After Action Report
2022 Canyon Trail Fire Evacuation Exercise

Overview

Description:	Wildfire Evacuation & Communications Exercise
Event Type:	Cupertino Citizens Corp, Neighborhood Volunteers
Event Name	2022 Canyon Trail Fire
Activation No:	CUP-22-39T
Managing Entity:	Cupertino ARES
Event Date:	21 May 2022
Report Date:	5 June 2022
Report Revision:	v4, FINAL
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Requirements for Reporting[1]

Completing an After-Action Report is part of the required California SEMS reporting process. The Emergency Services Act, Section 8607 (f) mandates that the Office of Emergency Services (OES) in cooperation with involved state and local agencies complete an After-Action Report within 120 days after each declared disaster. Section 2450 (a) of the SEMS Regulations states that, "Any city, city and county, or county declaring a local emergency for which the governor proclaims a state of emergency, and any state agency responding to that emergency shall complete and transmit an after-action report to OES within ninety (90) days of the close of the incident period as specified in the California Code of Regulations, Title 19, s2900(q)." Additionally, "Section 2450 (b) The after-action report shall, at a minimum, be a review of response actions taken, application of SEMS, suggested modifications to SEMS, necessary modifications to plans and procedures, identified training needs, and recovery activities to date."

CARES follows this requirement for reporting the results and recommendations for this Training Event.

i Introduction and Background

Terms

AAR[2]: After Action Report, a document intended to capture observations of an exercise and make recommendations for post-exercise improvements. The final AAR and Improvement Plan (IP) are printed and distributed jointly as a single AAR/IP following an exercise.

AAR/IP: Improvement Plan; identifies specific corrective actions, assigns them to responsible parties, and establishes targets for their completion.

AEC Assistant Emergency Coordinator.

[1] http://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/after-action-corrective-action-reporting; http://temp.caloes.ca.gov/PlanningPreparednessSite/Documents/01%202450.pdf

[2] https://training.fema.gov/programs/emischool/el361toolkit/glossary.htm

ARK	A repository of supplies used by Citizen Corps during emergency incidents and during training.
ARS:	Amateur Radio Service, a licensed service maintained by the FCC.
BL:	Block Leader, a neighborhood engagement program; helps neighbors get to know their neighbors and organize activities so neighbors can more easily communicate.
CAP:	Corrective Action Plan; FEMA; HSEEP[3]: actions identified during activations or exercises that are tracked to completion, ensuring that exercises yield tangible preparedness improvements.
CARES:	Cupertino Amateur Radio Emergency Service is a volunteer organization of FCC-licensed amateur radio operators who will respond to requests from the city during times of emergencies. Their focus is on understanding risks facing the city and putting plans, communications processes, and tools in place to respond to these risks.
CCC:	Cupertino Citizen Corps; the City's umbrella organization for CARES, CERT, and MRC.
CERT:	Community Emergency Response Team, prepares residents for and respond to life-threatening events in their community.
Comm 469, C469:	City of Cupertino Public Safety Communications Vehicle #469. See PSCV definition below.
DOC:	Department Operations Center; manages the overall field CCC deployment; aggregates data to be passed to the EOC. Advises EOC Staff on CCC capabilities, readiness, and activities.
EC	Emergency Communications Coordinator.
EM:	Emergency Manager. City staff member with responsibility for Cupertino's Emergency Planning and Operations.
EOC:	Emergency Operations Center.
FRS:	Family Radio Service, an unlicensed service maintained by the FCC.
GMRS:	General Mobile Radio Service, a licensed service maintained by the FCC.
ICP:	Incident Command Post. A temporary physical location for on-scene incident command and management.
IDR Plan:	Infectious Disease Response Plan.
H&W:	Health & Welfare; used within the context of a Health & Welfare Check. Usually check of field teams to sure they are OK.
NCO/NCS:	Net Control Operator / Net Control Station; the control function that ensures the efficient management and exchange of messages between stations on a designated frequency.
NW:	Neighborhood Watch, a crime prevention program; involves neighbors getting to know each other and working together in a program of mutual assistance.
OEM:	Office of Emergency Management.
PSC	Public Safety Communications, used in context with Comm 469 vehicle.
PSCV	Public Safety Communications Vehicle, #469. Refer to Comm 469 definition above.

[3] https://www.fema.gov/emergency-managers/national-preparedness/exercises/hseep

Introduction

The purpose of an After-Action Report (AAR) is to analyze the management and response to an incident, event, exercise, or test by identifying the strengths to be maintained and promoted, as well as the areas for improvement.

