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## **2015 Year End Summary**

**Updates and Review** 



#### Santa Clara County ARES®/RACES

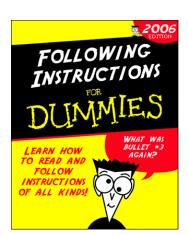
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## Housekeeping

- Refreshments
- Pen/pencil & paper
- Cell phones & pagers
- Side conversations
- Questions
- Breaks
- Restrooms
- In case of emergency

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## Agenda

- An update on changes that have occurred during the past year, plus a review of some key procedures.
- Topics covered:
  - Packet
  - Data Network Infrastructure
  - Net Control
  - Audio Excerpts
  - Forms Review
  - Mesh / Wi-Fi Review
  - Training Updates

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## **Packet Review**

2015 Year End Summary



Santa Clara County ARES®/RACES

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## FCC/User/Personal vs Tactical Calls

- FCC/User/Legal Call Sign
  - Identifies a single person as an operator
  - Follows the person
  - Independent of assignment, function, etc.
  - Used for check-in, check-out, personal requests
- In contrast, a Tactical Call identifies a location or function...

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### FCC/User/Personal vs Tactical Calls

- Tactical Call Sign
  - Identifies a function or location
    - · Shelter, fire station, EOC, Staging
  - Does not change when the operator changes
  - Used for activities of the location/function
  - Six characters long
    - Three letter prefix unique to the Served Agency
    - Three character suffix unique to the location
- Examples for Xanadu Drill City
  - XNDEOC XND001 XNDEV2

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Outpost Shows Which Call Sign is Used \_ | X FCC Call: Open Archive Delete Print Send/Receive Profile: Packet Class Student Only the In Tray call sign is U Type From BBS Local ID W5XSC-1 shown XND-2039 010-103P: Opera ▼ W5XSC-1 ag6sr@... xndeoc... W6XLR4)-XSC\_W5XSC-1 -- TELNET JNOS, W5XSC 110 Items, 430 Tota 00:00:00 11:40:42 \_UX Tactical Call: Open Archive Delete Print Send/Receive Profile: Packet Class Student "... as XXXXXX" U Type From Local ID W5XSC-1 XND-2039 110 Items, 430 Total W6XLR4 as XND099 XSC\_W5XSC-1 -- TELNET JNOS, W5XSC 00:00:00 11:40:10 © Copyright 2011-15 Santa Clara County ARES®/RACES. All rights reserved

12/10/2015

### Manual Login with Tactical Call

- Call sign of TNC determines call sign that BBS sees for login/connect
  - TNC:
    - CMD: MYCALL W6XRL4
    - CMD: CONNECT W5XSC-1
  - W5XSC BBS: connects user and places in W6XRL4 mailbox
- To login manually (no Outpost) with a tactical call such as XNDEOC:
  - TNC:
    - CMD: MYCALL XNDEOC
    - CMD: CONNECT W5XSC-1
  - W5XSC BBS: connects user and places in XNDEOC mailbox

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### Manual Login with Tactical Call - ID

- Need to ID every 10 minutes and at end of session. On TNC:
  - Disconnect from BBS
  - In command mode, type
  - − CMD: CONVerse ← Enters converse mode; whatever is typed is sent out

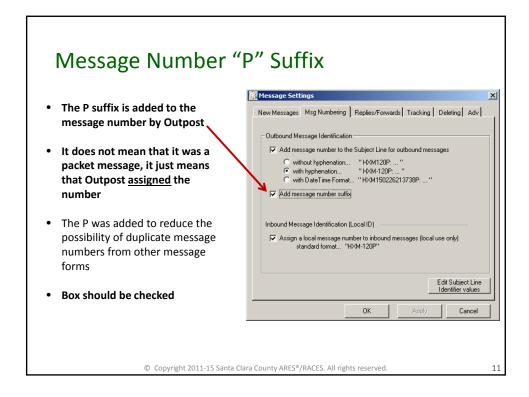
```
FCC ID = W6XRL4; Tactical Call = XNDEOC

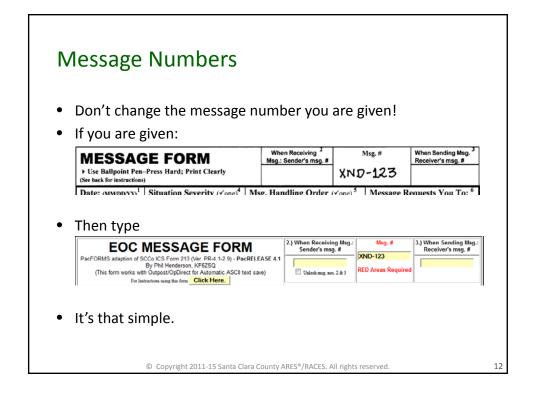
<CTRL-C> ← Returns to command mode

CMD:
```

