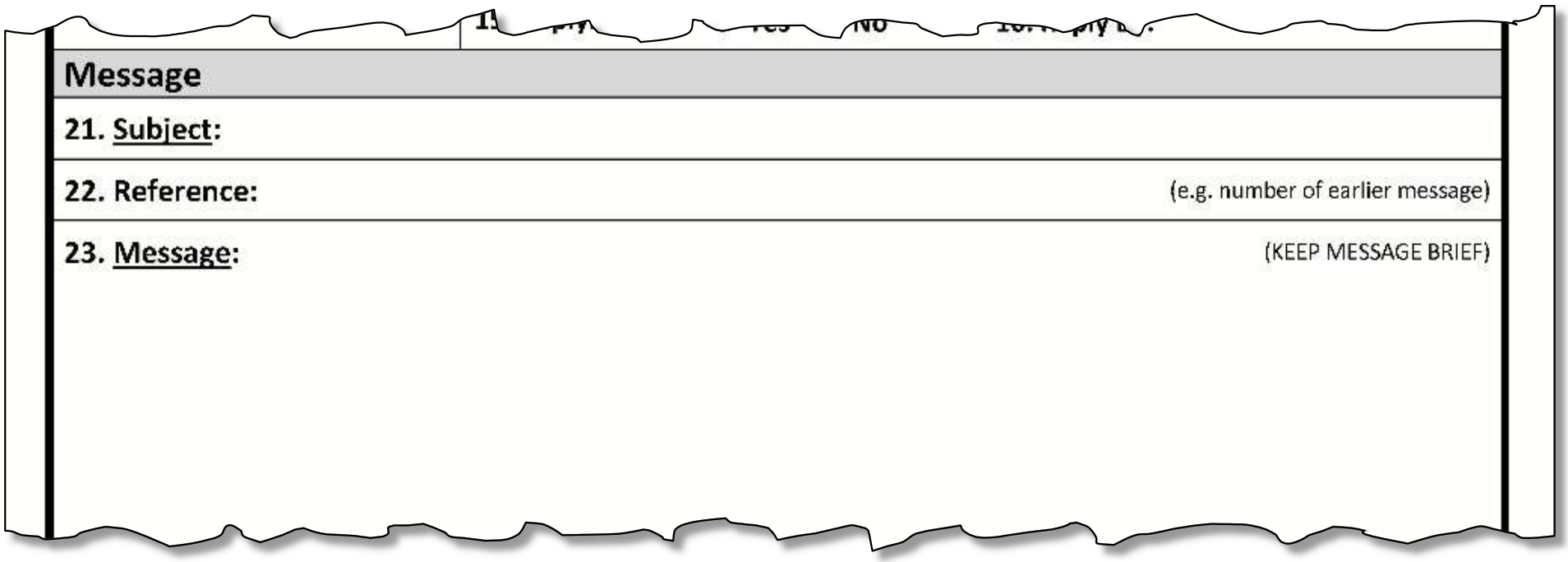


This message requests you to:	14. Take Action: O Yes O No
	15. Reply: O Yes O No 16. Reply By:

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Message Form - Body

- Subject - Brief summary of message topic
- Reference - Used for replying to a previous message
- Message body
  - 5 words at a time; punctuation is part of the word
  - Speak slow enough for the other person to copy
  - Pretend you are writing when you send; helps pace your sending speed



Message
21. Subject:
22. Reference: (e.g. number of earlier message)
23. Message: (KEEP MESSAGE BRIEF)

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Message Form – Operator Use

- For tracking how and by whom the message was handled (received or sent)
- Operator Name, Call Sign
- Date, Time (when you sent/received the message)
- Relay - covered in the Message Passing Class

Radio Operator Only:				(Underlined=Required)
Relay:	Rcvd:	Sent:		
Name:	Call Sign:	Date:	Time:	

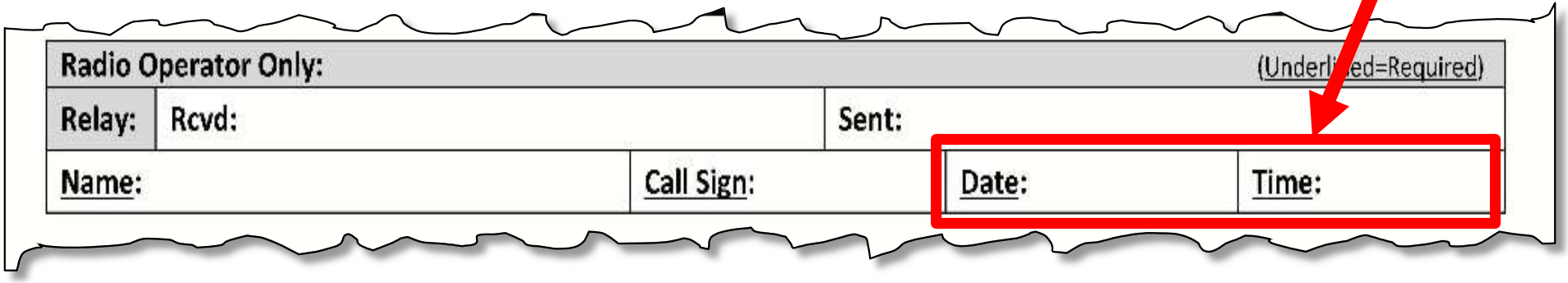
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Message Form – Date and Time use