The purpose of this AAR is to review a field exercise involving Cupertino Citizen Corps (CCC) and neighborhood volunteers in to support a simulated evacuation from a wildland fire threat. This report is submitted to Cupertino OEM as a record of our findings, follow-up actions, and recommendations.

Summary

The exercise scenario is similar to what California has been experiencing all too frequently over the past few years: a wildfire starts in the foothills outside of a city with winds driving the fire toward residential areas. With life preservation as the priority, Public Safety agencies set specific Zonehaven[4] zones to either Evacuation Order and Evacuation Warning status. Local volunteers are asked to help.

On Saturday, 21-May-2022, CCC and neighborhood volunteers were activated to simulate a response to just such a scenario with a wildfire approaching from the southwest and threatening Cupertino's west side. This west side population is about 3,400 residents living is neighborhoods, planned unit developments, and senior residence communities. Volunteer responders arrived at the event staging site to check in, receive an event briefing, safety briefing, and their assignments. Twenty-eight (28) responders staffed various field positions including:

1. Comm 469 and RACES net at the ICP
2. Neighborhood net control station at Monta Vista ARK
3. Three senior residences
4. Four field observation posts
5. Five organized neighborhoods

With message-passing as the exercise's primary objective, field observation posts relayed evacuating resident inquiries and other reports, reports from CAL Fire Air Operations at Stevens Creek Dam, provided back-up communications for a NWS Incident Field station, and communications support for a Temporary Evacuation Point. Neighborhood and senior residence radio traffic included evacuation notification and readiness reports, requests for transport assistance, and other general status. All field situations were simulated and guided by individual scenarios.

Leading up to the exercise, three training sessions were held for both CARES and CERT/BL/NW members.

This was the first scenario of this kind for CARES and the first communications exercise for CERT and neighborhood responders in a long time. General feedback from all participants was positive.

Key Findings

Following the exercise, CARES performed an after-action review of our existing operating procedures and aspects of this specific scenario. The lessons learned from this review will drive specific activities within key areas of the CARES and CCC response. Three specific findings from this exercise are:

1. **Plausible scenario**
   When considering Cupertino's location against the foothills, and the wildland fires and evacuations that the Western U.S. has recently experienced, the wildland fire threat is plausible for the city. The need to think through this scenario and work with public safety agencies and

[4] https://community.zonehaven.com/

OEM is important to ensure our community is ready and knows what to do if an evacuation was ever required.

2. **A meaningful neighborhood volunteer mission**
   Clarifying how and when the local community would engage during an emergency, and what they can do, is needed. The *wildland fire plus evacuation* scenario presented participating neighborhood teams with an opportunity to see the need and value in neighborhood organizations, communications, and procedures. The evacuation is one such scenario; there are others that should be explored as well.

3. **Deployment into an Evacuation Zone**
   The State defines an Evacuation Order[5] as "*Immediate threat to life. This is a lawful order to leave now. The area is lawfully closed to public access.*" We recognize that this order essentially limits our participation in supporting the community when neighborhoods are asked to evacuate and, without agreements in place with local public safety agencies, it is unlikely that volunteers will be allowed into an evacuation zone once the evacuation order is issued.

ii. Type / Location

Event Type: City of Cupertino, Citizen Corps Training Activation
Event Identifier: CUP-22-39T
Event Name: 2022 Canyon Trail Fire
Location: City of Cupertino

iii. Description of the Event / Drill / Exercise

The objectives for this exercise were:

1. A RACES emergency net is managed per CARES standard operating procedures.
2. Voice messages are exchanged by radio between RACES field teams and the ICP.
3. Voice and packet messages are exchanged by radio between the ICP and County EOC.
4. Voice messages are exchanged by radio between neighborhood field responders and ARK.
5. The Demob Process is performed for all responders per the current procedure.

Event resources came from the following organizations

1. Cupertino OEM: the Citizen Corps Coordinator was the official volunteer supervisor.
2. Cupertino ARES/RACES: sixteen CARES members were assigned to various command and field positions; communications was by Amateur Radio.
3. Cupertino CERT, Block Leaders, Neighborhood Watch: twelve CERT/BL/NW responders took on ARK, neighborhood, and support roles on field assignments; communications was by FRS and GMRS.