At end of session, switch MYCALL back to normal: *CMD*: MYCALL W6XRL4

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### **PACKET OPERATIONS**

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## **Packet Operator Field Activities Summary**

- Mobilize to Assignment Location
  - Use FCC call for communications
- Execute During Operational Period
  - Use Tactical Call for location message
  - Use FCC call for personal messages
- Demobilize and return home
  - Use FCC call for communications

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### Mobilize To Assignment

- Upon arrival at the site
  - Sign in on ICS 211 Check In List
  - Check in with site supervisor
  - Update your 214
- Get briefing from previous operator
- Assess packet equipment
  - Radio settings and connections
  - TNC settings
- Check in to assigned voice net

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## Prepare/Check Outpost

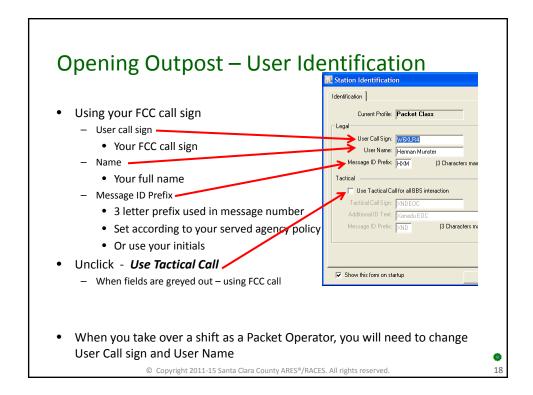
- · Check Outpost settings before transmitting
  - Correct BBS
  - Frequency
  - TNC settings
- If emergency, remove "xsctest" from bulletin list
- If needed, set up your User Identification with your Tactical
   Call for the Served Agency check in message

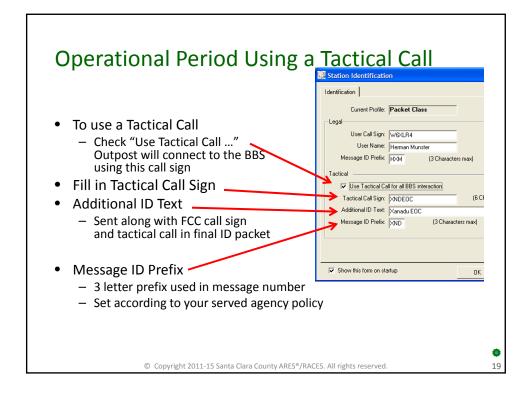
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### Served Agency Check In Message

- Begin the Operational Period with a packet check in message to the Served Agency
- Send a text message using your assigned (Tactical or FCC) call sign with the following information
  - Name and Call of Packet Operator
  - Name and Tactical call of Packet Station, if used
  - Time the packet station was operational
- Update personal 214
- Do a "Send/Receive" to get any pending messages and bulletins
- · Begin operations

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### **During Operational Period**

- Send, receive, process packet messages
- Check for new bulletins and follow any new instructions
- Maintain voice radio contact
- Maintain ICS 214 Unit Log
- If prolonged period of inactivity (30+ minutes)
  - Perform a "Send/Receive" operation to verify connection with BBS
  - Message not needed
- Report any problems as instructed
  - Site supervisor
  - Voice net

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#### Demobilization

- Send a text message to the Served Agency using your assigned (Tactical or FCC) call sign
  - Name and Call of Packet Operator
  - Name/Tactical call of Packet Station, if used
  - Time the packet station is assigned to a new operator

