Cupertino ARES/RACES
2021 Year-End Review

December 2, 2021
Jim Oberhofer KN6PE

Topics for tonight

The top 9 changes/updates for CARES and Citizens Corps operations…

9. Infectious Disease Response Plan
8. PSA vs Mike-Mike changes
7. ISA changes
6. Command Repeater
5. TAC1 Interference
4. Our Frequency Line-up
3. Net Control
2. Zonehaven – know your zone
1. 2022 Handbook Updates

#9
INFECTIOUS DISEASE
RESPONSE PLAN

IDR Plan Changes

1. Vaccinations and boosters are widely available, but…
2. New variants continue to emerge.
3. Most CCC IDR protocol elements are still in effect for field operations.

In short, ***it is not over until it is over***…

IDR Plan Changes – C469

ORIGINAL

1. Only one individual will occupy the Comm 469 cab at a time. Supporting staff will follow in separate vehicles
2. Only two operating positions will be staffed inside Comm 469 at a time
3. Two operating positions will be staffed outside Comm 469.

UPDATE

1. Deferred given the vaccination rate in the city
2. Decision for how any persons in the van will be a collective judgement call and decision of the responders considering the immunity status of the staff and other mitigating factors.
3. Allowing for all 4 positions, with additional operating positions to be staffed outside as needed.

#8

THE SHIFT FROM PSA TO MIKE-MIKE

PSA vs Mike-Mike

What is PSA (Preliminary Safety Assessment)

- A CARES process for assessing our immediate surroundings to provide a snapshot of damage after an earthquake to the EOC.

What is Mike-Mike (Modified Mercalli Intensity Scale)

- A method for standardized reporting of earthquake damage that provides an objective, standard level of observed damage.

Similarities & Differences

- Same… both communicate a sense of the observed damage.
- Different… PSA requires a visual inspection of an area that slows reporting and subsequent field deployments.

PSA vs Mike-Mike

Mike-Mike on Cupertino

1. County RACES uses the *Mike-Mike Reports* to help County EOC decide whether to open their EOC.
2. CARES adopted *Mike-Mike Reporting* to generate a city-wide view for County RACES.
3. The City would use the PSA data to also *determine the City's response*. The Mike-Mike report serves the same purpose as the PSA.
4. CARES suspended the CARES-PSA and now provides a consolidated Mike-Mike Report. There is no change to the CERT-PSA activity.
5. The immediate benefit: (i) a common language to describe impact of the shaking, and (ii) quicker deployment of CARES members to field assignments.

Mike-Mike… the scale

CARES Field Comm Handbook

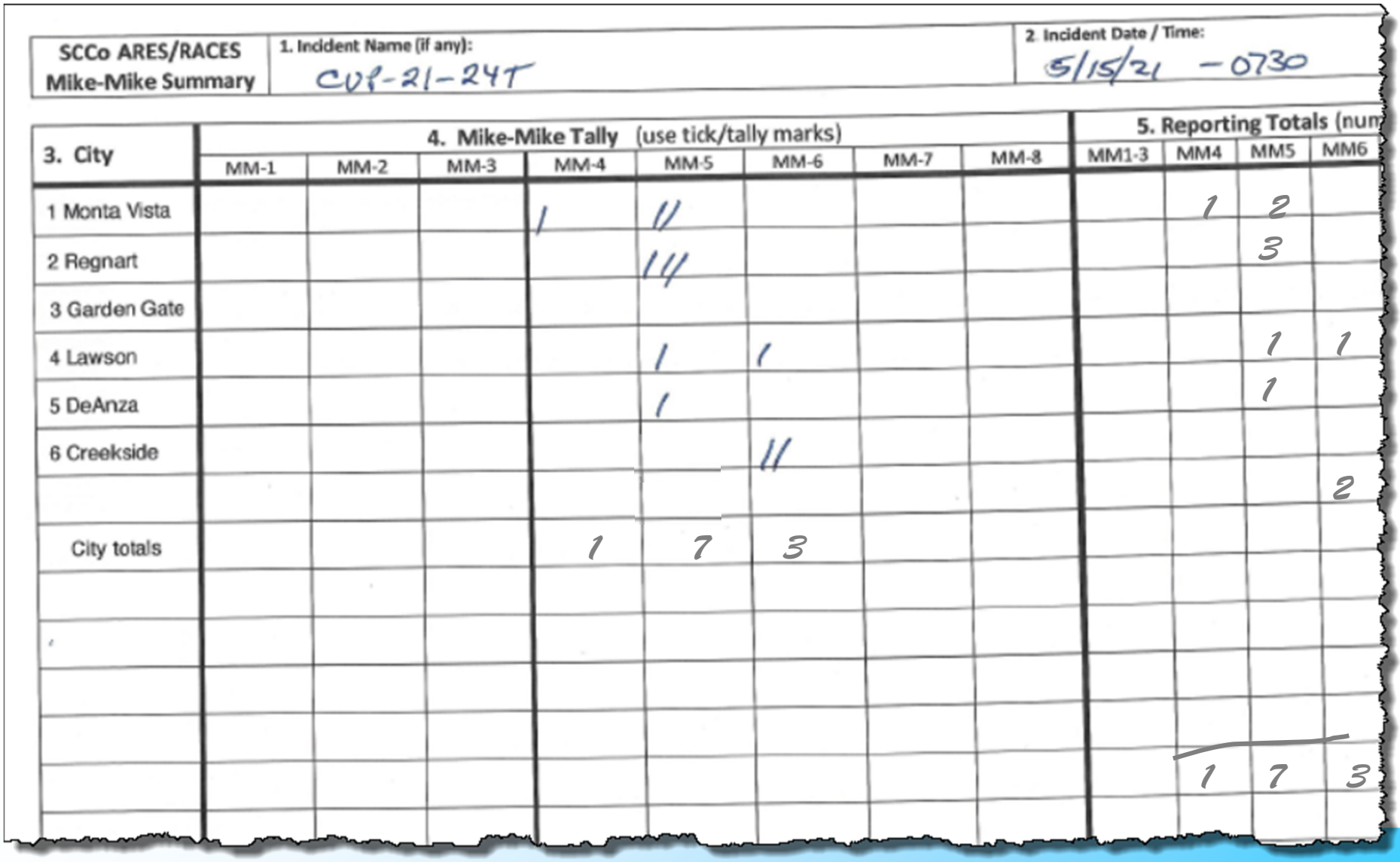
8	Modified Mercalli Intensity Scale (MMI)	
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved or overturned. Dishes, glassware, knickknacks, and books fall off shelves. Weak plaster, adobe buildings, and some poorly built masonry buildings cracked. Damage slight.
VII	Very Strong	Negligible damage in buildings of good design and construction. Slight to moderate damage in well-built ordinary structures. Considerable damage in poorly built or badly designed structures