Date and time the originator filled out the message form

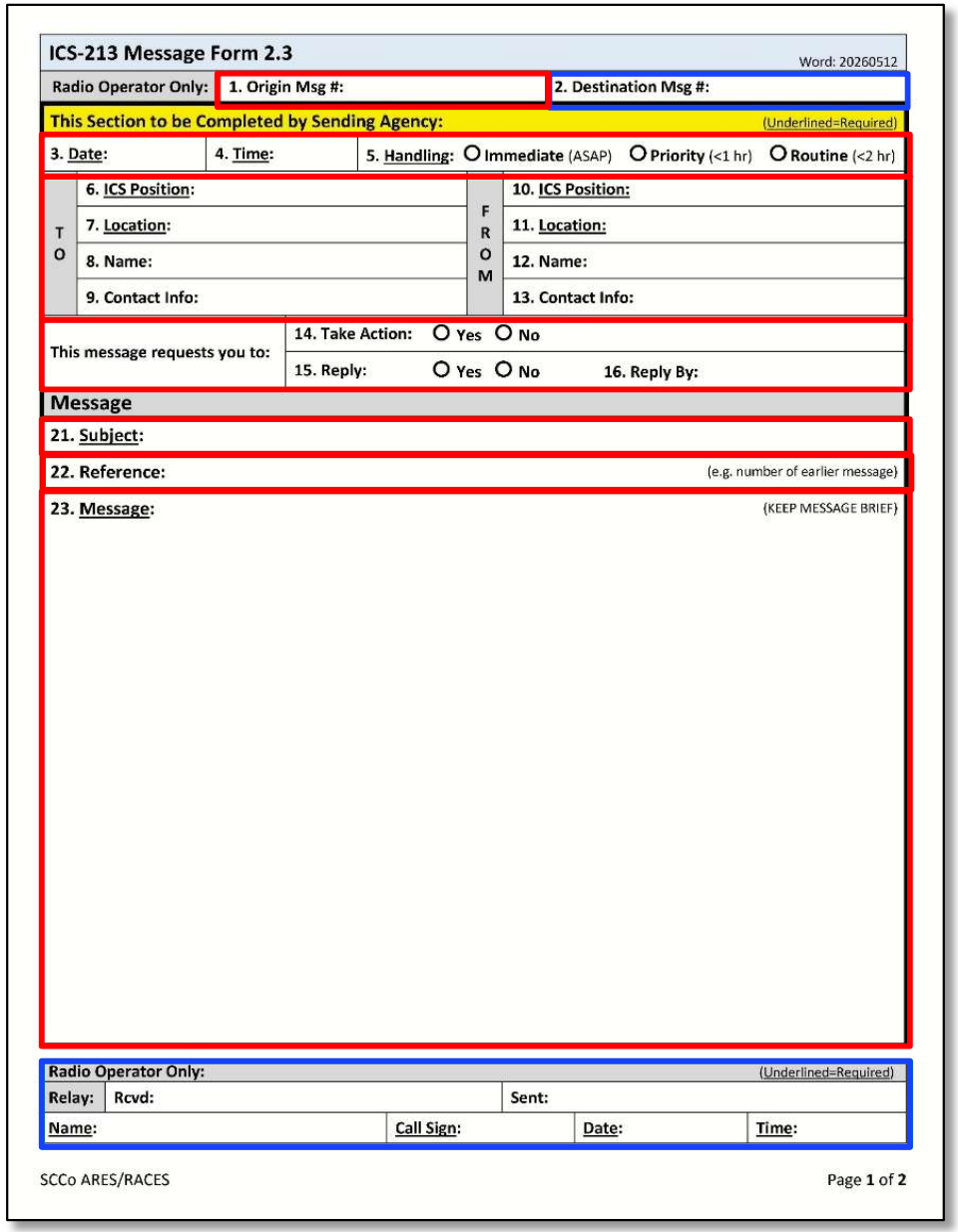
Date and time the message was actually sent or received



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Recommended Transmission Process

- Sender
  - ✓ Message #, Date, Time, Handling (wait for ACK)
  - ✓ To, From (wait for ACK)
  - ✓ Take Action, Reply
  - ✓ Subject (wait for ACK)
  - ✓ Reference (if any) (wait for ACK)
  - ✓ Message - 5 words at a time (wait for ACK)
  - ✓ Say “End of message”
- Receiver
  - ✓ ACK followed by their (receiver’s) message #
  - ✓ “This is <call sign>”
  - ✓ Fill in Operator Info
- Sender
  - ✓ ACK Msg # / Fill in receiver’s message #
  - ✓ “This is <call sign>”
  - ✓ Fill in Operator Info



ICS-213 Message Form 2.3

Word: 20260512

Radio Operator Only: 1. Origin Msg #: 2. Destination Msg #:

This Section to be Completed by Sending Agency: (Underlined=Required)

