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**2023 Year End
Summary, Update,
Preview**

Santa Clara County ARES®/RACES
Revised: 03-Dec-2023

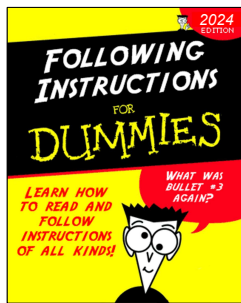
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Housekeeping

- Introductions
- Pen/pencil, paper
- Cell phones
- Side conversations
- Questions
- Breaks
- Restrooms
- Do not wander around the building
- In case of emergency
- After we end, please exit the room so we can do the DSW swearing in
- If you have previously signed up and are here for the DSW registration, please remain in this room.




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Agenda

- Credentialing
- Hospital Update
- Update Your Contact Info
- Packet Update
- Weekly Packet Practice
- 2023 Forms Review
- RF Safety Evaluations
- 2023/2024 Training




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Credentialing
Is Becoming The Norm In Emergency Management

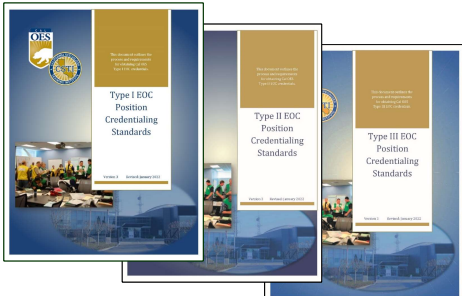


Santa Clara County ARES®/RACES
Tim Howard, KE6TIM
Revised: 29-Nov-2023

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State OES Credentialing
Most EOCs are credentialing their staff



As volunteers working with these professionals, we need to operate at the same level of competence.

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Credentialing

- We need to move from the attitude of *"I have a radio and know how to use the PTT button"*.
- We need to move to Credentialed operators that know how to provide 3rd party communications for our served agencies.
- This consists of using their forms, in their format, following their procedures, and at their locations.
- If we can't send the information they need, in the format they need, accurately and efficiently; then we are not part of the solution.

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Credentialing

- During Public Service events and drills it is obvious that Credentialed operators do a vastly superior job of communications overall.
- That is not to say the non-credentialed operators are bad, they are just not as accurate and efficient.
- Can you send these accurately and efficiently:
 - "The password is AVde4#3Qw"
 - "The address is www.domain.gov/New_supplylist23A"
 - Any form with some filled in and some empty fields
 - A standard form that is missing information on where and to whom it should be sent

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Credentialing

- During a real activation, sending messages with accuracy and efficiency will be of paramount importance.
- Credentialing also provides resource typing following NIMS and CALOES standards.
 - Credentialed operators can be considered for assignments even though they are not personally known to the person making the assignment.
 - Credentialed operators are more likely to receive assignments that match their specific capabilities. That usually results in assignments which are more enjoyable.

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Credentialing Program Handbook

Changes to Credentialing Program Handbook (12-Feb-2023)

- If FEMA certificates for on-line classes have been lost or misplaced, there is a service where you can retrieve copies of training certificates. (page 20)
<https://training.fema.gov/student/sssp.aspx>
- Changes to Prowords for F3 the Credential (page 36)

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F3 Proword Changes

- F3s must be able to send and receive the following message contents:
 - words to be spelled (Heterographs and hard to spell words)
 - single and multi-digit numbers
 - mixed group, mixed group figure(s), mixed group symbol(s)
 - initial(s)
 - symbol(s)
 - telephone figures
 - amateur call
 - email address
 - and use of punctuation
- This reduced list is only applicable to the F3 Credential, all other credentials require proper use of the complete list of Prowords.

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Update on Endorsements

- Mutual Aid Communicator (MAC)
- County EOC Radio Room Operator (ERO)
 - 13 people have earned the endorsement; several others are working on the requirements.
- County EOC RACES Unit Leader (RUL)
 - Pilot class in March 2024. Will be open to small group of those meeting the prerequisites.
- County Fire Station Radio Operator (FRO)
 - County Fire is working on developing the "Auxiliary Communications Emergency Service (ACES) Fire Station Operations" class required for this endorsement.