Mike-Mike… the report

When an earthquake occurs, check it. This is what is sounds like:

- *NCS:* *All stations, Check in with an ARK name and Mike-Mike Report. Stations with suffix Alpha through Juliet, go now.*
- *KV6BC:* *KV6BC, Regnart ARK, Mike-Mike 6. KV6BC.*

Mike-Mike… the record



SCCo ARES/RACES Mike-Mike Summary

1. Incident Name (if any): CVI-21-24T

2. Incident Date / Time: 5/15/21 – 0730

3. City	4. Mike-Mike Tally (use tick/tally marks)								5. Reporting Totals (num			
	MM-1	MM-2	MM-3	MM-4	MM-5	MM-6	MM-7	MM-8	MM1-3	MM4	MM5	MM6
1 Monta Vista				1	11					1	2	
2 Regnart					111						3	
3 Garden Gate												
4 Lawson					1	1					1	1
5 DeAnza					1						1	
6 Creekside						11						
												2
City totals				1	7	3				1	7	3

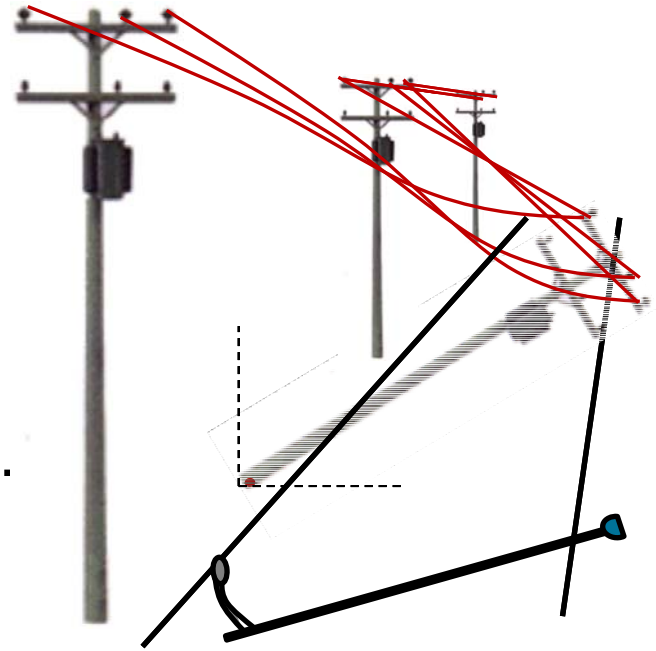
#7
MERGING ISA
AND FIRST LOOK

ISA + First Look

What does ISA and First Look have in common?

While looking for this…

… we come across this…



Merging ISA and First Look

Why the merge?

1. We already have teams in the field driving Cupertino streets.
2. Most ISA and First Look items are roughly geographically co-located.
3. First Look adds Public Works to our served agency list.
4. Consolidating the ISA and First Look list improves CARES efficiencies, speeds the recovery, and increases our value to the City.

Consolidated assessment approach.

- The ISA assignment structure was reorganized to 11 assignment sets that covered the 37 legacy ISA assets, the 7 major FLA roadways, and staffed city and fire department facilities.
- During the May 2021 exercise,
  - Assignments made: 10 of 11
  - Teams Deployed: 7 teams
  - Time to perform the assessment: 2 hours

ISA+ Next Steps

1. ISA Exercise about every 2 years, next planned for Fall 2022 or Spring 2023.
2. Work with the City on other critical infrastructure that requires an initial cursory check.
3. Work with CERT to promote the residential streets First Look review

#6
WW6HP
CARES COMMAND REPEATER

Introducing WW6HP

1. The May 2020 home (Covid-19) exercise uncovered a gap in our ability to coordinate multiple nets when field conditions were less than optimal (in this case: HTs at home).
2. To address this: CARES did two things:
   - Sponsored a group buy of the *Ed Fong* roll-up j-pole for home HT use. Over 20 members took advantage of this purchase opportunity.
   - We now have an agreement with the *HP Silicon Valley Repeater Club* (HPSVRC) for access to the WW6HP Repeater during activations.
     WW6HP, 442.000+ (151.4)
     Location: Black Mountain above Los Altos
3. The WW6HP repeater is now a part of our frequency line-up, listed as the CARES Command Net.

WW6HP repeater shout-out!

Special thanks are in order to…

- *Skip AA6WK*, HPSVRC Board Member for supporting our request to use the repeater.
- CARES Technical team to help with a repeater upgrade…
  - *Tae N6TAE*
  - *Marcel AI6MS*
  - *Davide W6DGE*
  - *Kenneth W6KWF*

#5
TAC1 INTERFERENCE

Cupertino and Foster City

The problem

1. There are a limited number of 2-meter simplex frequencies (44 in SCC, excluding packet) that are used by different SCC jurisdictions.
2. Other surrounding counties essentially use the same frequencies as SCC.
3. While Cupertino has 147.570 and 146.460 for our SCC use, they are also used by other jurisdictions such as San Mateo County (147.570: Foster City, SMC Tactical. 146.460: Brisbane, Portola Valley, Redwood City, SMC Tactical). The East Bay cities are in a similar situation.
4. Things changed with the 2-meter link radio at 331 ft ASL
5. During the Tuesday net, Foster City ARES reported we come in loud and clear.
6. However, the bigger issue is: <u>what will happen during a bay area-wide activation</u> (read: earthquake) when *everyone* begins operating on these same shared frequencies?