3. Date: 4. Time: 5. Handling: O Immediate (ASAP) O Priority (<1 hr) O Routine (<2 hr)

TO	FROM
6. ICS Position:	10. ICS Position:
7. Location:	11. Location:
8. Name:	12. Name:
9. Contact Info:	13. Contact Info:

This message requests you to: 14. Take Action: O Yes O No

15. Reply: O Yes O No 16. Reply By:

Message

21. Subject:

22. Reference: (e.g. number of earlier message)

23. Message: (KEEP MESSAGE BRIEF)

Radio Operator Only: (Underlined=Required)

Relay:	Rcvd:	Sent:	
Name:	Call Sign:	Date:	Time:

SCCo ARES/RACES Page 1 of 2

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Sending to More Than One Station

- Announce message
  - "All Stations, All Stations, Stand by to copy one routine ICS-213 message"
- Pick a pacing station
  - "Mountain View, will you be my pacing station?"
  - "Mountain View acknowledges"
- Send message as normal
  - Pacing station provides acknowledgements during message transfer
- Ask for acknowledgements from other stations
  - "I will now poll all stations for acknowledgements. When I call you, respond with your message number or request a fill."
  - "Los Altos" ….
  - Gives stations an opportunity to ask for "fills" or repeats
  - Confirms which stations received the message

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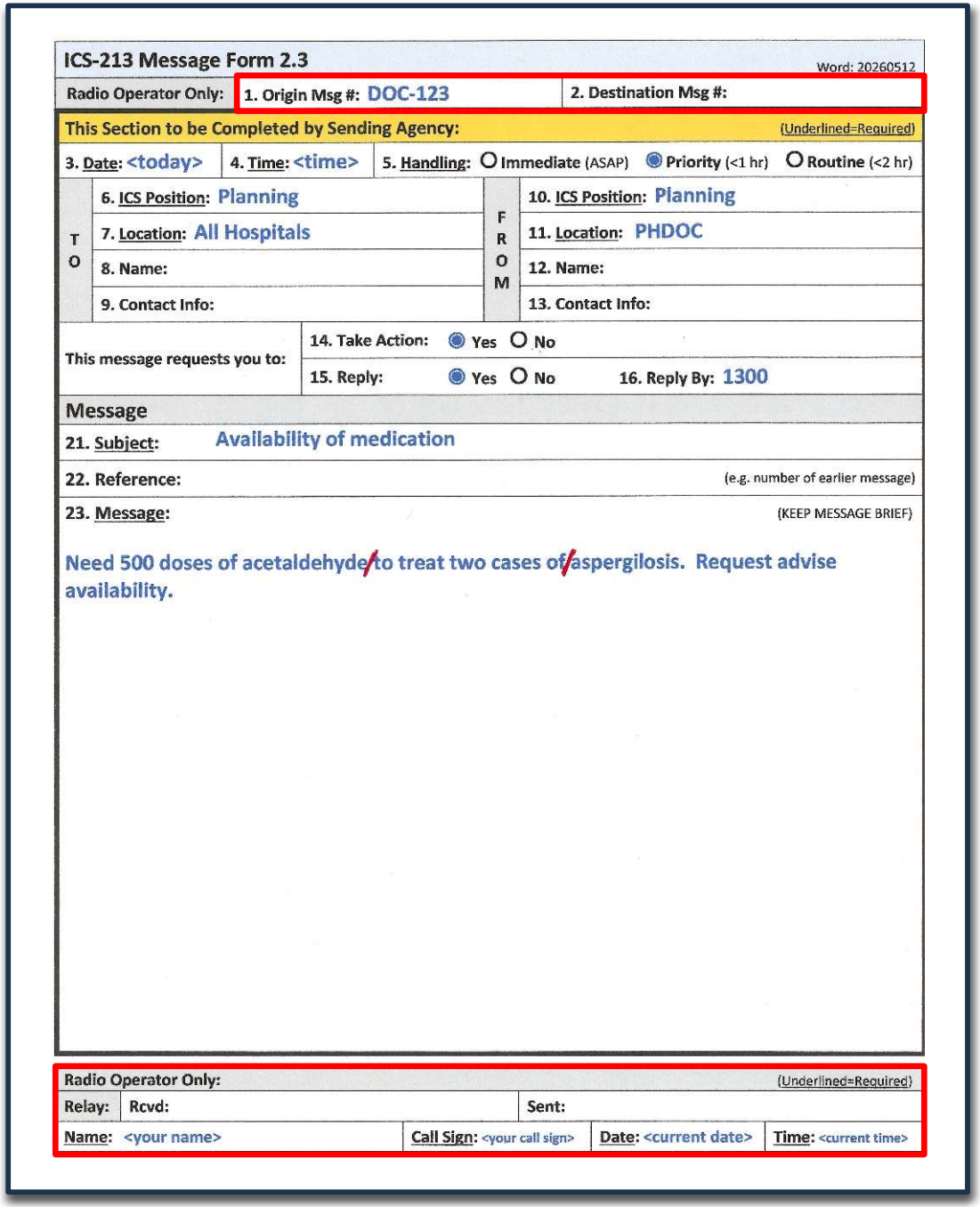
Example Message

- Everyone will need a 213 Message Form
- I will send a message to all stations using a pacing station
- The pacing station will acknowledge or ask for fills.
  - The receiving station does **not** read back the message
- Everyone will copy the message
- After the end, NC will ask several students for fills as an example.
  - Be sure to use the proper Prowords!
- We'll compare at the end

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How'd You Do?