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Proposed New Requirements

- An RF Safety Evaluation is now required by the FCC of all Amateur Radio Operators as of May of 2023.
- Proposed New Credential Requirements
 - Type 3 – describe how you would conduct an RF Safety Evaluation of your radio station
 - Type 2 – document that you have done an evaluation for your station with a printout out from ARRL website
 - This needs to be done each time you set up your station remotely.
 - Perhaps create several evaluations from the ARRL web site using different power levels (25 & 50W), frequencies (2m, 1.25M & 70cm), and different cable lengths for your antenna.
 - Keep those print outs with your go-kit.

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Hospital Update



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 Tim Howard, KE6TIM
 Revised 1-Dec-2023

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MHJOC is now PHDOC

- Medical Health Joint Operations Center (MHJOC) changed their name
- Now - Public Health Department Operations Center (PHDOC)
- Relocated to Tasman Drive
- All references to MHJOC on the web site, and the Hospital Net scripts, have been updated to reflect PHDOC
- Recommended Form Routing Sheet updated

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Equipment Status

- During COVID we were not allowed in the facilities to conduct the Monthly Hospital Nets
- As access was restored, it was found that equipment had been relocated, misplaced, or otherwise left in an unknown condition

PHDOC – Antenna Install after move to Tasman

Good Samaritan – Antennas need relocated

Regional Medical – Printer missing

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Equipment Issues

- If a radio operator notes a problem with the equipment (owned by hospital) they need to inform their local contact at the hospital.
- If a resolution is not reached contact the city EC. The city EC should have a list of higher-level contacts at each hospital.
- If a resolution is still not reached, contact the DEC/CRO who meets monthly with the Hospital Emergency Managers.

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Update Your Contact Data



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 Tim Howard, KE6TIM
 Revised 30-Nov-2023


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Packet Network Update

2023 Year End Review, 2024 Plans



Santa Clara County ARES®/RACES
Jim Oberhofer, KN6PE
Revised 27-Nov-2023

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Packet Training

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2023 Packet Classes

By the numbers

- 54 class sign-ups (all 3 classes)
- 162 classroom hours spent
- 30 unique participants
 - 13 packet Ops attended only one class
 - 7 packet Ops attended only two classes
 - 10 packet Ops attended all three classes

SCC PACKET
CLASS OF
2023

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2023 Packet Classes

Year over Year participation

	2017	2018	2019	2020	2021	2022	2023
	ClassRm	ClassRm	ClassRm	Zoom	Zoom	ClassRm	ClassRm
classroom hours spent	360	318	288	315	342	153	162
class sign-ups (all 3 classes)	120	116	96	105	114	51	54
Packet IIIA	49	46	33	42	44	19	22
Packet IIIB	42	35	29	29	32	19	17
Packet II	29	25	24	34	38	13	15

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- ### 2023 Packet Class Exercises
- Packet IIIA content workbook – Intro to Outpost and PackItForms
... 70% Completes
 - Packet IIIB exercise – Monthly Packet Exercise...
... **100% participation**
 - Packet II scripted exercise – Simple exercise without Outpost
... **100% Completes**
 - To get class credit, you had to do three things:
 - Show up for the class
 - Complete the class evaluation
 - Complete the homework
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Highlights -- Outpost and PackItForms

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What's in the box?

- SCCo Integrated Packet Installer 162M
 - Outpost Packet Message Manager
 - GUI-based interface for managing packet communications
 - Makes using packet as simple as using e-mail
 - PackItForms
 - Next generation HTML-based forms for use with Outpost
 - Headless Chrome for auto-printing support



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SCCo Installer v162M
October 2023


PackItForm 3.10*

- Better manual operation support
 - Autofill of timestamps, message numbers and call signs
 - ICS-309 log is maintained.
 - Simulated signature on the ICS-309 comm log
 - PuTTY-ready complete BBS command sequence

Outpost v3.7.0*

- Resolves 19 reported defects; adds 33 requested changes, including...
 - Message search feature
 - Simulated signature on the ICS-309 comm log
 - Support decoding quoted-printable Incoming Winlink messages.
 - Updates to NTS Message Maker

*See the release notes for details



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Top 5 packet "what's new" items for 2023

1. PackItForms updates
2. New manual PackItForm operation
3. Updates to the Packet USB Stick Suggestions
4. A few new Outpost features
5. Packet Field References, Type III, Type II

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Manual PackItForm messages

Manually create and send a PackItForm message

1. Run PackItForms with the *manual.cmd*
2. Set up your user ID, tactical ID, and Next message number
3. Pick and fill in a PackItForm
4. Create the packet message
5. Send the message with PuTTY
6. Save a copy of the message

Note: All SCCo BBSs have a 2-minute inactivity timer!