Cupertino and Foster City

The solution

How CARES is addressing this…

1. For bay area-wide events AND the repeater is operational, we will:
   - run the Resource Net on TAC3 W6TDM repeater only
   - not link TAC1 (147.570) to the repeater
   - NCS will ask a member to monitor TAC1 and direct anyone to the repeater who did not get this message
2. For bay area-wide events where the repeater is NOT operational, we will:
   - run the Resource Net on TAC1 147.570 simplex.
   - Use relays for stations that cannot reach Net Control.
   - Use your home roll-up j-pole antenna to improve your signal!
3. For the weekly night nets, we will:
   - run the Net on TAC3 W6TDM repeater only, and…
   - Hold a simplex net on TAC1 147.570 every 4th Thursday (so we don't forget!) and use your home roll-up j-pole antenna to improve your signal!

Frequency	Name	Tone	rToneFreq	cToneFreq	DtcsCode	Duplex	Offset	DtcsPolarity	Mode	TStep	Sk
147.570	CUP T1	Tone	151.4	151.4	23		0	NN	FM	5	
146.460	CUP T2	Tone	151.4	151.4	23		0	NN	FM	5	
440.150	CUP R1	Tone	100.0	100.0	23	+	5	NN	FM	25	
440.150	CUP R2	Tone	100.0	100.0	23		0	NN	FM	25	
441.000	CUP T5	TSQL	151.4	151.4	23		0	NN	FM	25	
147.585	CUP T6	Tone	151.4	151.4	23		0	NN	FM	5	
442.000	CUP C1	Tone	151.4	88.5	23	+	5	NN	FM	25	
442.000	CUP C2	Tone	151.4	88.5	23		0	NN	FM	25	
147.570	CUPT1S	TSQL	151.4	151.4	23		0	NN	FM	5	
146.520	CALL2M		88.5	88.5	23		0	NN	FM	5	
446.000	CALL44		88.5	[illegible]	[illegible]		0	NN	FM	25	
147.360	XSC M1	Tone	110.9	[illegible]	[illegible]	+	0.6	NN	FM	5	
145.450	XSC M2	Tone	100.0	[illegible]	[illegible]		0.6	NN	FM	5	
442.575	XSC M3	Tone	100.0	[illegible]	[illegible]	+	5	NN	FM	25	
442.500	XSC C1	Tone	100.0	100.0	23	+	5	NN	FM	25	
443.275	XSC C2	Tone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NN	FM	25	
146.115	XSC R1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NN	FM	5	
145.270	XSC R2	Tone	100.0	100.0	23	-	0.6	NN	FM	5	
440.800	XSC R3	Tone	100.0	100.0	23	+	5	NN	FM	25	
444.625	XSC R4	Tone	110.9	110.9	23	+	5	NN	FM	25	
145.230	XSC HS	Tone	100.0	100.0	23	-	0.6	NN	FM	5	
146.640	XSCNTS	Tone	162.2	162.2	23	-	0.6	NN	FM	5	
146.115	AA6BT	Tone	100.0	100.0	23	+	0.6	NN	FM	5	
146.835	AE6KE	Tone	94.8	88.5	23	-	0.6	NN	FM	5	

#4

OUR FREQUENCY LINE–UP

Revisiting our Frequency Lineup

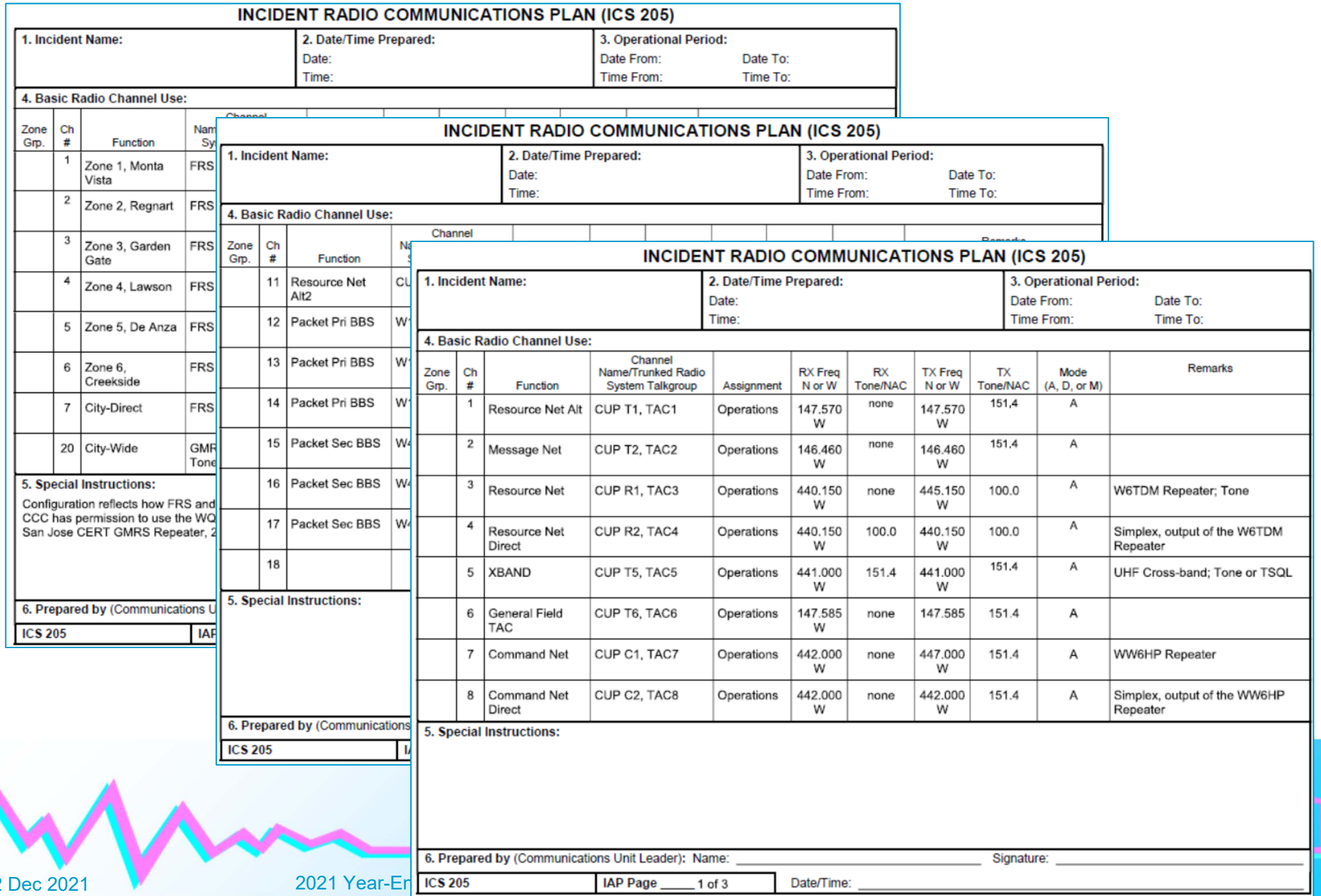
Restructure our frequency plan to:

1. maintain our operational capabilities
2. minimize interference to and from external sources
3. Maintain our flexibility during local events

Assignment	Frequency	Notes
Resource Net, Alt	147.570s, Tone, 151.4	TAC1, Simplex
Resource Net Alt2	147.570s, CT/TSQL, 151.4	TAC11, Simplex
Message Net	146.460s, Tone, 151.4	TAC2, Simplex
Resource Net	440.150+, Tone, 100.0	TAC3, W6TDM Repeater
Resource Net, Direct	440.150s, Tone, 100.0	TAC4, W6TDM output
XBAND, Field Tactical	441.000s, CT/TSQL, 151.4	TAC5, Simplex
Field Tactical	147.585s, Tone, 151.4	TAC6, Simplex
Command Net	442.000+, Tone, 151.4	TAC7, WW6HP Repeater
Command Net Direct	442.000s, Tone, 151.4	TAC8, WW6HP Output

Our ICS 205 Comm Plan

https://www.cupertinoares.org/index.php?content=opsfreqs



INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205)

1. Incident Name:

2. Date/Time Prepared:
Date:
Time:

3. Operational Period:
Date From: Date To:
Time From: Time To:

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System Talkgroup	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode (A, D, or M)	Remarks
	1	Resource Net Alt	CUP T1, TAC1	Operations	147.570 W	none	147.570 W	151.4	A	
	2	Message Net	CUP T2, TAC2	Operations	146.460 W	none	146.460 W	151.4	A	
	3	Resource Net	CUP R1, TAC3	Operations	440.150 W	none	445.150 W	100.0	A	W6TDM Repeater; Tone
	4	Resource Net Direct	CUP R2, TAC4	Operations	440.150 W	100.0	440.150 W	100.0	A	Simplex, output of the W6TDM Repeater
	5	XBAND	CUP T5, TAC5	Operations	441.000 W	151.4	441.000 W	151.4	A	UHF Cross-band; Tone or TSQL
	6	General Field TAC	CUP T6, TAC6	Operations	147.585 W	none	147.585	151.4	A	
	7	Command Net	CUP C1, TAC7	Operations	442.000 W	none	447.000 W	151.4	A	WW6HP Repeater
	8	Command Net Direct	CUP C2, TAC8	Operations	442.000 W	none	442.000 W	151.4	A	Simplex, output of the WW6HP Repeater

5. Special Instructions:

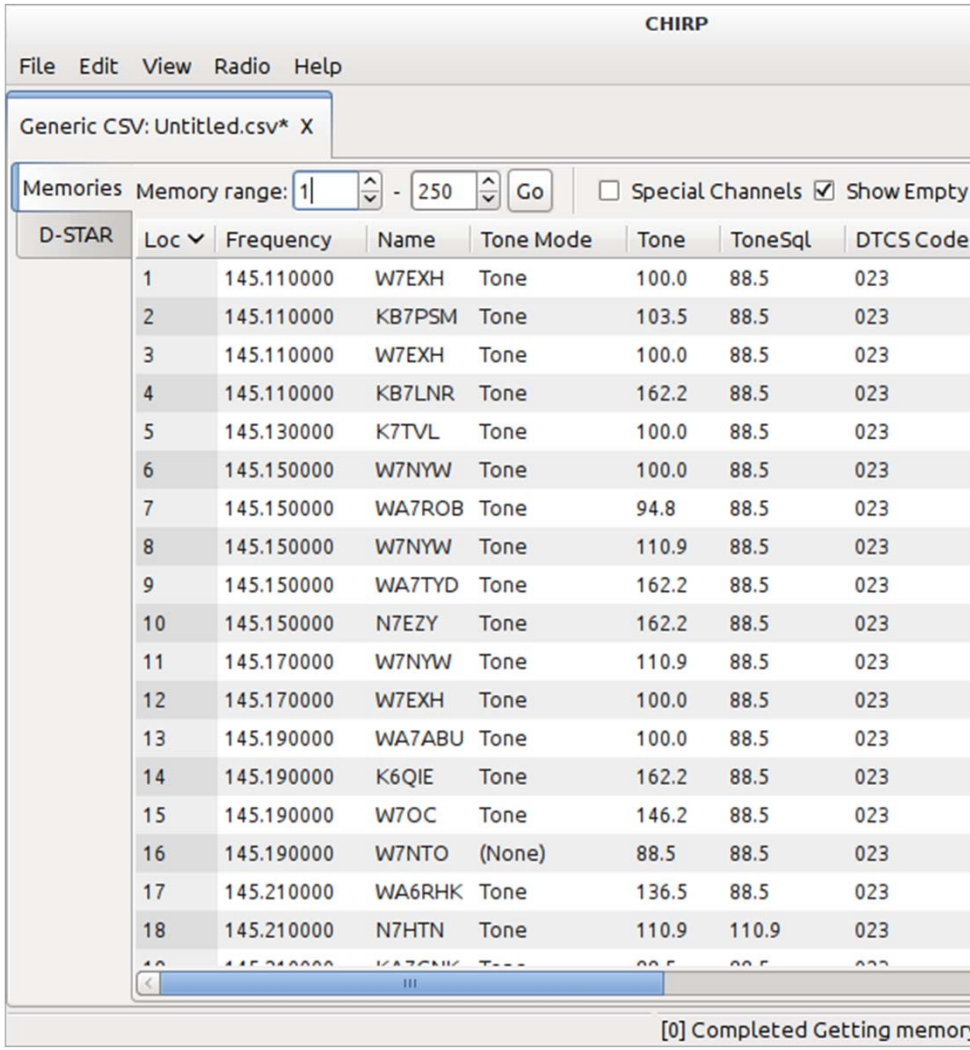
6. Prepared by (Communications Unit Leader): Name: _____ Signature: _____