- Should look like →
- Is it EXACTLY correct?
- Complex spelling
- / used for 5 word breaks
- Heterographs
  - "to" vs. "too" vs. "two"
  - "for" vs. "four" vs "fore"
  - "ate" vs. "eight"
- Did you fill in the Radio Operator Only Fields?
  - Message numbers
  - Operator Name
  - Operator Call sign
  - Date
  - Time



ICS-213 Message Form 2.3 Word: 20260512

Radio Operator Only:	1. Origin Msg #: DOC-123	2. Destination Msg #:

This Section to be Completed by Sending Agency: (Underlined=Required)

3. Date: <today>	4. Time: <time>	5. Handling: ○ Immediate (ASAP) ◉ Priority (<1 hr) ○ Routine (<2 hr)

TO		FROM	
	6. ICS Position: Planning		10. ICS Position: Planning
	7. Location: All Hospitals		11. Location: PHDOC
	8. Name:		12. Name:
	9. Contact Info:		13. Contact Info:

This message requests you to:	14. Take Action: ◉ Yes ○ No	
	15. Reply: ◉ Yes ○ No	16. Reply By: 1300

Message

21. Subject: Availability of medication

22. Reference: (e.g. number of earlier message)

23. Message: (KEEP MESSAGE BRIEF)

Need 500 doses of acetaldehyde/to treat two cases of/aspergilosis. Request advise availability.

Radio Operator Only: (Underlined=Required)

Relay:	Rcvd:	Sent:	
Name: <your name>	Call Sign: <your call sign>	Date: <current date>	Time: <current time>

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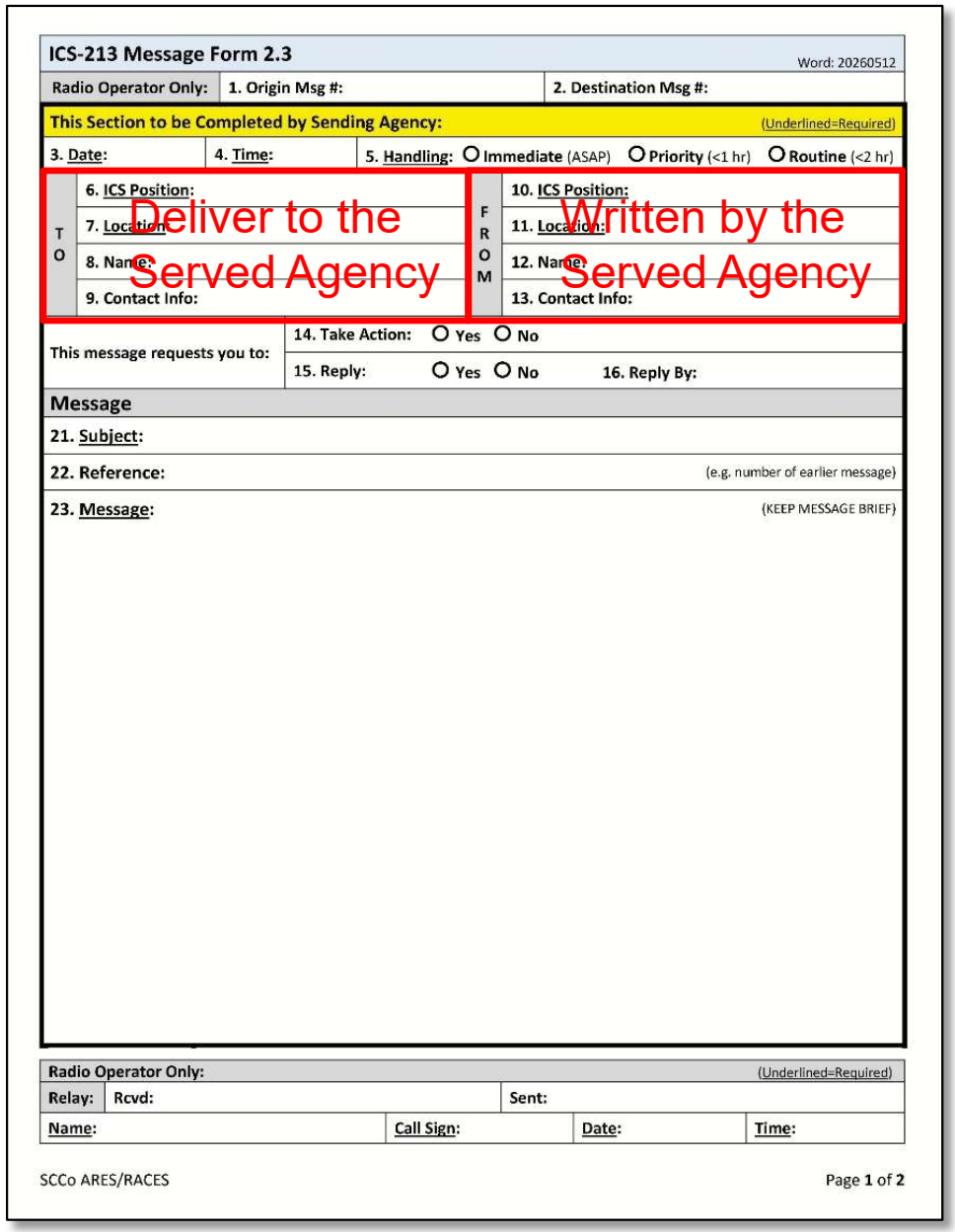
Get it Right!