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2. Set up manual PackItForm

Setup Page
Fill in or update all fields

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3. Pick and fill in a form

Home Page
Select a PackItForm to send, or Process a PackItForm message just received

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Manual PackItForm messages

Receiving messages

1. Receive a message from the BBS using PuTTY
2. Save the message
3. Once you have the message saved, delete the message off of the BBS (use the **Kill #** command)

Note: All SCCo BBSs have a 2-minute inactivity timer!

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1. Receive a message

PuTTY Screen

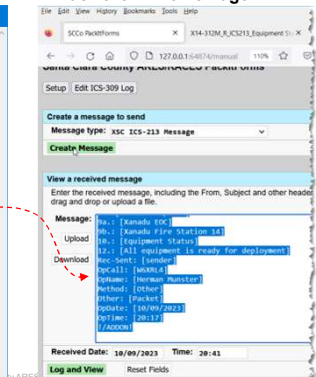
```

COM19 - PuTTY
(#1) >
r 1
Message #1
Date: Mon, 9 Oct 2023 20:26:51 PST
From: xndx149w1xsc.ampr.org
To: xndeo0w1xsc
Subject: X14-312M_R_IC5213_Equipment Status

!SCCOPTFO!
#T: Form-ics213.html
#V: 3.11-2.2
#sigNo: [X14-312M]
1a.: [10/09/2023]
1b.: [20:16]
5.: [ROUTINE]
7.: [Logistics]
8.: [Station Captain]
9a.: [Xanadu EOC]
9b.: [Xanadu Fire Station 14]
10.: [Equipment Status]
12.: [All equipment is ready for deployment]
Rec-Sent: [Sender]
OpCall: [W6XR4]
OpName: [Herman Munster]
Method: [Other]
Other: [Packet]
OpDate: [10/09/2023]
OpTime: [20:17]
!/ADDON!
(#1) >

```

PackItForm Home Page



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Manual packet operations; not many changes

This is a tool change, not a process change


1. **First Shift...**
 - a. Show up, request a safety and assignment briefing
 - b. Find a workspace for your packet operations
2. **Initial station setup...**
 - a. Find, assess, and set up the packet station
 - b. equipment check-out
3. **Packet Operations...**
 - a. Download notices, send yourself a test message
 - b. Send the formatted check-in message with your Tac Call
 - c. Manage the message flow
4. **Incoming Shift Change...**
 - a. Request a safety and assignment briefing
5. **Outgoing Shift Change...**
 - a. Archive the event documentation
6. **Securing Operations...**
 - a. Send the formatted check-out message with your Tac Call
 - b. Archive the event documentation
 - c. Shutdown

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3. 2023 Packet USB Stick Suggestions
 or, could Manual Packet Ops really happen to me?




- Better to be safe than sorry... Build your USB packet thumb-drive now!
- Directories (suggested)
 - x:\Programs
 1. Putty installer (<https://www.putty.org/>)
 2. Putty standalone executables (<https://www.putty.org/> > Alternative binary files)
 3. SCCo Packet Installer - <https://www.scc-ares-races.org/data/packet/client-software.html>
 4. SCCo PackItForm drectory, copy of... (C:\PackItForms\Outpost\SCCo)
 5. SCCo PIFO-only Installer (<download_dir>\sccsetup162Mpub_includes\SccoPIFOsetup3.13pub.exe)
 6. Office Libre Portable version (<https://www.libreoffice.org/download/portable-versions/>)

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3. 2023 Packet USB Stick Suggestions
 or, could Manual Packet Ops really happen to me?