Or

- Time the packet station is being deactivated
- Brief the incoming operator
- Paperwork!
- Check out with site supervisor
- Sign out on the Site ICS 211
- Update your ICS 214

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# NETWORK INFRASTRUCTURE IMPROVEMENTS

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### Key Focus in 2015

- Backbone redundancy, prep for higher speed access
  - Each site to have at least two high-speed (n \* 10 Mbps) links
  - Upgraded link between W2XSC and W4XSC (80 Mbps)
  - ½ competed new link between W2XSC and W1XSC
  - Still looking for new site in NW part of county for W3XSC
- Hardened backbone sites
  - Improved routing infrastructure
  - Improved UPS runtime in the event of a generator failure
    - Result: 6+ hours of battery runtime at Crystal Peak
    - Frazier Peak is next
  - Improved remote sensor infrastructure

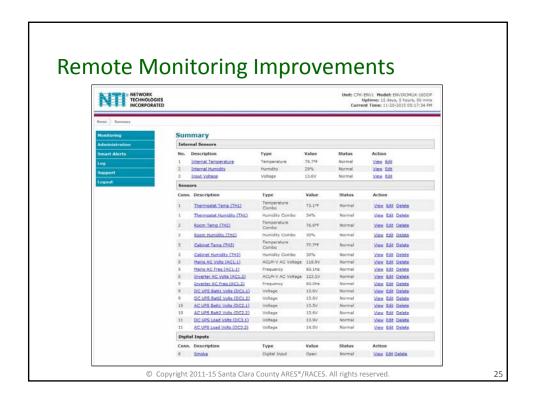
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## UPS Runtime Improvements (6+ hours!)



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## **Net Control Review**

2015 Year End Summary



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## **Relief Briefings**



- All defined in the "Performance Standards and Best Practices"
  - Assignment, activation number
  - Served agency, person in charge, how recognized
  - Frequencies, tactical calls, locations, contact numbers
  - Who to contact regularly
  - Radio, power supply, antenna information
  - Nearest telephone: location and number, how to dial out
  - Location of toilet, water, food, first aid, and other supplies
  - Summary of previous operational period
  - Current status of: people, resources, incident
  - Pending issues for next operational period
  - Introduce replacement to rest of team

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### Local Net Transfer/Handing-off



- For local hand-off with single net control operator
  - Relief operator can work as scribe briefly, just prior to hand-off
- For local hand-off with net control & scribe team
  - Replacement arrives early, familiarizes self with location
  - Replacement receives briefing from shift supervisor
  - Net Control runs net solo while scribe briefs replacement with details
  - Scribe catches up on anything missed
  - Net Control announces shift change, stand by for 30 seconds
  - Scribe slides into net control seat; replacement slides into scribe seat
    - Replacement → Scribe → Net Control → Break
  - Announce that net is resumed

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### Remote Net Transfer/Hand-off

- You may need to transfer a net to a remote net control
  - Initial resource net control transfer to EOC or event location
  - Hand off to a more experienced net control operator
  - Evacuation of net control location
- Information to transfer
  - Current status of all who are checked into net
    - Resource Net transfer involves current en route status information
  - Any other instructions as may be necessary; see relief briefing list
- Key points
  - Priority One: Maximize accuracy; losing someone is not an option!
  - Priority Two: Minimize transfer time
  - Always use good communications techniques: 5 words at a time;
     proper pro-words; pause before speaking; eliminate need for repeats

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#### Procedure for Transfer of Net

NC1 = Current Net Control

NC2 = Replacement Net Control

Who	What					
NC2	Announces presence; ready for net control transfer					
NC1	Acknowledge; announce start of H&W requests NC2 to acknowledge each response with a tactical call such as "net2" (or similar)					
NC1	Calls each person, one at a time, phonetically					
Individuals	Respond as usual (for resource net: street location, odometer, call sign)					
NC2	"acknowledged, net2" or "roger, net2"; or "say again"					
NC1	Acknowledges; repeats process for rest of people on net					
NC1	Fills in NC2 on any other pending issues; asks if ready to take net					
NC2	Acknowledges all info; confirms ready					
NC1	Announces transfer of net					
NC2	Announces self as net control					

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### Exercise: Transfer of Level 3 Resource Net

