



EXECUTIVE SUMMARY

On January 18, 2025, Central Oregon Amateur Radio Emergency Communications Team, here after referred to as COARECT, held a mini-SET (Simulated Emergency Training). The purpose of which was to evaluate the effectiveness of using the Mobile Interagency Communications Unit (MICU) and to have individual stations check-in utilizing auxiliary power. This exercise was also an extension and expansion of the previous SET's COARECT conducted this year. Additionally, the SET was to continue the training and fine tuning of individual Net Controllers and station check-in skills.

Stations began to check into the Walker Mountain Repeater at 2:00 pm, after which they were instructed to QSY to Spring Butte Repeater and then to simplex 146.42. Approximately 22 stations participated in the SET and completed checking into the various Net Controllers at approximately 3:10 pm with the SET being terminated at 3:30 pm.

As with any training exercises they are supposed to identify issues that might arise during an actual emergency. With this premise in mind, the SET can be considered a success. Now it is up to COARECT to build upon the positive outcomes as well as to determine actions necessary to improve and/or fix the weak points.

Both Net Controllers and stations checking in did an outstanding job considering some of the technical issues the SET experienced. During and after the SET there were comments regarding a feeling of a lack of frequency control by Net Controllers and radio courtesy by the stations checking in. However, it was determined this confusion was a direct result of technology/equipment issues noted below, and not any individual Net Controller or station Checking in.

During the exercise it became apparent the simplex frequency 146.42 was not a viable frequency for check ins, as for the most part stations could not copy the Net Controller and stations checking in could not be heard as well. In an effort to fix this situation another radio station, outside the MICU, was placed into service. But this did not solve the issue. Finally, 146.52 simplex was placed in service and with the assistance of relay stations it operated with some success. However, whenever the radio for the Walker Mountain Repeater was transmitting it completely blocked incoming and outgoing signals on the simplex frequency. Also, a more significant problem noted during the SET was the MICU radio used for Walker Mountain created significant issues with the radio operating for the Spring Butte Repeater. This resulted in numerous issues with the Spring Butte radio including bleed over, reduction of outgoing/incoming radio signals, and interference. This was even though the radio used to communicating with the Spring Butte repeater was outside of the MICU and approximately 40 feet away from the MICU.

Therefore, as a result of this SET the greatest challenges for COARECT going forward are twofold. One is to determine if the South County shops are a viable site for amateur VHF/UHF operation, due to possible radio interference. The second challenge is to determine if multiple VHF/UHF radios can simultaneously operate in the MICU.



Bottom Line

A-WHAT WAS THE PURPOSE?

1. To operate both the MICU and individuals on auxiliary power.
2. To test radios in the MICU and determine effectiveness in operating multiple radios.
3. To continue team members familiarization with the basic operations necessary in the event of an emergency call-out.
4. Continue to practice the basic operation of individual radios as well as repeaters, and simplex frequencies used in the area.
5. To determine MICU and individual's coverage on simplex frequencies.
6. To allow net controllers to continue to practice and enhance their skills in handling traffic.
7. To maintain effective SET oversight and effectiveness with the appointment of a SET Incident Commander.
8. To maintain radio/equipment reliability with the appointment of a Communication Technician.
9. To have individual stations identify their location by using the proper format for latitude and longitude.

B-WHAT WENT WELL?

1. Stations gained experience in checking in on simplex and repeater frequencies as well as providing Lat/Long in the proper format (Decimal Degrees).
2. During issues with the simplex frequencies COARECT relay stations provided valuable assistance with the check-in of stations that could not be heard or those who could not hear Net Control.
3. All stations provided their call-signs before QSYing to the next frequency.
4. Net Controllers clearly announced the SET with instructions and requests of monitoring stations. They announced at appropriate intervals their call signs and that this is a drill.
5. Assignment of a Communication Technician allowed rapid evaluation of equipment issues, with the ability to address those issues in a reasonable time frame.
6. Identification of a SET Incident Commander allowed for overall evaluation of the exercise and adjust where necessary (ie. When it was determined 146.42 was not operating effectively from the MICU other radios outside of the MICU attempted operation on that frequency. Once it was determined that none of the radios worked effectively Net Controllers and reporting stations were notified to use 146.52. While this frequency was not optimal it did work better than 146.42.)
7. Net Controllers worked to maintain control of their assigned frequency and check-ins.
8. Good participation by members: 22 stations checked in with auxiliary power and 5 personnel worked at the COARECT control point (MICU).



**C-WHAT COULD
HAVE GONE
BETTER?**

1. The most significant issues during the SET were technical in nature. And these included attempting to operate multiple radios inside and/or near the MICU as well as possible problems with the MICU site location. This created intermode and interference issues between MICU stations and the almost complete failure of simplex frequency 146.42. This in turn created the misconception that stations checking in were not using proper radio protocol and Net Controllers were not controlling their frequencies. Again, as has been stated, this perception was a result of the technical issues and not caused either stations checking in or the Net Controllers.
2. There were some pileups on frequencies due to the technical issues as well as Net Controllers having to record requested information.
3. Net Controllers found it difficult to handle both the stations checking in and recording the information requested.
4. There was some confusion on stations checking out of the exercise.
5. At times there were comments interjected during the check-ins which were not directly related to the information requested.
6. Continue efforts to increase the number of personnel who are willing to participate in future SET's and/or ECOM activities.