ICS 205 | IAP Page ____ 1 of 3 | Date/Time: _____

Managing your frequencies

What is CHIRP?

- CHIRP is a free, open-source tool for programming your amateur radio.
- It supports a very long list of radios… https://chirp.danplanet.com/projects/chirp/wiki/Home
- To use CHIRP, you need:
  - CHIRP program (see above link)
  - a radio to program
  - PC
  - programming cable for your radio
  - a frequecy file to load



Managing your frequencies

CARES CHIRP Files and Frequency Line-up

	Kenwood VM-V71	Yaesu FT-60	Baufeng UV-5RA
CARES (8)	✓	✓	✓
County RACES (11)	✓	✓	✓
County Repeaters (33)	✓	✓	✓
local city freq's (78)	✓	✓	✓
County Fire (10)	✓	✓	
SCU (8)	✓	✓	
CDF (61)	✓	✓	
County Packet (8)	✓		

Managing your frequencies

- Am I required to use CHIRP? **NO!**
- Am I still required to know how to program my radio? **YES!**
- And… you should ensure you have at least the 8 CARES frequencies loaded in your radio.
- Where are the Chirp files?
  www.cupertinoares.org > Frequencies

HELP! Please contribute your radio's CHIRP file to our library!

#3
NET CONTROL

Net Control

Situation

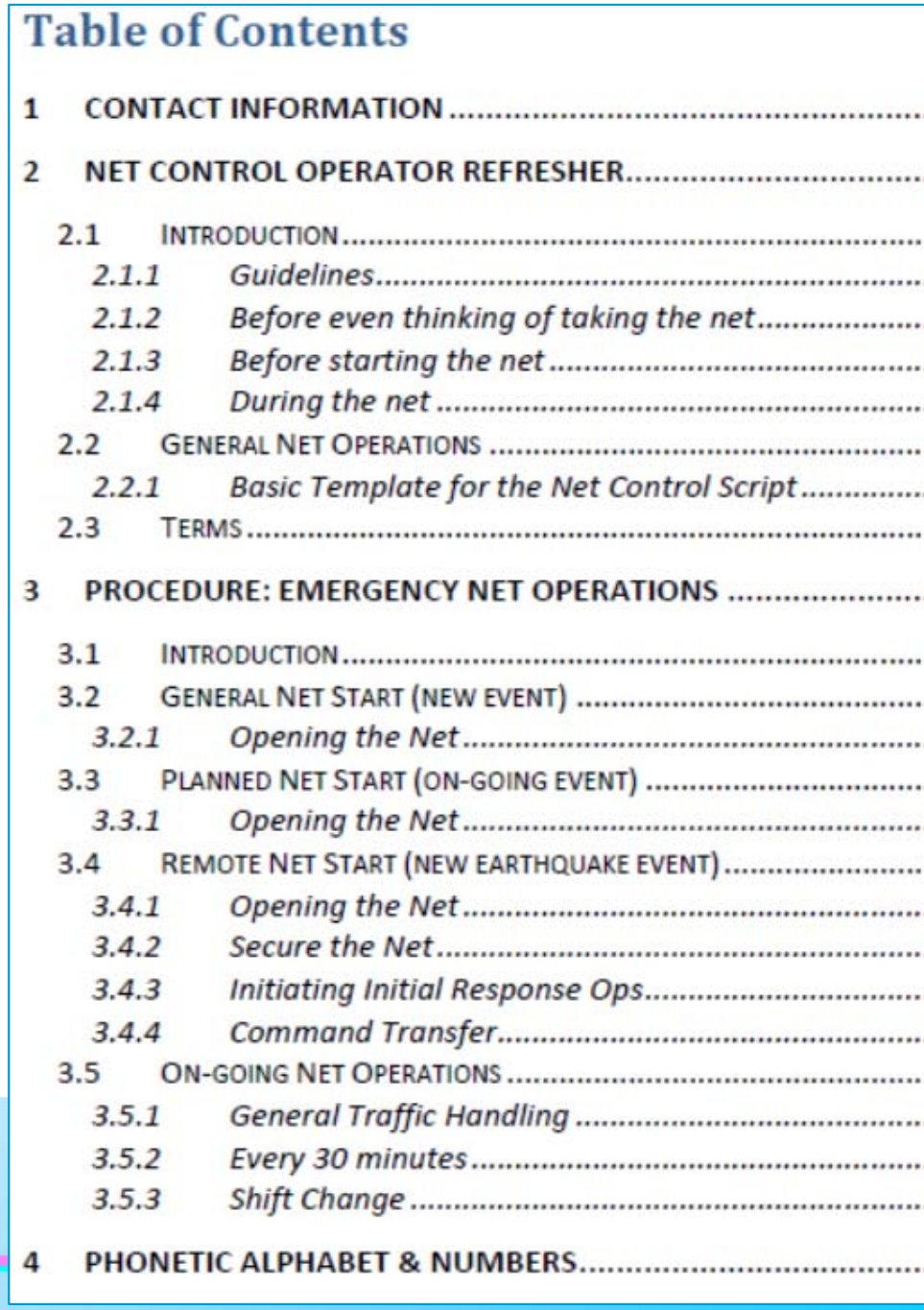
1. The May 2021 exercise focused attention on the lack of a formal, repeatable CARES net process.
2. Our net control activities have relied on personal experience and expertise of our CARES members.
3. We recognize that the net control operators need to be flexible and adapt to situations that we undoubtedly have not encountered.
4. This consideration is contrary to a structured, repeatable process.
5. We also recognize that we need to build the ranks of Net Control Operators to ensure we are not solely reliant on a critical few who know how to do it.
6. Unlike other CARES processes, the Net Control Process may be more of a set of tools and capabilities instead of a rigid process.
7. The Net Control Handbook is in process and will hope to address all of this.