- Directories (continued)
 - x:\SCC Notices
 7. downloaded text version
 8. Archive of the Outpost SCC Notices directory to reload if necessary
 - x:\Docs
 9. KPC3, other TNC Manuals
 10. County References... (<https://www.scc-ares-races.org/data/packet/index.html>)
 11. JNOS References
 12. Packet Radio Field Ref, Type III ... <https://bit.ly/PacketT3> ... or contact kn6pe@arrl.net
 13. Packet Radio Field Ref, Type II ... <https://bit.ly/PacketT2>
 - x:\TNC Init files
 14. text version, seven total
 - x:\Miscellaneous
 15. Pre-defined messages to be edited prior to sending

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4. New Outpost Features

- 1. Send/Receive changes**
 1. Adds Outpost > Actions > **Receive without bulletins** option.
 2. Adds Outpost > Tools > Send/Receive > 1st tab, makes option **Send a message immediately when it is complete** SEND ONLY.
 3. Support decoding quoted-printable incoming Winlink messages.
- 2. Opscript changes**
 1. Adds logging to script runs.
 2. Adds Modulo operator '%'.
 3. Adds scripting regex match capability for all message fields.

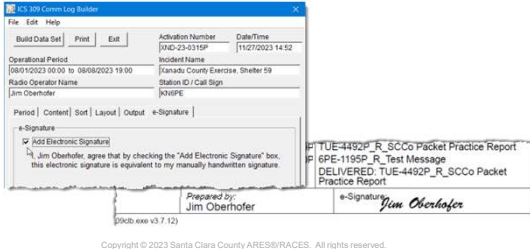
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4. New Outpost Features

1. ICS 309 changes

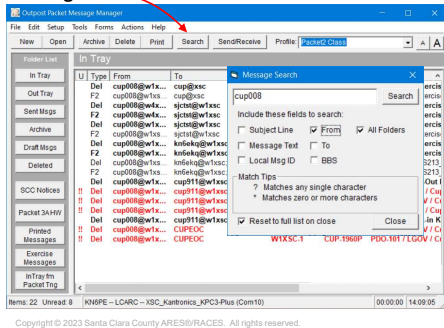
- 1. Makes ICS 309 field name changes to align with ICS standard terms.
- 2. Checks for a message log file change and reloads before printing.
- 3. Adds an option to add an e-signature to the .pdf version of the report.



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4. New Outpost Features

1. Message Searching



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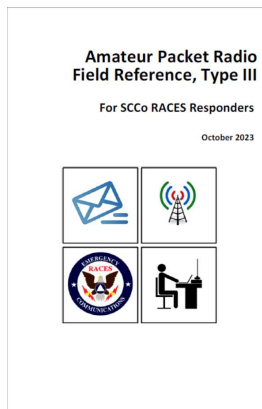
5. Amateur Packet Radio Field Reference, Type III

What is it

- Provides a reminder (job aid) for how to perform tasks that need to occur during a packet field deployment.
- Helps ensure task consistency, completeness, and operational alignment with SCCo RACES policies and procedures.

What it is not

- the only source of information on which you should rely.
- an official SCCo RACES deliverable.



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5. Amateur Packet Radio Field Reference, Type III

Table of Contents

- 1 QUICK REFERENCE
- 2 INTRODUCTION
 - 2.1 PURPOSE
 - 2.2 HOW TO USE THIS HANDBOOK
- 3 PACKET OPERATOR CHECKLIST
- 4 PACKET STARTUP PROCEDURE
- 5 CLIENT SOFTWARE
- 6 PACKET MESSAGING
 - 6.1 PACKET MESSAGING BASICS
 - 6.2 FILL FORM (PLAIN TEXT) MESSAGE
 - 6.3 SENDING A SPREADSHEET .CSV FILE
- 7 MESSAGE ADDRESSING
- 8 STANDARD SUBJECT LINE FORMAT
- 9 CHECK-IN, CHECK-OUT MESSAGE
- 10 RECOMMENDED FORM ROUTING CHEAT SHEET
- 11 ARCHIVING EVENT DOCUMENTATION
 - 11.1 CREATE THE ICS 309 COMMUNICATION LOG
 - 11.2 CREATE A PRINTABLE LIST OF YOUR MESSAGES
 - 11.3 CREATE AN ARCHIVE OF YOUR MESSAGES
 - 11.4 RESET (CLEANUP) OUTPOST FOR THE NEXT EVENT