[5] http://calalerts.org/evacuations.html

Performance against Objectives

Objective #1

The Resource net is managed per CARES standard operating procedures.

Results: **Needs Work**

The resource net component of the exercise was to track CARES members from Staging to their assignment and their return to Staging at the end of the exercise. No tracking to and from home locations was planned. All field responders made it to their assignment. However, contrary to our standard training, some field responders did not check into the Resource Net on the way to their assignment. CARES recognizes that tracking all field responders by the Resource NCO or the Shift Supervisor is critical.

Additionally, one field team did not respond to Health and Welfare checks partway through the exercise, although the field team did return to Staging without issue. The Shift Supervisor was not informed to perform the necessary follow-up.

Recommendations:

1. Update field procedures and training to clarify when to use the Emergency Net. In general, a Emergency Net should be established and all field responders should check into the net whenever they have received an assignment and is travelling to (or from) that assignment.
2. Update NCO procedures and training to reinforce the need to handle missing field operators regardless of the activation type.
3. Update the Shift Supervisor safety briefing to include a reminder to field responders to check into the net prior to departing for the assignment.
4. Define, agree on, and practice the method for field resource tracking – T-Cards, forms, etc. This needs to include recording cell-phone numbers of field responders in the event an off-air follow-up is required (CUP-21-39T carryover).

Objective #2

Voice messages are exchanged by radio between RACES field teams and the ICP

Results: **Needs Work**

Incoming messages from field responders included a mix of 3rd party and Informal messages. Most 3rd party messages were passed correctly and recorded on the appropriate ICS 213SF message form without problems. Informal messages – short, oral messages consisting of inquiries, informal status, or field observations – were passed and recorded as ICS 309 entries.

CARES has not addressed the handling of informal messages. As a result, the anticipated handling of both 3rd party and Informal messages did not occur: 3rd party messages were stacked but not routed; Informal messages were not fully recorded or routed.

Additionally, CARES exercises usually include an actual or acting DOC, EOC, or ICP staff member to handle received field reports. Because this function was not in place, there was no obvious reminder or prompt that all received messages need to go somewhere. Not having this position staffed was an exercise design gap.

Lastly, the number of operators required for this exercise called for three of the four C469 operating positions to be staffed. This made it difficult for the Shift Supervisor to directly engage with the internal C469 operations.

Recommendations:

5. Develop and complete the Shift Supervisor Handbook (CUP-21-39T carryover).
6. Update Field and NCO message handling and documentation procedures to clarify requirements for 3rd Party, Informal, and Operational messages.
7. Update NCO and Shift Supervisor processes to ensure that incoming messages are recorded and delivered to the appropriate recipients on a timely basis for both actual and exercise activations.
8. Develop training for handling Field-originated and NCO-received Informal messages; include the use of forms.
9. Define and document the information handoff of received field requests and reports from C469 to the EOC or ICP.
10. Revisit radio operations and how C469 staffing will occur, specifically, limit inside radio operations and moving some functions outside. Ensure compliance with the CCC IDR Plan.
11. Voice operators on the truck need to be using some type of ear piece. Look at lighter PC-style headset for radio use.

Objective #3

Voice and packet messages are exchanged by radio between the ICP and County EOC.

Results: **Satisfactory**

Comm 469 also participated in the County RACES exercise net. Formal 3rd party messages were successfully exchanged with County EOC over the voice net.

Because of a Comm 469 PC failure, packet messaging was handled by a members' packet station brought to C469. Packet operations with County EOC went well once an addressing issue was resolved. All packet messages were resent and correctly acknowledged.

Recommendations:

12. Update the *(the unofficial) Amateur Packet Radio Field Reference* with addressing basics. Change all address examples to include partial or fully qualified domain names.
13. Replace the C469 Position 2 packet PC.
14. Reconfigure the packet Terminal Node Controller (TNC) to make it accessible from the C469 LAN. This will allow a packet operator to operate anywhere within C469 Wi-Fi range and leverage the installed C469 packet equipment.
15. Verify County frequency availability in CARES and Comm 469 documentation.
16. Encourage all CARES packet operators to attend the County Packet Training Parts IIIA & IIIB, and the Monthly Packet Practice.

Objective #4

Voice messages are exchanged by radio between neighborhood field responders and the ARK.

Results: **Satisfactory**

With very little message passing training or any recent hands-on radio practice, the neighborhood radio responders did very well. Messages were originated per their scenario sheet and successfully transmitted to the neighborhood Net Control Station at the ARK. Follow-up clarifying questions were passed back and were appropriately answered. Net Control maintained order and managed the information flow.