- Need 5 volunteers
  - Net control 1
  - Net control 2
  - Scribe for net control 2 (optional)
  - Traveler 1
  - Traveler 2
- Before you start:
  - Net Control 1: write down traveler call signs
  - Travelers: make up a street location and odometer reading
- Follow the script ...
  - "<...>" indicates where you substitute your actual information
  - Example: <NC2 call sign> means you say Net Control 2's call sign
  - Net Control 2: fill in ICS-309 as you go
  - Scribe for NCO2: fill in Travel Tracking Form as you go

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Exercise: Transfer of Level 3 Resource Net							
Who	What						
NC2	Net control, this is <nc2 call="" sign="">, ready for net control transfer</nc2>						
NC1	<nc2 call="" sign=""> roger; Break; I will now conduct a H&amp;W check; when I call you, respond with street location, odometer and your call sign; <nc2 call="" sign=""> I want you to acknowledge each response as tactical call "net2"</nc2></nc2>						
NC2	Roger, net2						
NC1	<traveler 1="" call="" phonetically="" sign="" spelled="">, health and welfare</traveler>						
Traveler 1	<respond call="" location,="" odometer,="" sign="" street="" with="" your=""></respond>						
NC2	Roger, net2						
NC1	Acknowledged. <traveler 2="" call="" phonetically="" sign="" spelled=""></traveler>						
Traveler 2	<respond call="" location,="" odometer,="" sign="" street="" with=""></respond>						
NC2	Say again odometer						
Traveler 2	<respond odometer="" with=""></respond>						
NC2	Roger, net2						
NC1	Health and welfare check complete						
Continued or	next page						
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Exercise: Transfer of Level 3 Resource Net							
Who	What						
NC1	Net2 did you need any other fills?						
NC2	Negative						
NC1	O.K. Additional information follows: You need to contact Jenny at 867-5309 to unlink the repeaters after you close the net.						
NC2	Acknowledged.						
NC1	Are you ready to take the net?						
NC2	Affirmative.						
NC1	This is <nc1 call="" sign=""> turning over net control to <nc2 call="" sign="">; <nc1 call="" sign=""> clear.</nc1></nc2></nc1>						
NC2	This is <nc2 call="" sign="">, net control for the Santa Clara County Resource Net. This is a directed net</nc2>						
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## Performance Review

2015 Year End Summary



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Note: Examples from actual nets and ICS forms will be used to illustrate areas that we all need to work on.

Thought you said you could handle constructive criticism...



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## On-Air Performance Review

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#### Instructions

- · Listen to each recording
- Give a thumbs-up if it was properly done
- Give a thumbs-down if it could be improved
- Be ready to justify your opinion
- If it can be improved, how would you say it better?



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#### **Resource Net**

Net Control Instructions



Check-In







Check-Out







### Tactical Net – Dealing with Tactical Call Signs

Net Control ID



Tactical Call Sign Check-in/Assignment





Tactical Call Assignment Change









• Check-Out



## Tactical Net – Gathering Information

• NCO pre-announce info request, format



NCO instructions before gathering reports



• Info Reports











Health & Welfare

#### Tactical Net – Other Directed Net Activities

NCO Instructions



Directed Net



• Status Update











Temporarily Leave Net / Return

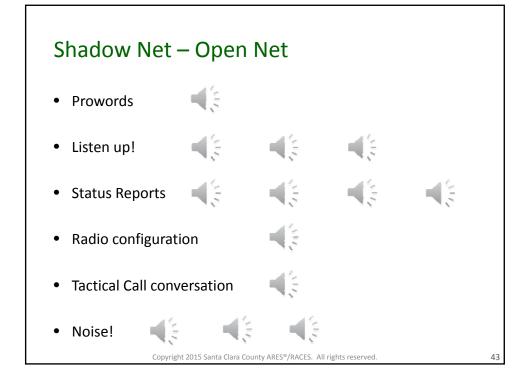




Ask/Receive Info



12/10/2015 2015 Year End Summary



## Hospital Net – Directed Net

- Message Handling Order
- Message Passing
- Dealing with interference
- Radio configuration





