

After Action Report

Earthquake 2016 Exercise



Cupertino
ARES/RACES

1. Overview

Description: Communications Outage, Packet Edition
Event Date: 10 December 2016
Report Date: 22 January 2017
CARES Event: CUP-16-34T
RACES Event: CUP-16-34T
Control: Cupertino ARES/RACES
Report Revision: 1.0, **FINAL**
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Requirements for Reporting¹

Completing an After Action Report is part of the required 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)."

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

i. Introduction and Background

Terms

ARK: Shipping containers with emergency supplies used by Cupertino Citizen Corps to support a local response where assistance is rendered to City residents. There are 6 ARKs within the City covering approximately equal zones.

CARES: Cupertino Amateur Radio Emergency Service, ARES/RACES organization supporting the City of Cupertino.

CCC: Cupertino Citizen Corps; the City's umbrella organization for CARES, CERT, and MRC.

CERT: Community Emergency Response Team; trained members who can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help.

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.

MRC: Medical Reserve Corps; volunteers who are practicing or and retired physicians, nurses and other health professionals, as well as other citizens interested in health issues, who are eager to volunteer to address their community's ongoing public health needs and to help their

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>

| | |
|----------------|---|
| | community during large-scale emergency situations. |
| NCO/NCS: | Net Control Operator / Net Control Station. The control function that ensures the efficient passing of messages between stations on the frequency. |
| PSAP: | Public Safety Access Point; a call center responsible for answering calls to an emergency telephone number for police, firefighting, and ambulance services. Trained telephone operators are also usually responsible for dispatching these emergency services. |
| RRO: | Radio Room Operator. The position that originates and receives messages for exchange with field responders. |
| Served Agency: | An agency, special district, or other recognized organization with which CARES has a signed Memorandum of Understanding to assist in time of need. |
| Zone | One of 6 regions within the City of Cupertino supported by an ARK. |

Introduction

The City of Cupertino supports testing the community emergency response plans and ongoing disaster preparedness readiness as an essential component to a successful community disaster response. One aspect of disaster preparedness is the on-going evaluation of risks that the City may encounter, and the capabilities, plans, and processes that are in place to mitigate or respond to the risks. This report describes the exercise results in response to one such risk.

Cupertino OES continues to invest in ARKs as well as refine the mission of the City volunteers who will respond to and operate out of the ARKs. Recent Citizens Corps exercises focused on specific processes critical to support the city. In doing so, it has been 4 years since we have opened and operated from all ARKs at the same time.

With a major earthquake as the scenario, the December 2016 exercise was designed to bring several recent process and tool initiatives to play as we would expect to do during an actual event. See the objectives below for the scope of the systems under test. The City of Cupertino authorized this exercise with training activation number CUP-16-34T. This report covers the activities undertaken by CARES and the findings from that drill.

ii. Type / Location of Event / Drill / Exercise

Event Type: City of Cupertino, CARES Training Activation
 Event Identifier: CUP-16-34T
 Event Name: Earthquake 2016
 Location: City of Cupertino

iii. Description of the Event / Drill / Exercise

The objectives for this exercise were:

1. Exercise voice and packet message passing procedures.
2. Exercise ARK Startup procedures to Level 2.
3. Test ARKnet communications with the EOC.
4. Exercise the amateur radio equipment and procedures at the SCC Fire Stations located in the City.
5. Exercise CCC to DOC information roll-ups.

Event resources came from the following organizations:

1. Cupertino ARES/RACES: Responsible for staffing the EOC, Communications Van, and Field Responder locations at the ARKs and County Fire. Thirty-two (32) CARES members participated in the exercise.
2. CERT: Responsible for staffing the Field Responder locations. Twenty-nine (29) Cupertino CERT members participated in the exercise.

Volunteer Responders

3. City Staff: Additionally, City Staff members were present and responsible for the following:
 - a. OES Logistics. One staff member performed logistical support for deployed field teams.

The drill was initiated as a pre-announced event with Citizens Corps members knowing how and where to respond at the appointed time.