<https://bit.ly/PacketT3>

Amateur Packet Radio Field Reference, Type III
For SCCo RACES Responders
October 2023



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5. Amateur Packet Radio Field Reference, Type II

Table of Contents

- 1 QUICK REFERENCE
- 2 INTRODUCTION
 - 2.1 PURPOSE
 - 2.2 HOW TO USE THIS HANDBOOK
 - 2.3 OTHER REFERENCES
- 3 MANUAL PACKET OPERATIONS
 - 3.1 TNC COMMANDS
 - 3.2 BBS COMMANDS
 - 3.3 CONNECTING TO THE TNC WITH PUTTY
 - 3.4 START OF SHIFT: CONFIGURE TNC SETTINGS
 - 3.5 END OF SHIFT: RESTORE TNC SETTINGS
 - 3.6 GETTING READY FOR MANUAL MESSAGING
 - 3.7 MANUAL MESSAGE BASICS
 - 3.8 SENDING A MANUAL PACKETFORM MESSAGE
 - 3.9 RECEIVING A PACKETFORM MESSAGE MANUALLY
 - 3.10 VIEWING SAVED MESSAGES
 - 3.11 NOTES ON MANUAL ICS 309 COMM LOG

<https://bit.ly/PacketT2>

Amateur Packet Radio Field Reference, Type II
For SCCo RACES Responders
November 2023



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What's the plan for 2024?


- Packet class schedule
 - Packet Type IIIA 3-Aug-2024
 - Packet Type IIIB 5-Oct-2024
 - Packet Type II 2-Nov-2024
- Maintenance release planned
 - more Outpost and PacketForm enhancements; bug fixes (as needed)

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Weekly Packet Practice



Santa Clara County ARES®/RACES
Steve Roth, KC6RSC
Revised: 1-Dec-2023

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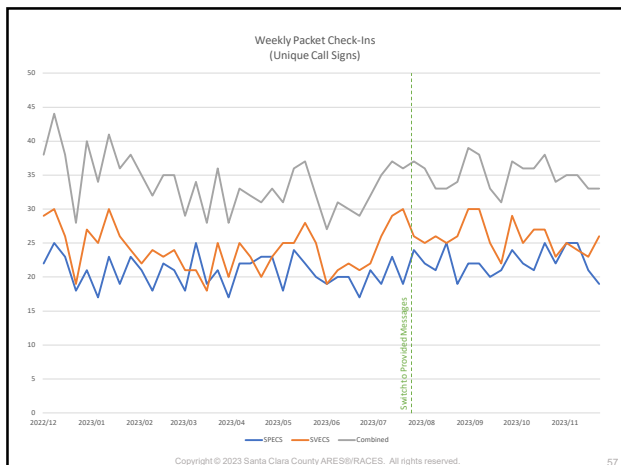
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Third-Party Messages in Weekly Packet Practice

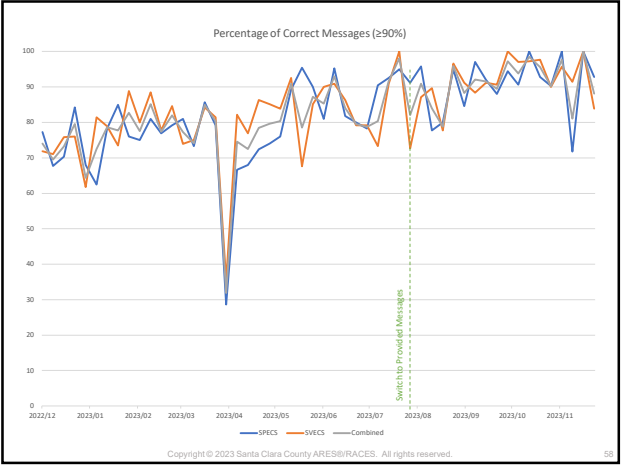
- Our role is to transmit messages that are written by others.
- Creating our own “third party” messages is poor practice.
 - Operators were doing it even when they had a real principal.
 - Led to some evaluation failures and drill misbehaviors.
- We no longer ask operators to make up messages.
- Since August, we have provided the messages to be sent.
- Messages are measured on operational correctness:
 - Sent to and from correct BBS, addressed properly, etc.
- Messages are also measured on transcription accuracy.