### **Key Points**

- Net control operators:
  - Define expected response format
  - Pre-announce upcoming information gathering, when possible
  - Give instructions that avoid doubles
- Net participants
  - Listen up and answer promptly when called
  - Answer in requested format -- no more, no less
  - When using tactical calls, call and answer using tactical call
- All
  - Attend training! Best performers had more training.
  - Know how to configure your radio; check configuration before using
  - Minimize the number of words (on-air time) used
  - Observe proper handling order at all times
  - Use proper prowords at all times
  - Be prepared for the environment: noise, heat, cold, rain, ...
  - The last thing you say should be your FCC call sign

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## **Forms Review**

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### ICS 214 – Unit Activity Log

- Our version: ICS 214-SCCo
- A record of all major activities and events
- EVERYONE fills out a 214
  - Individuals: a unit of one
  - Teams: Team leader
  - Start when you get assignment (home)
- Occasional message traffic?
  - Just log it right on the 214
- Use multiple pages if necessary
- Turn in to supervisor at end of shift
- Instructions on back
- Neatness counts



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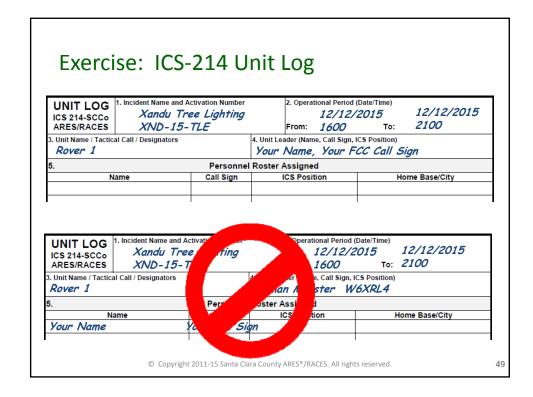
### Exercise: ICS-214 Unit Log

- Create an ICS-214 log for the following scenario in City of Xanadu (XND)
  - Incident is "Tree Lighting", activation number: XND-15-TLE
  - You are assigned a Tactical Call of "Rover 1"
  - The Event IC is Herman Munster W6XRL4
  - The event is scheduled for 1600 to 2100 hours today
  - You leave home at 1515 hours, mileage 123
  - You arrive at the staging location at 1545 hours, mileage 133
  - The event starts at 1600
  - Lots of activities take place during your 5 hour shift such as: H&W, shift change, breaks, messages, etc. (we won't log these for this exercise to save time)
  - You are released at 2105 and check out of staging

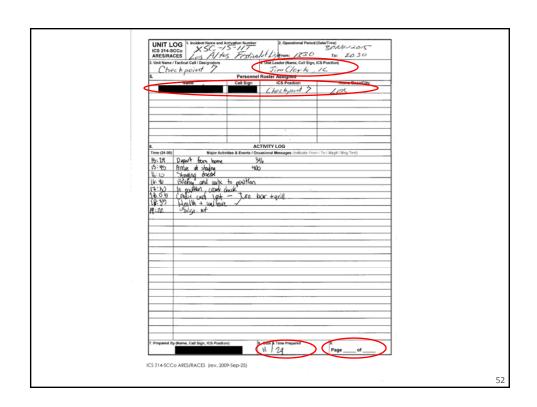
Your ICS-214 should be completed as you would submit it when checking out