While some messages contained quite a bit of extraneous information (making the messages longer than needed), in the end, the message handling worked. However, for a larger radio-equipped field operation, better channel utilization and message efficiency will be needed meaning additional message passing training, procedures, and practice.

Lastly, considering that this exercise focused on the west side of Cupertino, the wildfire threat also exists for all southern city-perimeter zones and neighborhoods. The evacuation concepts should be leveraged to other areas within the city to build awareness of the risk and the tools available to the community to help save lives.

Recommendations:

17. Leverage or develop a CCC Message Passing training for Neighborhood responders. This should include how to distill and pass only the essential information from observations and conversations with residents, message forms, and basic logging.
18. Define evacuation-related information to be passed, formats, and training.
19. Develop the neighborhood evacuation playbook that covers not only personal preparedness, but also neighborhood preparedness. Leverage the CAL Fire *Ready-Set-Go* concepts.
20. Consider engaging Cupertino's south-facing neighborhoods (zones CUP-E029 thru CUP-E034) with the intent of running this exercise again.
21. The Monta Vista ARK antenna is not hitting the repeater with sufficient clarity when compared to other GMRS ARK stations. Recommend changing out this antenna and increase the height to clear the Fire Station roof (CUP-22-44T carryover).
22. Increase city-wide neighborhood radio coverage by growing the communications component within the Neighborhood Volunteer ranks.

Objective #5

The Demob Process is performed for all responders per the current procedure.

Results: **Satisfactory**

In general, the demobilization process worked. Two volunteer members staffed the Demob desk to handle returning field responders. This worked well and helped to avoid a backlog at the Demob area.

However, this activity did uncover a problem with the logistics process. Specifically, some volunteers were issued vests and badges for operating in public but the equipment loan was not recorded. Thus, during demobilization, there was no record of who was given what equipment and what was needed to be recovered. Fortunately, the Demob process asked a general question on returning loaned equipment and affected field responders acknowledged the loan.

Recommendations:

23. Review and update (if necessary) the logistics process for issuing and recovering equipment that is distributed to responders and how that information flows to Demob.

iv. Chronological Summary of Event / Drill / Exercise

CCC ran this exercise under activation number CUP-22-39T. The following is a summary of the activities as reported on submitted ICS-214's. All times listed here are in local time. The following is a very high-level summary.

Time	Description, Notes, Comments
0700	Retrieve Comm 469
0725	Comm 469 arrived at Monta Vista Fire Station
0806	Begin Packet Radio station setup
0828	Packet Radio setup complete
0900	Scenario overview, Safety Briefing
0925	Made assignments
0928	CARES Emergency Net activated
0945	Opened Neighborhood FRS/GMRS net
1000	Begin County RACES comm operations
1006	Checked in to County Packet Net
1110	Begin Demob setup
1115	End of Exercise announced
1122	Shut down County RACES comm operations
1126	Checked out of County Packet Net
1130	Closed Neighborhood FRS/GMRS net
1145	Completed Demobilization; shut down Demob Unit
1300	Returned Comm 469 to Service Center

v Response at SEMS Levels (as appropriate):

The Field Response was made up of CARES, CERT, Block Leaders, and Neighborhood Watch members. Staging was set up at the Monta Vista ARK where responders received the safety briefing and their assignment.

The following specifics are noted:

- Twelve field team assignments were made.
- The Two-Man Rule (buddy system) was in effect for field responders operating in public spaces.
- Four (4) county voice messages, 5 county packet messages, 14 CARES field messages, and 8 neighborhood responder messages were passed. Additionally, several informal messages were passed.
- A single net was run to cover both the Resource Net and Message Net functions. This essentially was the CARES Emergency Net.
- A Demobilization plan was put in place to collect and verify all event documentation.

No other organization, jurisdiction, or agency was involved with this text.

vi. Interacting Systems, Agencies, and Programs

County Fire was notified of our presence at the Monta Vista Fire Station. No other interaction occurred.