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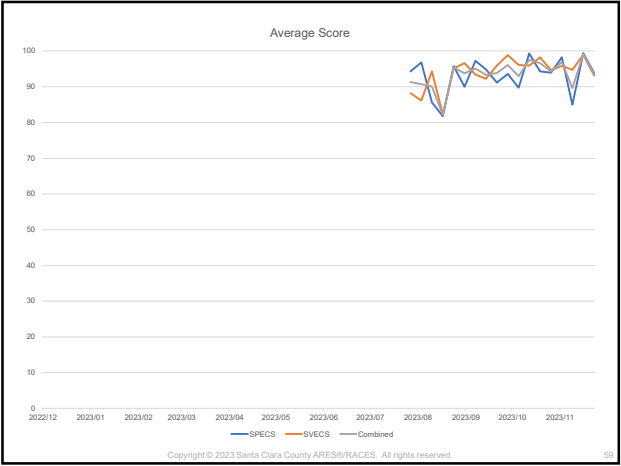
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Multi-Year Comparison

	2018	2019	2020	2021	2022	2023
Total Messages	2116	2844	3138	3226	3200	2932
% Correct	93.2%	93.7%	95.5%	96.6%	88.4%	83.1%
Unique Calls	25.5	29	31	30	27.4	34.3

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2023 State of the Forms
This year's harvest



Santa Clara County ARES®/RACES
Andreas Ott, K6OTT
Revised: 02-Dec-2023

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We are improving – Thank you

- Training and practice are showing steady improvements
- We can't stress enough how important paperwork is: proof of supervision, facts on the official record, reconstructing an event, supporting documentation for DSW insurance and government audits (FEMA reimbursements)
- All Forms come with instructions on the back
- Remember to fill in all fields and your signature
- Forms we use most: ICS-214, ICS-309, message forms; ICS-211 event check-in
- Examples are taken from this year's events

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ICS-214 Unit Activity Log

- Detailed instructions: see F3 class
- Video https://www.scc-ares-races.org/training/self-paced/ICS214/SCCo_IC214_v181108.mp4
- Door-to-door log of everything significant: travel tracking with times and odometer readings; check-in and -out at staging; assignment details; H&W checks; breaks; events *
- If you consider it to be of interest later, please write it down


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Examples for ICS-214

- Not available in the public version of this presentation

ICS 214 Forms Link



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ICS-309 Communications Log

- Detailed instructions: see N3 Parts A and B, Message Passing classes
- Videos: https://www.scc-ares-races.org/training/self-paced/ICS309/SCCo_IC309_Part_1_v210121.mp4 and https://www.scc-ares-races.org/training/self-paced/ICS309/SCCo_IC309_Part_2_v210122.mp4
- From/To, Message Number, Form type, Subject / keywords
- Special: all-station, net control handoff
- If you are on multiple nets, please use one form per net
- Packet: generate Outpost ICS-309


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Examples for ICS-309

- Not available in the public version of this presentation

ICS 309 Forms Link



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Messages

- ICS-213, Resource Request, OA Jurisdiction Status, OA Shelter Status, ...
- Use the Recommended Form Routing Cheat Sheet for To: fields and Handling
- Ordering of messages to transmit
- Fill in bottom (operator) section with message handling details

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Examples for Messages

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Message Forms Link

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RF Safety Evaluation

An FCC license requirement



Santa Clara County ARES®/RACES

Andreas Ott, K6OTT

Revised: 01-Dec-2023

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RF Safety Evaluation Report and Order

- Your license requires this evaluation, the FCC changed the rules and existing stations had until May 03, 2023 to comply.
- New stations needed to always evaluate (since 2021), note that this might have applied to you each time when setting up an emergency operation station that is "new"
- <https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>
- It's complicated: the RF exposure limits have not been changed, but more licensees might be required to perform a station evaluation. If you do, save & keep your work sheets.
- Articles in ARRL QST September 2021, pp. 60-62; ARRL QST May 2023, pp 64-66
- <https://www.arrl.org/rf-exposure> , also has a calculator
- Free book download "RF Exposure and You" *