- Our task is to effectively transfer message traffic
  - Priority ONE is to get the message through accurately
  - Priority two is to do so as quickly and efficiently as possible
- We don't alter the message; we send it as written
- If we don't get that right, there's no point in us being there
- Get it right – the first time, every time
- Training Opportunities
  - 3 Hour Message Passing Class – twice each year
  - Message Passing Practice Training Net – Quarterly on 3rd Tuesday, 2030
    On the Resource Net Repeaters – ~~AA6BT~~, K6SNY, W6ASH
- Remember:
  - "For want of a letter, a word was lost.
    For want of a word, the message was lost.
    For want of a message, a life was lost."

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We are not message authors

- Your role is to send/receive messages on behalf of our served agencies
- We receive messages over the radio and give them to the served agency staff.
- The served agency staff creates messages that we send for them.
- We DO NOT create 3rd party messages, even during drills.
- Operator-to-operator messages such as check-ins, H&W checks, etc. are between operators.



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Recommended ICS Training

- You now have exposure to the basics of emergency communications in Santa Clara County; but there's much more!
- During an emergency activation and exercises the professionals utilize the Incident Command System (ICS)
- Most served agencies that we work with require ICS training for volunteers. FEMA requires it for agency reimbursement.
- These introductory courses into ICS can be taken on-line at your own pace.
  - IS-100
  - IS-200
  - IS-700

} **https://training.fema.gov/is/crslist.aspx**

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Recommended Training

- To be effective, you'll need training and some experience in each of the specific functional areas: Field Operations, Net Control, Packet, and Shadow.
- Santa Clara County ARES/RACES offers a number of free classes
- Some courses are multi-part; attend the parts in order
- Courses are usually held on Saturday mornings
- Some courses have prerequisites, check them before signing up
- Drills and public service events occur throughout the year
- Sign up at: https://www.scc-ares-races.org/activities
- Hope to see you there

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Role Specific Courses

- **Field Operations**
  - Field Operations - Type III, Part A
  - Field Operations - Type III, Part B and Type II
- **Net Control**
  - Net Control - Type III, Part A
  - Net Control - Type III, Part B
  - Net Control - Type II
- **Packet Operations**
  - Packet Operations - Type III, Part A
  - Packet Operations - Type III, Part B and Type 2
- **Shadow Communicator**
  - Shadowing

Other Courses

- Message Passing
- Cross-band Repeating *
- Antenna Fundamentals and Safety *
- Event Planning – Type I
- County EOC Radio Room Operator
- County EOC SHARES HF Orientation
- County EOC RACES Unit Leader

Basic
Advanced
Specialized but not difficult

* Has some basic elements but also some more advanced concepts

Year End Review - Offered in December each year to review the significant changes made to any class or procedures during the year. Does not replace the need to attend other courses.