**D-WHAT
SHOULD BE
CHANGED GOING
FORWARD?**

1. Identify a Task Force consisting of those individuals with the greatest radio knowledge, both practical and theoretical, to address the following issues:
 - a. Evaluate the south county site to determine if there are any issues that may interfere with COARECT radio frequencies. If there are any issues identified what can be done to effectively eliminate the interference?
 - b. Determine if there are any steps that can be taken to allow multiple VHF/UHF radios to be operated out of the MICU simultaneously.
2. Assign a scribe to each one of the Net Controller's positions to assist with recording requested information.
3. Once stations have been assigned a number when checking into the next frequency they will check-in with their assigned number followed by their call-sign. If it appears a number has been skipped, other stations checking in will be asked to stand by and a call will be made for the next number in the sequence. If no response is heard from that station the Net Controllers can move onto the next number in the sequence.
4. Need to develop SOG's which will outline the steps of operation for each piece of equipment on the MICU.
5. Incorporate past SET comments from membership in SETs going forward.
6. Develop a communication plan which will identify primary operational frequencies as well as frequencies to be utilized in the event of a failure or difficulty copying stations involved in the exercise.



**D-WHAT
SHOULD BE
CHANGED GOING
FORWARD?**

7. Net Controller on simplex will identify a relay(s) station with initial check-ins on simplex.
8. All SETs should have an assigned Communications Technician and Incident Commander.
9. Increased training opportunities on the MICU and accompanying equipment.
10. Provide ICS classes necessary to ensure effective operation, during an exercise and/or emergency.
11. Maintain current membership roster with Lat/Long for each member's residence, in proper format in MICU.
12. Continue programming MICU radios with commonly used radio frequencies COARECT may utilize and assign a commonly recognized channel identifier (ie Walker Mt). Maintain a hard copy of all those radio frequencies and their assigned channel number in memory.
13. Provide face-to-face training on all future SETs. Such training will include SET objectives, review of AAR from previous SETs, and address any questions/concerns.
14. Provide an Incident Command class for the membership.
15. Inform local authorities having jurisdiction, fire/police, of any SET activities and where appropriate invite them to participate.
16. Continued participation in Regional, Statewide, and National SETs.
17. Future SETs to be developed and implemented by an assigned Task Force within COARECT.

SPRING BUTTE

COMMUNICATIONS LOG		TASK #	DATE PREPARED: TIME PREPARED:	
FOR OPERATIONAL PERIOD #		TASK NAME: <u>CORRECT 43.664997 -121.507693</u>		
RADIO OPERATOR NAME (LOGISTICS):		STATION I.D.		
LOG				
TIME	STATION I.D.		Information Requested: Auxiliary power type; Lat/Long; Readability and Signal Strength; any other relevant info.	
	Call Sign	Assigned Number		
		1	STA ← → NC ← →	
2009	KC7LUC	2	STA ← 5.9 → NC 5.9 43.4867239 121.394042 (PORT/MOBILE)/BASE	
214	KK7LWC	3	STA ← 5x7 → NC 4x6 43.716820 -121.489773 * PORT BASE	
216	K7MFD	9	STA ← 5x9 → NC 5x7 43.4798332 -121.6847813 (GEN) MOBILE	
225	K7FAM	8	← 5.7 → 5.7 43.7126 -121.4499 LOW POWER BASE HIGH FREQ PORT	
2:21	AAJW	5	STA ← 5.9 → NC 5.9 43.755020 -121.520630 MOBIL/BASE 3 MOBIL, 7 HAND HELDS	
2:34	N6DFW	4	← 5.9 → 5.9 43.724987 -121.517653 UV 59 small ant AT779 DUAL BAND MOBILE	
2:39	K7BIL	13	← 5.9 → 5.8 43.7108728 -121.519319 BASE BATT MOBIL & PORT	

COMMUNICATIONS LOG			TASK #	DATE PREPARED: TIME PREPARED:
146.52 FOR OPERATIONAL PERIOD #			TASK NAME:	
RADIO OPERATOR NAME (LOGISTICS):			STATION I.D.	
LOG				
TIME	STATION I.D.		Information Requested: Auxiliary power type; Lat/Long; Readability and Signal Strength; any other relevant info.	
	Call Sign	Assigned Number		
2:40	K7RPE	12	$\xleftarrow{5 \times 9}$ $\xrightarrow{5 \times 9}$	UV 5 R HT / OUTSIDE ANT 4 MOBILE S
			43.67633 - 121.54556	
2:46	KK7QEL	7	$\xrightarrow{5 \times 9}$ $\xleftarrow{5 \times 9}$	HAND HELD & O/S ANT BASE BUT NO MOBILE
			43.734002 - 121.475248	
2:49	K7WRQ	15	$\xrightarrow{5.9}$ $\xleftarrow{5.9}$	BASE ST & BATT MOBILE IN TRUCK
			43.75339415 - 121.488481	
2:53	K6PZD	19	$\xrightarrow{4.8}$ $\xleftarrow{5.9}$	HT MOBILE IN TRUCK
			43. NO COORDS	
2:59	K7TZW	17	$\xrightarrow{5 \times 9}$ $\xleftarrow{5 \times 9}$ $\xrightarrow{5 \times 9}$	HT BATT BASE ANT NO MOBILES
			43.672793 - 121.531202	
	KK7EYL	11	$\xrightarrow{5.9}$ $\xleftarrow{5.9}$	BASE W/ SOLAR HT HAND HELD
			43.747927 - 121.497140	
3:10	KK7MCA	16	$\xrightarrow{5 \times 9}$ $\xleftarrow{5 \times 9}$	BASE W/O ANT HAND HELD IN TRUCK
			43.75557 - 121.52570	
	K7VUL BOD	18	$\xrightarrow{5 \times 9}$ $\xleftarrow{5 \times 9}$	BASE & POWER SUPPLY MOBILE IN TRUCK
			43.686004 - 121.552426	

[illegible]