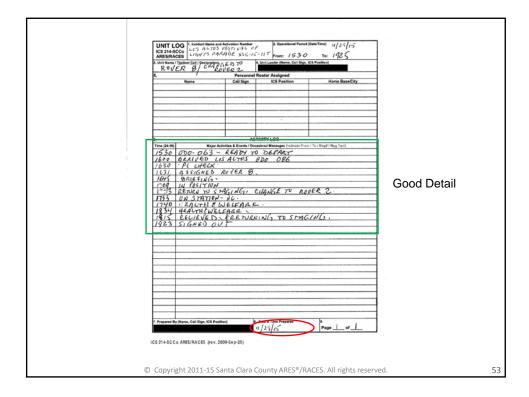


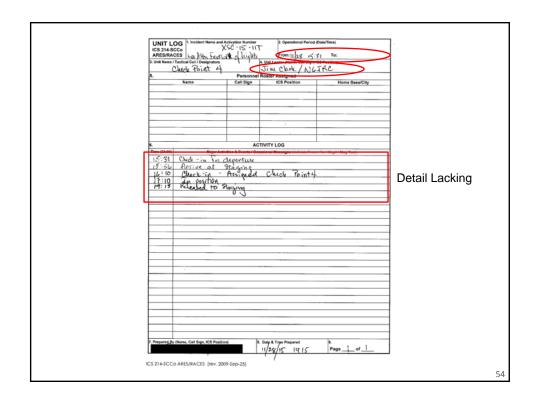
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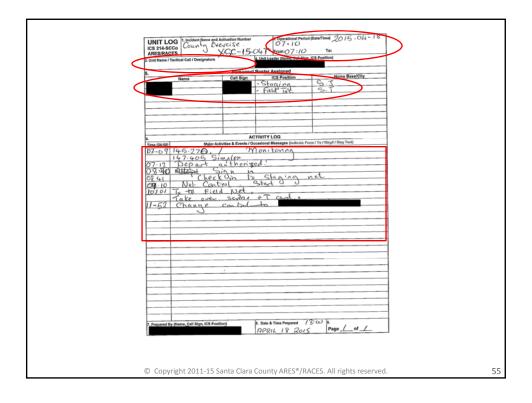


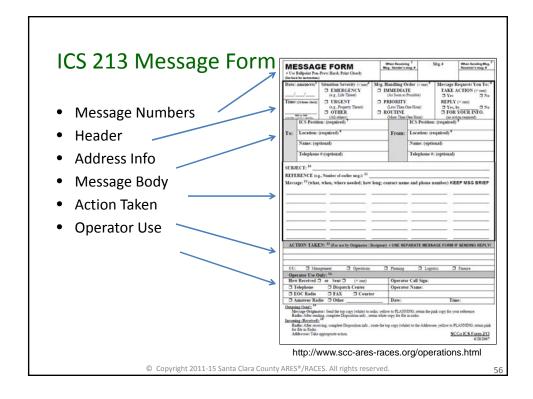
UNIT L ICS 214-S ARES/RA	14-SCCo Xandu Tree Lighting			2. Operational Period (Date/Time)  12/12/2015  12/12/2015  From: 1600  To: 2100					
. Unit Name . Rover .	/ Tactical Call / Des	ignators		eader (Name, Call Sign Name, Your I		Sign			
5.			sonnel Roster		_				
	Name	Call	Sign	ICS Position	H	lome Base/City			
i. Time (24:00)		Major Activities & Eve	ACTIVITY ents / Occasional I	Messages (Indicate Fro	m / To / Msg# /	Msg Text)			
(2)	Left Home, OD 123								
, ,	Left Home,	<i>OD 123</i>			Arrived at staging, OD 133				
1515 1545			?						
1515		staging, OD 133	3	Activi	v Detail	Horo			
1515 1545	Arrived at s	staging, OD 133	3	Activi	v Dotail	Horo			