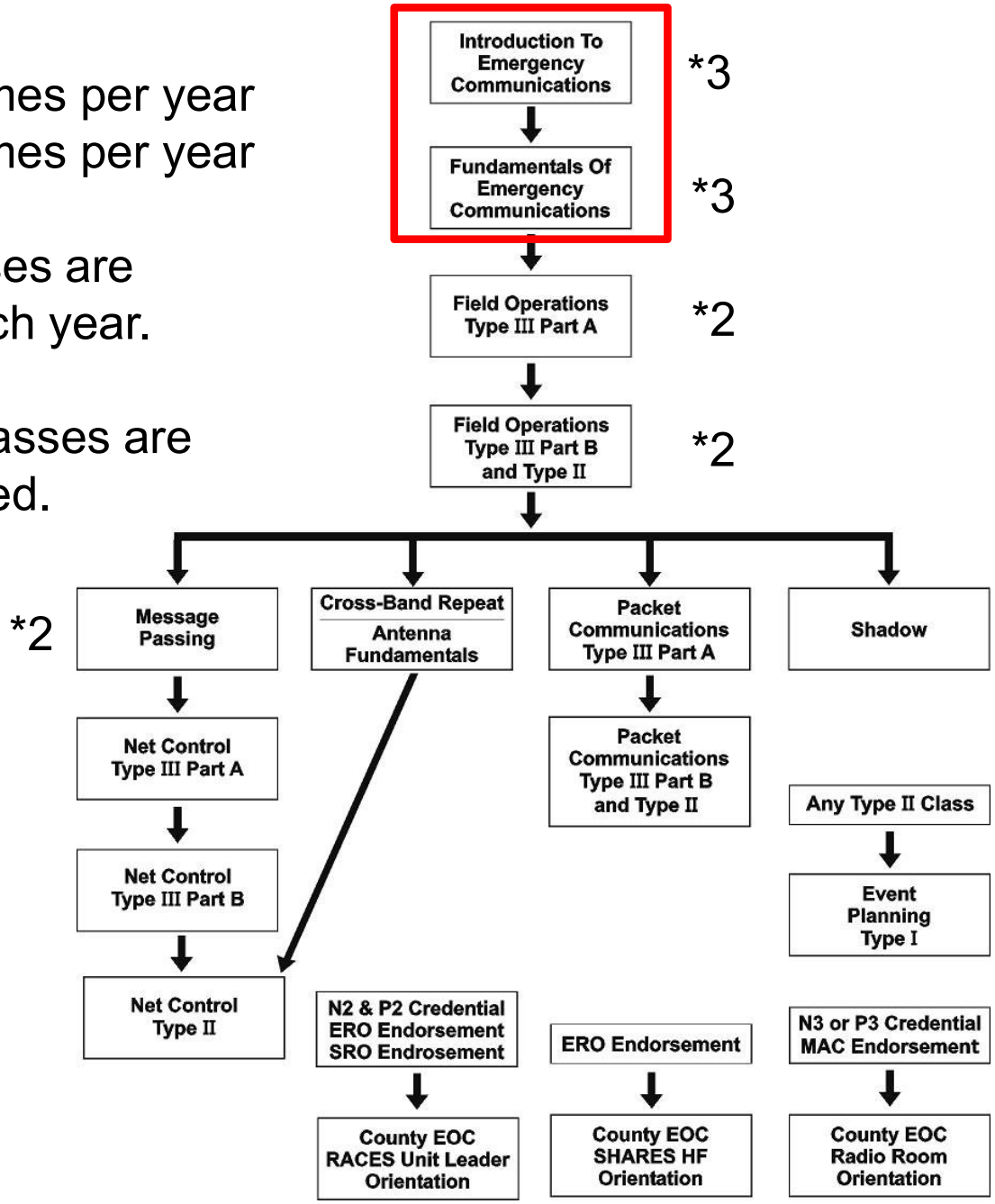
https://www.scc-ares-races.org/training

Training Progression / Prerequisites

*3 - Offered 3 times per year
*2 - Offered 2 times per year

Most other classes are offered once each year.

Endorsement classes are offered as needed.



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Credentials:

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

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

Credential Types

- **Type I (Specialist)** - Capable of the most critical and complicated assignments. Capable of planning, designing, deploying and operating complex multi-radio, multi-antenna equipment configurations for larger events or incidents.
- **Type II (Advanced)** - Capable of more difficult assignments, higher message traffic assignments, requiring more equipment and more complicated configurations, operations and troubleshooting.
- **Type III (Independent)** - Capable of fully independent operation, without coaching or assistance, in the qualified skill area (Field Ops, Net Control, Packet, & Shadowing).
- **Type IV Communicator (Basic)** – Understands the basics, can be assigned to simple assignments.

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Earning a Credential – 5 steps

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

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

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Credential Timelines



- Progress at your own pace
- Most people will be able to achieve the following
  - First year: Type IV
  - Second year: At least one Type III
  - Third year: Another Type III and/or Type II
  - Fourth year: Another Type III and/or Type II and/or Type I
- In fact, many ***active*** amateur radio operators will be able to do this much faster if they desire.