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RF Safety Evaluation notes

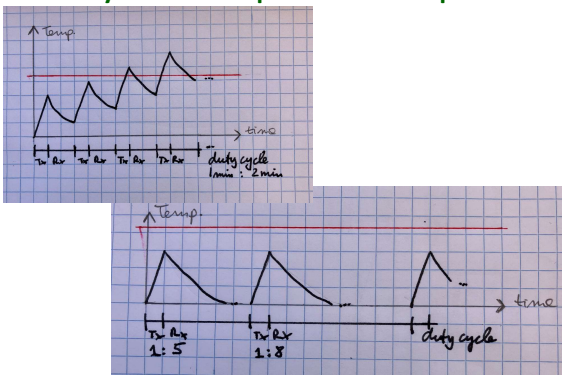
- Bulletin OET65 and supplements have not been updated by the FCC after many years, some KDB article exists
- What is this about? Heating up tissue in your body, and it depends a bit if the tissue is your brain/eyeball or the part you are sitting on. Sawtooth heat up (transmit 1 min), cool down decay curve (receive 2 min), repeat after this cycle. Eventually you will cross the threshold line and stay above.
- The second example leaves enough time to cool down by having longer Rx cycles.
- Important parameters are frequency, duty-cycle (time), radiated power which all contribute to energy absorption into human body tissue

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RF Safety Evaluation qualitative examples



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RF Safety Evaluation notes cont.

- Controlled vs. uncontrolled environment: you (or other hams) and your household vs. unsuspecting public bystander
- Example scenarios from ARRL rf-exposure-calculator (146 MHz, FM, duty cycle is 5 min Tx / 10 min Rx), minimum safe distances shown:
 1. HT in vest pocket: 1 W, gain "0 dB"
 2. mobile radio, antenna on push-up mast:
 - 25W, 25 ft coax, total gain 3 dB
 - controlled: 3 ft. uncontrolled: 4 ft. 3 in.
 3. car magmount (metal roof): 50W, total gain 2dB
 - controlled: 3ft. 9 in. uncontrolled: 5 ft. 5 in.

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RF Safety Evaluation references

- FCC RF Safety Evaluation Report and Order
 - <https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>
- FCC KDB publication
 - <https://apps.fcc.gov/oetcf/kdb/forms/FTSsearchResultPage.cfm?switch=P&id=20676>
- ARRL QST article May 2023
 - <https://www.arrl.org/files/file/Lab/RF%20Exposure/2023-05%20Lapin%20FCC%20Exposure%20Rules.pdf>
- ARRL RF exposure page and calculator
 - <https://www.arrl.org/rf-exposure>
 - <https://www.arrl.org/rf-exposure-calculator>

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ARRL calculator page demo

- But one of our common uses is an HT close to your body...
 - "This calculator should not be used for antennas that are less than 20 cm (8 in) from a person."**
- I asked the ARRL Lab manager, George Spatta W1GKS: The short answer is that at this time, there is no answer.
- FCC KDB publication and attachments
 - <https://apps.fcc.gov/oetcf/kdb/forms/FTSsearchResultPage.cfm?switch=P&id=20676>
- Live demonstration

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Training 2023/2024



Santa Clara County ARES®/RACES
Judy Halchin, KK6EWQ
Revised: 27-Nov-2023

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Training in 2023

- 23 classes, 72 total hours
 - 16 unique classes
- 9 training nets
 - On-the-air practices of various skills with feedback
- 9 packet message passing practices
 - Practice with detailed feedback and discussions

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Training in 2024

- 24 class sessions
 - 17 unique classes
- Quarterly training nets
- 10 packet message passing practices

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New(ish) classes

- County EOC Radio Room Orientation
 - County EOC Radio Operator endorsement
- County EOC RACES Unit Leader
 - County EOC RACES Unit Leader endorsement
- Informal Message Passing
 - In development

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Q&A

All Training Staff

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