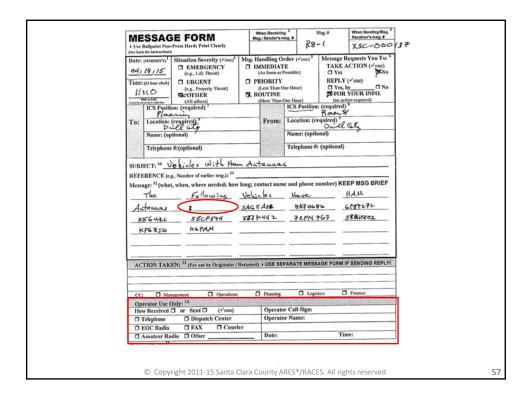


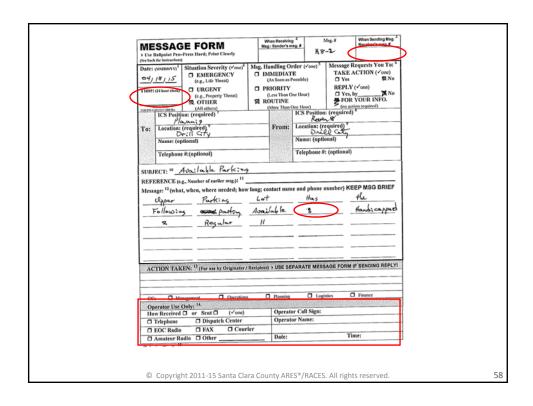


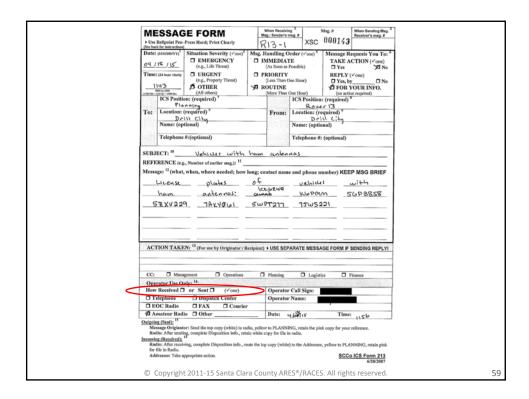


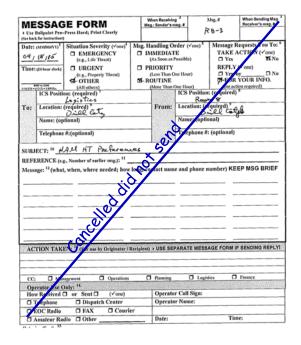












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### ICS 309 – Communications Log

- Our version: ICS 309-SCCo
- Net Control Operators and stations with high message traffic
- Columns help organize key message tracking info
- Does not replace 214
  - EVERYONE fills out a 214
- Turn in to supervisor at end of shift
- Instructions on back

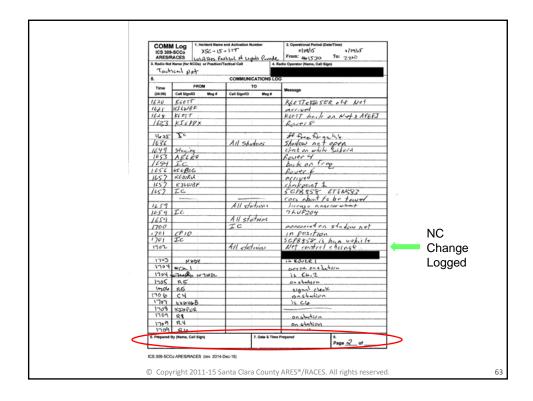


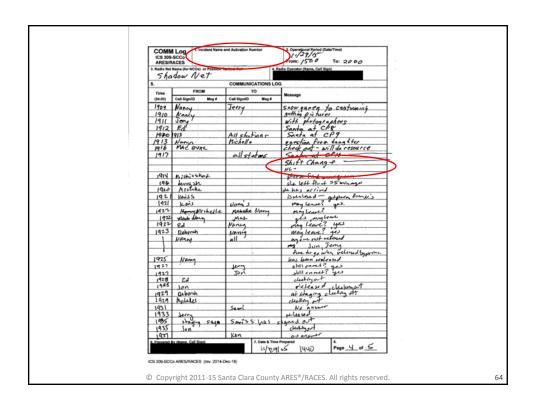
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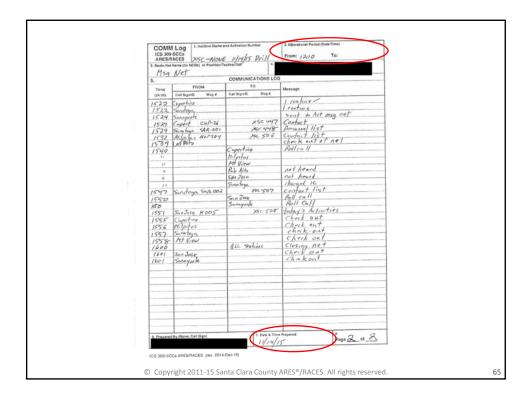
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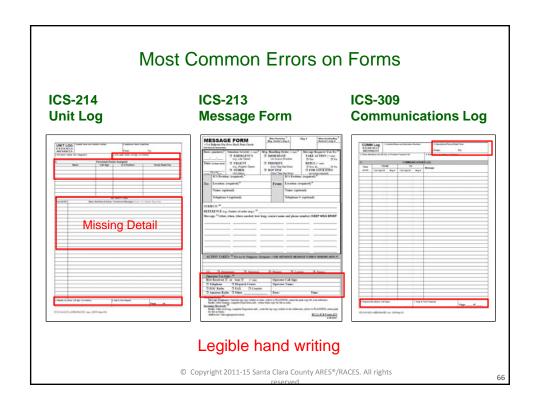
Exercise: ICS-309 Communications Log