County Sheriff was notified of the exercise and was given the list of field assignments to ensure any phone calls from concerned residents could be addressed. No other interaction occurred.

vii. Improvements, Conclusions, Recommendations:

The following is a grouped summary of the Corrective Actions identified above:

Training

1. Update field procedures and training to clarify when to use the Resource Net. In general, a Resource Net should be established and all field responders should check into the net whenever they have received an assignment and is travelling to (or from) that assignment.
2. Update NCO procedures and training to reinforce the need to handle missing field operators regardless of the activation type.
3. Develop training for handling Field-originated and NCO-received Informal messages; include the use of forms.
4. Encourage all CARES packet operators to attend the County Packet Training Part IIIA & IIIB.

Procedures

5. Define, agree on, and practice the method for field resource tracking – T-Cards, forms, etc. This needs to include recording cell-phone numbers of field responders in the event an off-air follow-up is required (CUP-21-39T carryover).
6. Update NCO and Shift Supervisor processes to ensure that incoming messages are recorded and delivered to the appropriate recipients on a timely basis for both actual and exercise activations.
7. Define and document the information handoff of received field requests and reports from C469 to the EOC or ICP.
8. Revisit radio operations and how C469 staffing will occur, specifically, limit inside radio operations and moving some functions outside. Ensure compliance with the CCC IDR.
9. Review and update (if necessary) the logistics process for issuing and recovering equipment that is distributed to responders and how that information flows to Demob.

Documentation

10. Update the Shift Supervisor safety briefing to include a reminder to field responders to check into the net prior to departing for the assignment ("OK, before you go, check in with Net Control").
11. Develop and complete the Shift Supervisor Handbook (CUP-21-39T carryover).
12. Update Field and NCO message handling and documentation procedures to clarify requirements for 3rd Party, Informal, and Operational messages.
13. Update the *(the unofficial) Amateur Packet Radio Field Reference* with addressing basics. Change all address examples to include partial or fully qualified domain names.
14. Verify County frequency availability in CARES and Comm 469 documentation.

Equipment

15. Replace the C469 Position 2 packet PC.
16. Reconfigure the packet Terminal Node Controller (TNC) to make it accessible from the C469 LAN. This will allow a packet operator to operate anywhere within C469 Wi-Fi range and leverage the installed packet equipment.

17. The Monta Vista ARK antenna is not hitting the repeater with sufficient clarity when compared to other GMRS ARK stations. Recommend changing out this antenna and increase the height to clear the Fire Station roof (CUP-22-44T carryover).
18. Voice operators on the truck need to be using some type of ear piece. Look at lighter PC-style headset for radio use.

Neighborhood Volunteers

19. Leverage or develop a CCC Message Passing training for Neighborhood responders. This should include how to distill and pass only the essential information from observations and conversations with residents, message forms, and basic logging.
20. Define evacuation-related information to be passed, formats, and training.
21. Develop the neighborhood evacuation playbook that covers not only personal preparedness, but also neighborhood preparedness. Leverage the CAL Fire *Ready-Set-Go* concepts.
22. Consider engaging Cupertino's south-facing neighborhoods (zones CUP-E029 thru CUP-E034) with the intent of running this exercise again.
23. Increase city-wide neighborhood radio coverage by growing the communications component within the Neighborhood Volunteer ranks.

Additionally, the following actions are recommended to further enhance the neighborhood volunteer capabilities.

24. Develop CERT/BL/NW training and exercise recommendations for the balance of 2022 and 2023.

Conclusion

While we went into this exercise with very specific objectives, all participants coincidentally contributed to a broader set of goals: internalizing the response to a wildland fire threat to the community, engaging the neighborhoods as partners in a response, and giving the neighborhoods a (RF) voice to share what they see, know and need.

For the CERT, Block Leaders, and Neighborhood Watch teams, we all saw the opportunity to further promote the radio communications as a tool for the neighborhoods, essentially '*a means to an end*'. FRS in the field with GMRS and Amateur Radio at the ARKs is a winning combination. Broadening the acceptance for FRS radio and personal ownership is essential to extend the reach of city emergency services and support into as many neighborhoods as possible.

For the Cupertino ARES team, as with all of our exercises, the list of recommendations and corrective actions on which we can work is substantial. As with all exercises, attaining perfection is not in scope. However, the refinements we will make should move us forward in achieving consistency in our execution and repeatability in our processes. The field responder processes work well considering how often we exercise them. This round of follow-up activity will focus on our core management processes: Net Control, Packet Ops, and Shift Supervisor.

Lastly, the comments and feedback we received reflected an understanding of the value of the exercise by experienced responders and enthusiasm by first-timers as they saw the relevance of what they achieved. In both cases, we want to build on this sense of accomplishment.

End of Report.