Net Control Handbook

A first pass

Highlights

1. The handbook is intended for members with a sufficient station to run the net and perform the NCO activities.
2. The document is a mix of check-lists, procedures and ‘guides’.
3. Key procedures:
   - General Net Start (new event)
   - Planned Net Start (on-going event)
   - Remote Net Start (new EQ event)
   - On-going net operations
4. There is still a lot of refinement needed; interested members are welcome to help!



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4 PHONETIC ALPHABET & NUMBERS

Parting thoughts

We need more net control operators!

Interested? Please let us know!

#2

ZONEHAVEN EVACUATION MANAGEMENT

Zonehaven – know your zone

THE WILDFIRE PROBLEM

- Multi-agency coordination and command is **required**
- Wildfires are Mass **Rescue/Casualty** Incidents
- Evacuation Orders Required Earlier over **Larger** Areas
- Traffic Congestion Coordination Now **Necessary**
- Vulnerable Populations are **Most** at Risk

You are viewing Tyler Mortenson, Battalion Chi...'s screen View Options

EVACUATIONS 101

Most evacuations are ad-hoc, decided and created at each incident, usually using printed maps

Audio Settings
Raise Hand
Talking: Tyler Mortenson, Battali...

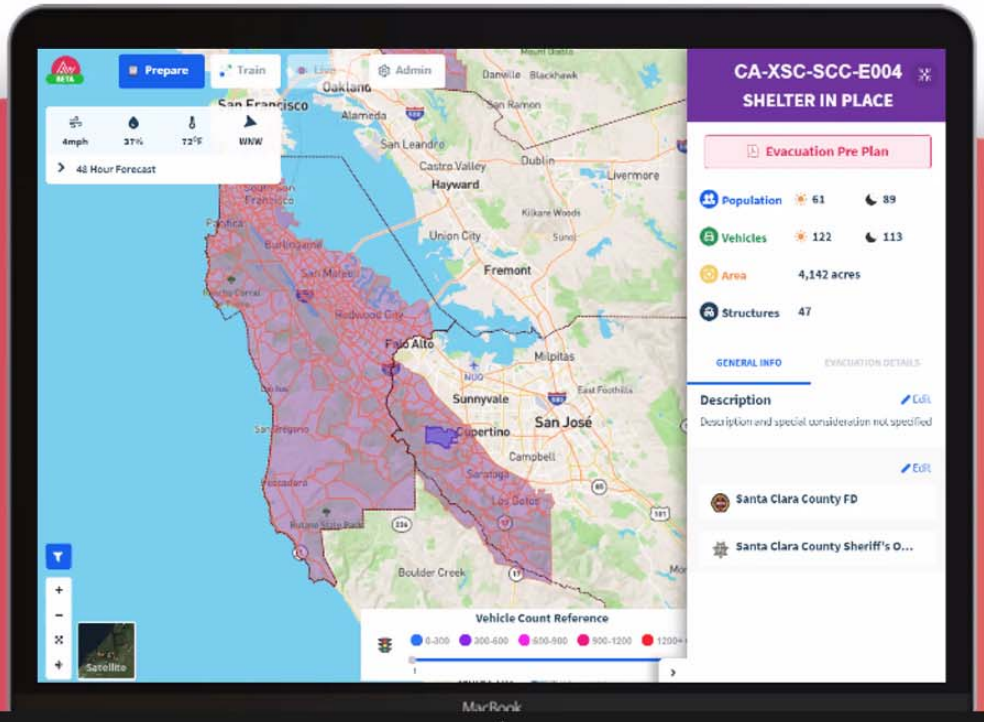
You are viewing Tyler Mortenson, Battalion Chi...'s screen View Options