ICS 309-SCCo Training ARES/RACES XND-14-					2. Operational Period (Date/Time) 12/13/2014 12/13/2014 From: 1100 To: 1400			
3. Radio Net Name (for NCOs) or Position/Tactical Call					4. Radio Operator (Name, Call Sign)			
Xana	adu Tacti	cal Net			Your name, your FCC call sign			
5.			COMMU	NICATION	S LOG			
Time	FROM TO			)	Message			
(24:00)	Call Sign/l	D Msg#	Call Sign/ID	Msg #	wessage			
1145					Start Net			
					Net Control = Your Name, <your call="" sign=""></your>			
					Scribe = Herman Munster, W6XLR4			
1155	Shelter	2 S2-013	EOC	XND-106	Bed count			
1210	KJ6HAN	1			check-in – assigned tactical = Shelter 1			
1220	KB6HAI	И			check-in – assigned tactical = Shelter 3			
1250	EOC	XND-107	Shelter 3	S3-1004	Inventory checklist			
1305	Shelter	1 S1-021	EOC	XND-108	Supply status			
1310		XND-109	All Shelters	3	Exercise complete Confirmation #s follow			
1311		u	Shelter 1	S1-022				
1312		u	Shelter 2	S2-014				
1313		"	Shelter 3	S3-1005				
1330					Net closed			
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### **END FORMS REVIEW**

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## Mesh / Wi-Fi

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### Mesh / Wi-Fi Review

- March 2015 Mesh / Wi-Fi Workshop with 33 participants
- Discussed
  - IP Networking basics
  - Discussed hardware available to use
  - VOIP phones
  - Power over Ethernet (POE)
  - Frequencies
  - Part 15 vs Part 97 considerations
  - Hands-on exercises



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### Mesh / Wi-Fi Review

- County Wide Drill April
  - One aspect of the exercise provided hands-on use of a Mesh Network
- Milpitas BBQ Festival May
  - 3 Ticket Booths with Mesh nodes, VOIP phones, and cameras
  - Command post with Asterisk PBX, VOIP Phones, video display
- Sunnyvale
  - Workshop: May and July 8 plus nodes, VOIP phones, Asterisk PBX
  - Field Day: June 4 nodes with cameras and VOIP phones
  - SNAP Graduation: October 2 nodes with phones, voicemail, 1 camera
  - Joint workshop with Cupertino: August

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## Mesh / Wi-Fi Review

- Cupertino SCC Sheriff's Heroes 5K Run November
  - 6 locations
  - Mesh nodes, VOIP phones, cameras, Asterisk PBX
- A Mesh / Wi-Fi workshop is scheduled for June 2016

Additional information: <a href="https://www.scc-ares-races.org/mesh/">www.scc-ares-races.org/mesh/</a>

SCC Mesh User Group: <a href="mailto:groups.yahoo.com/group/scc-mesh">groups.yahoo.com/group/scc-mesh</a>

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## **END MESH/WI-FI REVIEW**

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## **Training Plans 2016**

2015 Year End Summary



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## Training Plans For 2016

- Intro and Fundamentals Class offered 3 times each year
  - Maintain reasonable class size
  - Location 2 in Mtn. View and 1 in Sunnyvale
- Field Ops reduced to one class rather than two
  - Fundamentals Class is now a prerequisite
  - Much of the material from Fundamentals was duplicated in this class
- Planning class to be rewritten
  - More realistic examples and exercises
- Discussion about a Leadership Course/Workshop for ECs/AECs
  - Your ideas welcome

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### **END TRAINING UPDATES**

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## **Thank You!**

We look forward to seeing you again next year:
Classes, drills, events, ...