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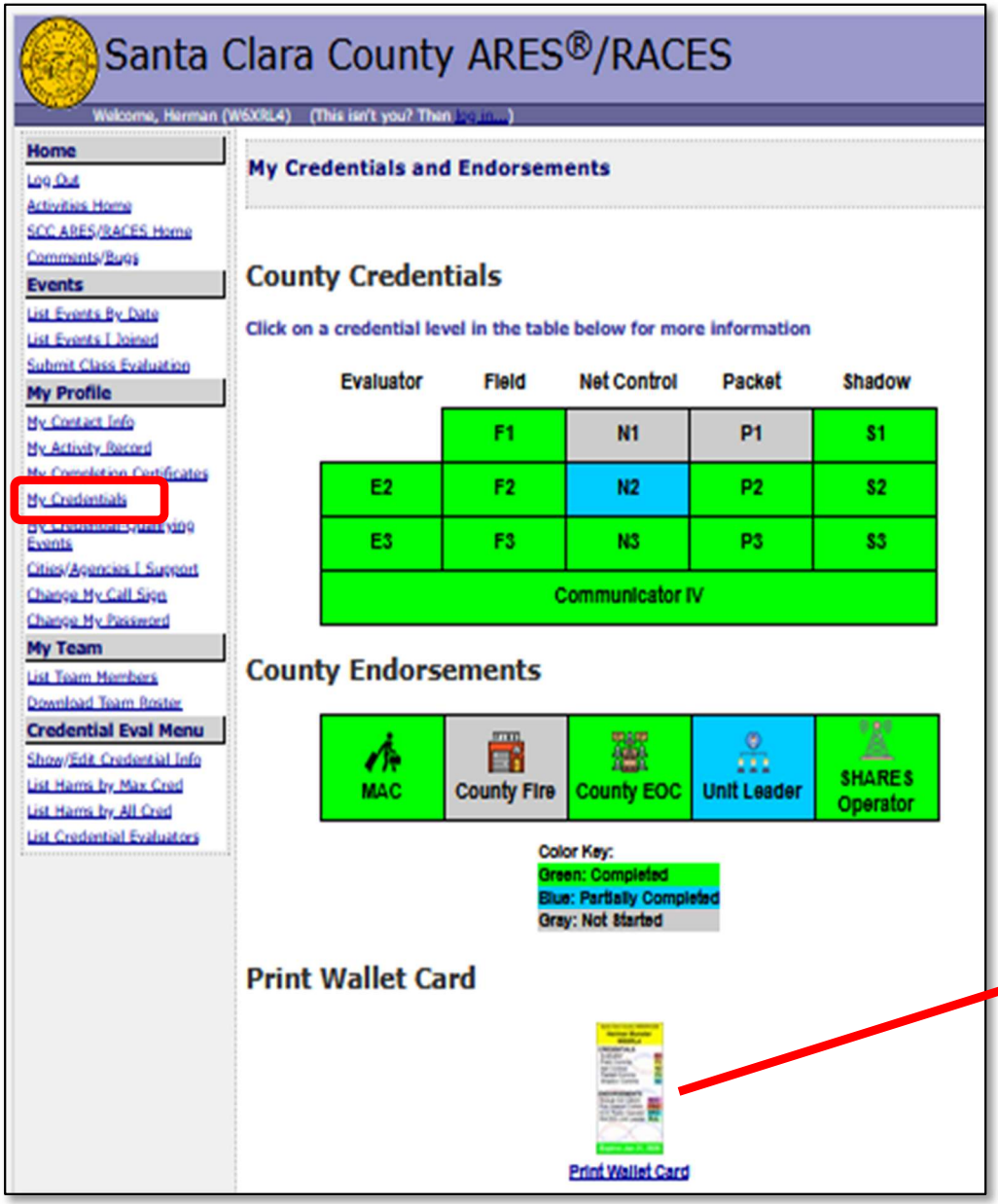
Mutual Aid Communicator (MAC) Endorsement



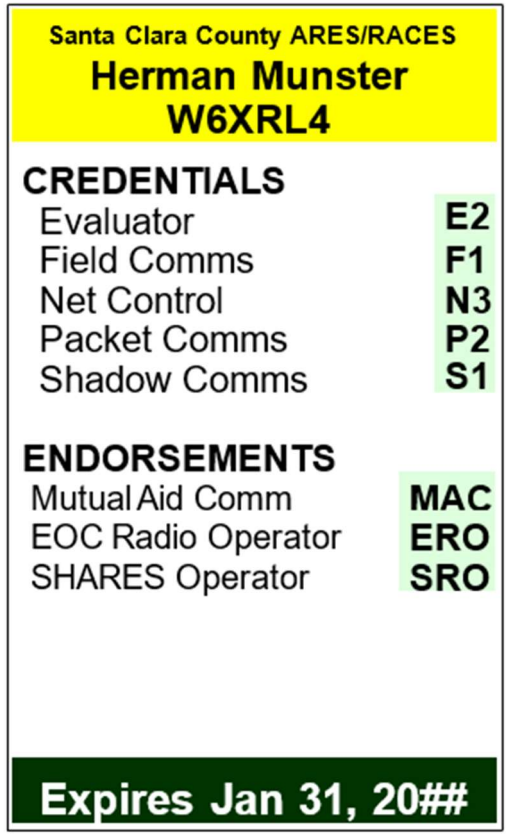
- An amateur radio operator that meets minimum requirements and is willing to help outside own city/agency when needed
  - Only called upon when not needed within own city/agency
- Must have at least a Type IV Credential:
  - Administrative: age, amateur radio license, transportation, …
  - Training: ICS, “Intro to EmComm”, “Fundamentals of EmComm”, …
  - Experience: minimum number of nets, approved drills and public service events
  - Equipment: standard SCCo ARES/RACES go kit
  - Skill: demonstrated capability, commitment to excellence
  - Requires County DSW registration and a background check.
- Encouraged to earn role-specific credentials (Type III, II, I)

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“My Credentials” (Personal achievement record)



You must be logged into the Training and Events database to see your credential records.



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Thank you for participating in ARES/RACES

- You are an ambassador to the public for SCCo ARES/RACES. How you perform reflects on all amateur radio operators.
- **Your Responsibilities before an event**
  - Learn your radio and other equipment.
  - Please 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 served agency in benefit to the public for real and public service events.

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Your To Do List (so far)



- Become familiar with: https://www.scc-ares-races.org
- County and City DSW registration
- Inform family of Workers' Comp provisions
- Learn the nets and their usage
- Obtain Frequency lists (county, city); program your radio
- Prepare Go Kit, Review Performance Standards
- Learn mobilization, tracking, demobilization procedures
- Learn and use the ICS-214 Unit Activity Log
- Learn Phonetics and Prowords
- Practice using the ICS 213 Message form
- Continued training, drills, public service events
- Work on earning your Type IV Credential
- Consider earning more Credentials and the MAC endorsement

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Join SCCo Discussion Groups

To Join:

- Visit the Announce group web page:
  https://scc-ares-races.groups.io/g/announce
- Follow the instructions listed under "To Join This Group“
- Reply to the follow-up message with your details

Purpose:

The main group is only used for announcements that are relevant to all SCCo ARES/RACES members. The actual group discussions take place in various sub-groups listed in the sub-groups menu.