View

ZONEHAVEN EVACUATION MANAGEMENT PLATFORM

Zone Based

Smart Zones | Agency Approved | Threat Aware | Easy to Communicate



Collaborative

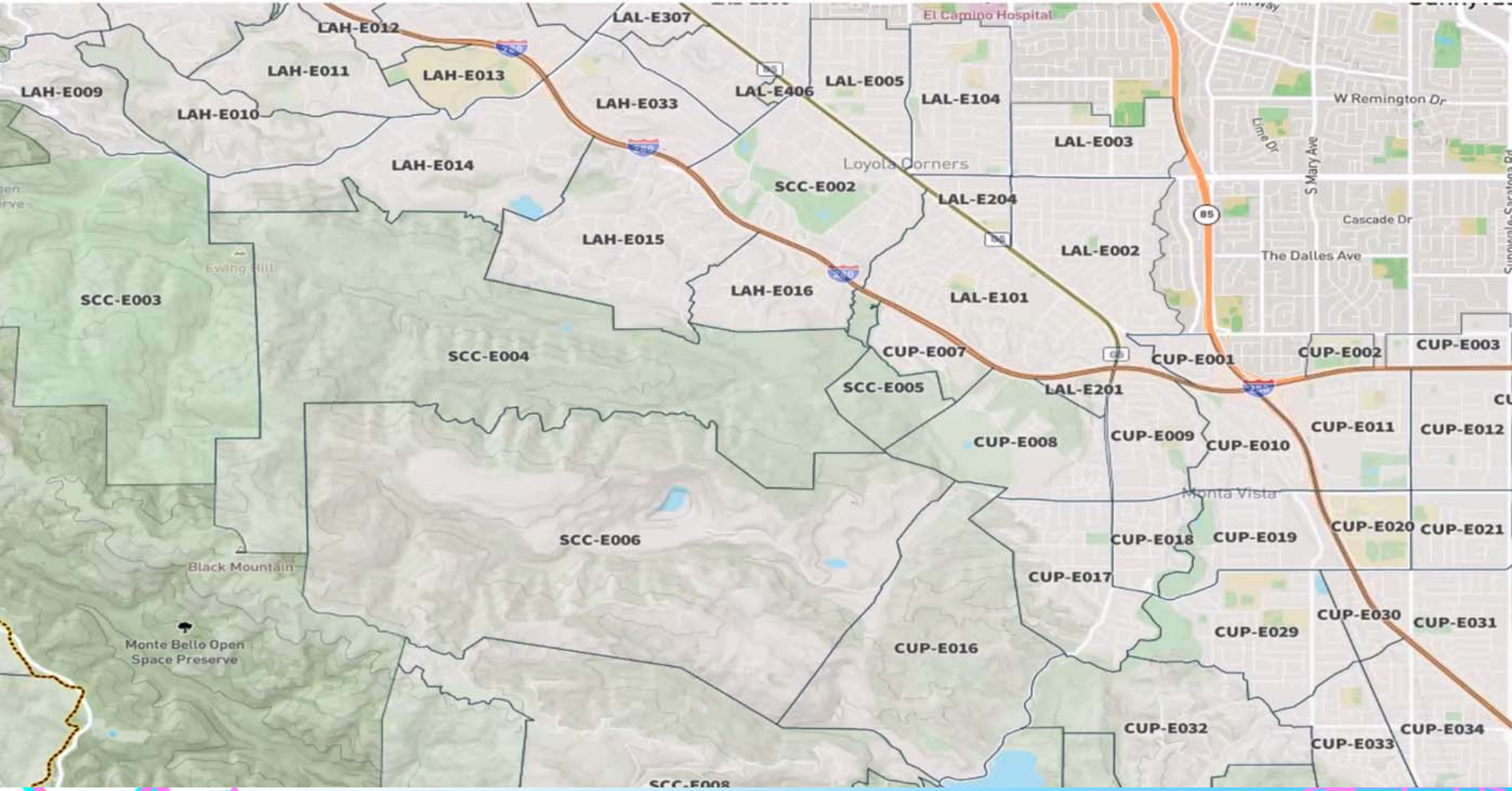
Plan Together | Intelligent Mutual Aid | Learn from your Peers | Easily share

Audio Settings

Raise Hand

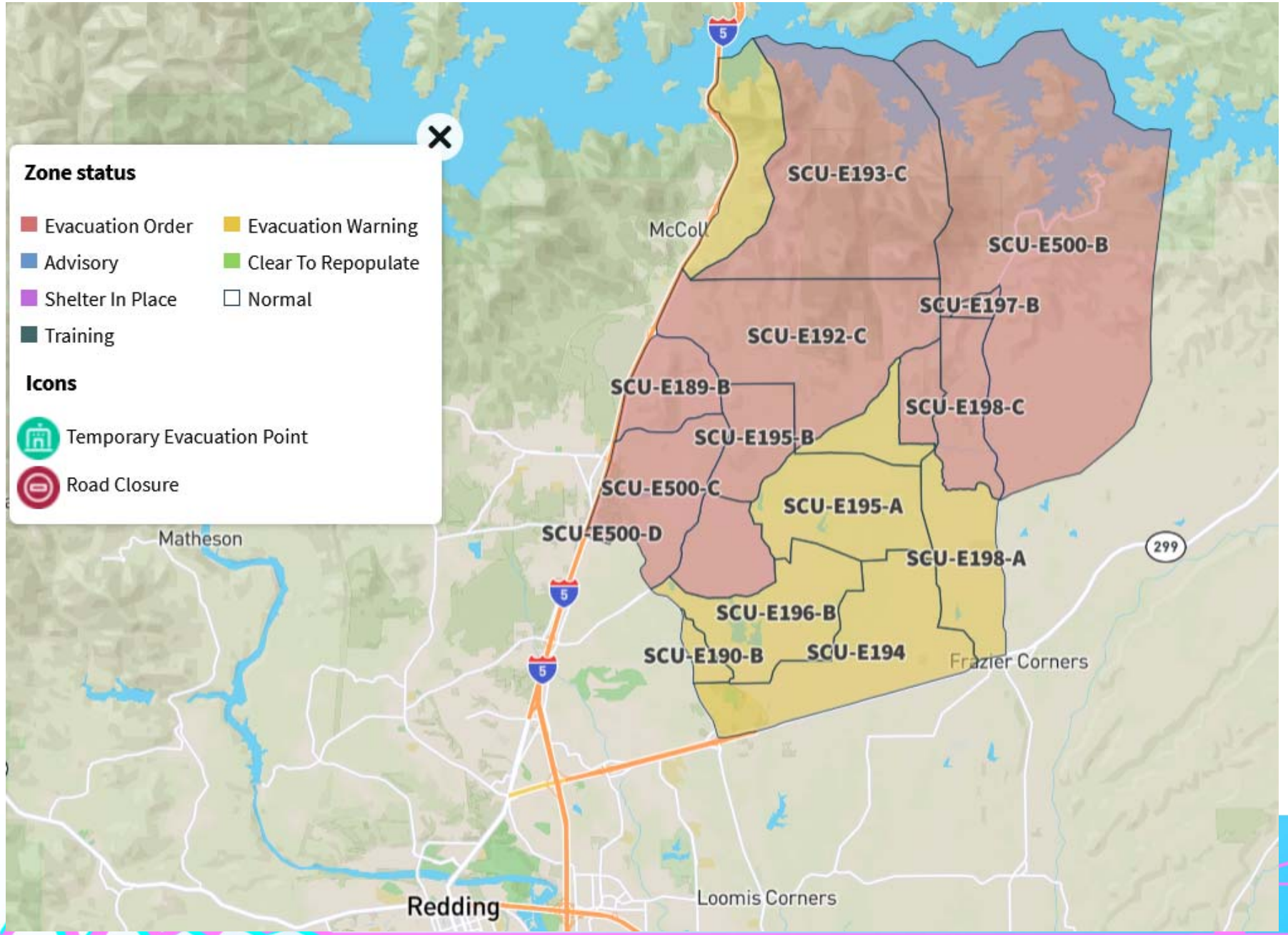
Talking: Tyler Mortenson, Battali...

ZONEHAVEN EVACUATION MANAGEMENT PLATFORM



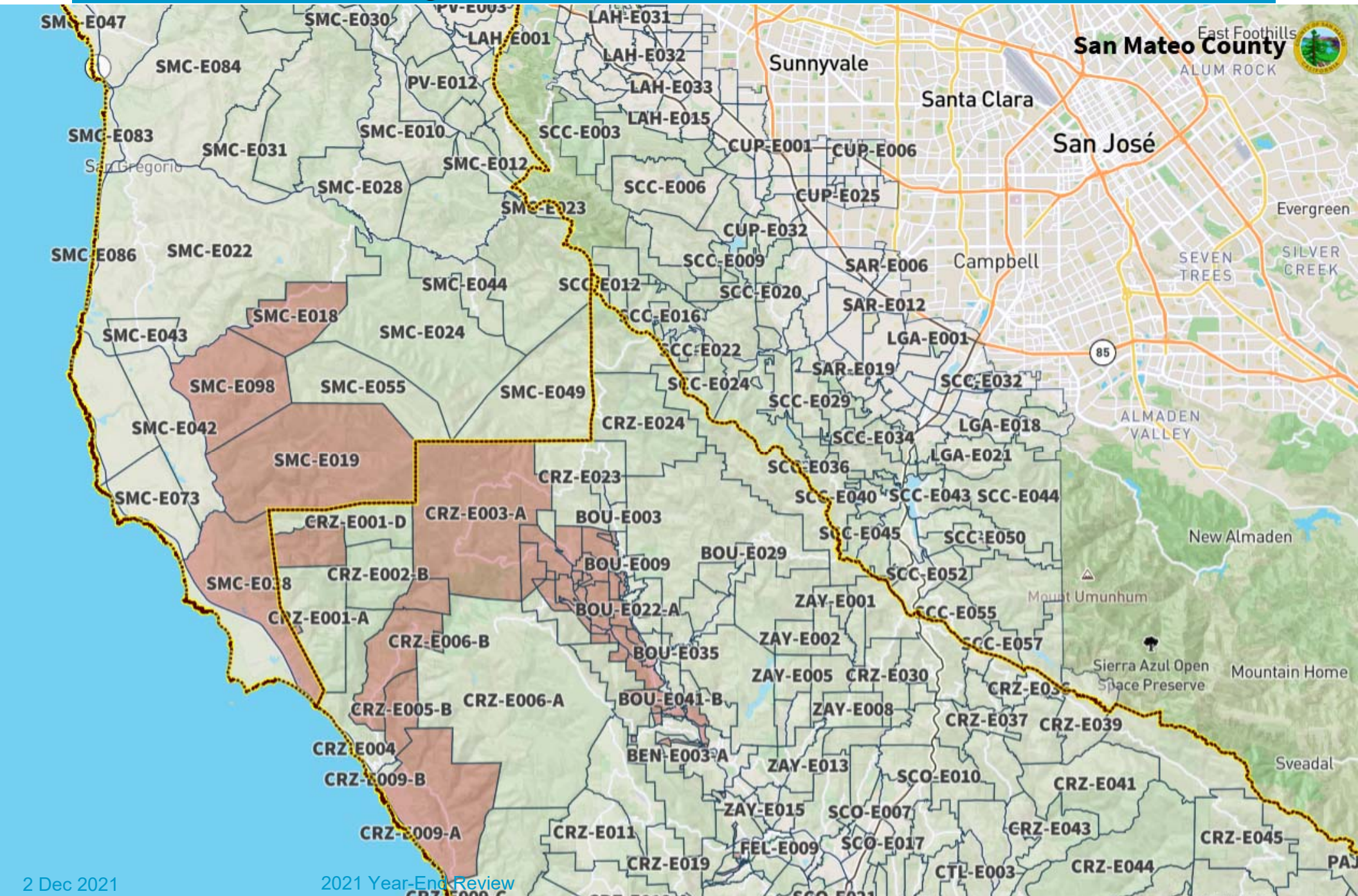
Zonehaven

Fawn Fire evacuation, NorCal, 9/23/2021



Zonehaven

Santa Cruz Flooding, 10/24/2021



Zonehaven

What's next?

- See it now… https://community.zonehaven.com/
- CARES to work with CCC and Cupertino OEM on how we could support an evacuation order response if it happened in Cupertino.

#1

2022 HANDBOOK UPDATES

Watch your mail for an update package

Revisions planned, tentatively for January 2022

1. ARK Activation Handbook
2. Field Communications Handbook
3. Net Control Handbook
4. Packet Field Reference
5. CCC Field Communications Handbook (GMRS License holders)

Thank you

Any Questions?