All Santa Clara County ARES/RACES members are encouraged to join at least the main/Announce group to stay informed of major activities and events.

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Join SCCo Discussion Groups

Some of the Subgroups:

Credential	Announcements and discussion related to the Santa Clara County ARES/RACES Credentialing Program.
Equipment	Discussion of and mutual user support for equipment used for Santa Clara County ARES/RACES activities.
MAC	Announcements and discussion related to the Santa Clara County ARES/RACES Mutual Aid Communicator (MAC) Endorsement.
Training	Discussion of any SCCo ARES/RACES training topic, including exercises and on-air practice. This group is moderated to help ensure that answers are correct. Questions posed will normally be answered by the instructor for that subject area.

For a complete list see:
https://www.scc-ares-races.org/about/email-lists

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Summary



- You should now be able to
  - Describe the Disaster Service Worker program, including your responsibilities as a participant
  - Describe the purpose and appropriate usage of the main Santa Clara County ARES/RACES nets
  - Properly submit a Mike-Mike report
  - Describe and execute the proper procedures for mobilization, tracking, and demobilization, including the use of the Resource Net
  - Utilize an ICS-205 to program your radio
  - Properly complete an ICS 214 Unit Activity Log form
  - Properly complete an ICS 213 Message Form

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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

C) COMPLETE THE CLASS EVALUATION

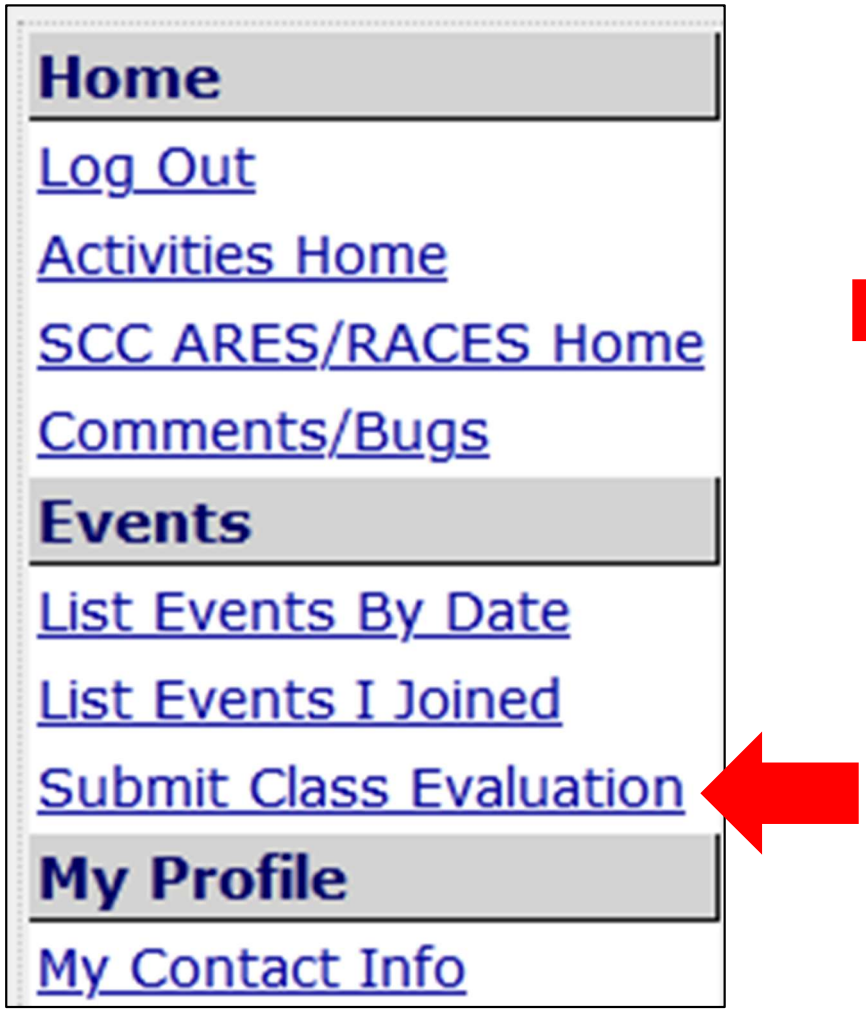
IF YOU DO THESE, YOU WILL GET CREDIT FOR THE COURSE.

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Online Class Evaluation

CLASS EVALUATION MUST BE SUBMITTED WITH 7 DAYS TO GET CLASS CREDIT

Activities Database



Website Home Page



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Recommended Next Training

Field Operations Type 3 Part A - January 9th
Sheriff's Office

Field Operations Type 3 Part B & Type 2 - January 23rd
Sheriff's Office

Message Passing – February 6th
Sunnyvale DPS

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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.

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