Performance against Objectives:

1. Exercise voice and packet message passing procedures.

Results: **MIXED**. While formal message passing worked as practiced, some tactical and administrative (unwritten) voice messages took longer than necessary. Packet operations resulted in only 3 messages passed to County Comm over a 90 minute period. While this message load to County Comm may be more realistic, more analysis is needed of received messages to fully understand the status of the other anticipated messages

2. Exercise ARK Startup procedures to Level 2.

Results: **SATISFACTORY**. The ARK Activation Level 2 procedures worked as planned with all ARKS opened and made operational. While some process adjustments are needed, the outcome for this objective was very positive.

3. Test ARKnet communications with the EOC.

Results: **SATISFACTORY**. This was the first test during a drill for ARKnet. Telephone communications was established between the DOC and De Anza ARK. The test of the infrastructure build-out to date was successful.

4. Exercise the amateur radio equipment and procedures at the SCC Fire Stations located in the City.

Results: **SATISFACTORY**. CARES activated the 2 SCC Fire Stations that were part of this exercise. Voice and Packet communications worked with all County Fire equipment working without issue.

5. Exercise CCC to DOC information roll-ups.

Results: **UNSATISFACTORY**. The Van-to-DOC network was brought up and made operational. Telephony service was established between all available VoIP phone locations. The BETA versions of the Ics213mm v3.2 and Outpost v3.2 programs were not deployed due to insufficient training and no process definition. CARES needs to answer the feasibility question on the usefulness of these tools first before further investing in this capability.

iv. Chronological Summary of Event / Drill / Exercise

The following is a very high level summary of the main activities that were submitted after the test. All times listed here are in local time.

| Time | Loc | Description, Notes, Comments |
|------|----------|---|
| 0700 | Comm Van | Comm Van at City Hall |
| 0740 | Comm Van | Comm Van staff briefing |
| 0800 | Comm Van | Resource Net is active, message net is ready |
| 0838 | GGA | CARES member assigned to Garden Gate ARK |
| 0845 | LSA | CARES member assigned to Lawson ARK |
| 0854 | RSA | CARES member assigned to Regnart ARK |
| 0900 | F72 | CARES member assigned to Seven Springs Fire Station |
| 0902 | F71 | Cupertino Fire Station Comm Ops operational |
| 0905 | Comm Van | Assigned Field Supervisor 1 |
| 0930 | LSA | Passed 1st message from Lawson ARK to the EOC |
| 0936 | RSA | Regnart ARK operational |
| 0945 | GGA | Passed 1st message from Garden Gate ARK to the EOC |
| 0945 | F72 | Fire Station Comm Ops operational |
| 0947 | DZA | Passed 1st message from De Anza ARK to the EOC |

| Time | Loc | Description, Notes, Comments |
|------|----------|---|
| 0950 | MVA | Monta Vista ARK Codes retrieved, starting setup |
| 1020 | MVA | Passed 1st message from Lawson ARK to the EOC |
| 1048 | Comm Van | Drill operations ended |
| 1050 | DZA | Shutting down ARK operations |
| 1055 | MVA | Shutting down ARK operations |
| 1100 | RSA | Shutting down ARK operations |
| 1100 | F72 | Shutting down Fire Station operations |
| 1105 | GGA | Shutting down ARK operations |
| 1109 | F71 | Shutting down Fire Station operations |
| 1131 | Comm Van | Resource net and Message net are shut down |
| 1135 | EOC | Debrief in the EOC |

v. Response at SEMS Levels (as appropriate):

Include a summary, conclusions, the field response, and other local, operational area, regional, state or federal response.

Interaction with Santa Clara County Comm

A County RACES member responded to Santa Clara County Communications Center (County Comm) to staff the resident amateur radio system. While drill messages were passed to County Comm, no actual hand-off of 911 messages was made to County Comm dispatch for their action (simulated or otherwise).

This exercise also uncovered the need for a clear county-level process for interacting with County Comm staff. See the Corrective Action Plans for information on next steps.

vi. Interacting Systems, Agencies, and Programs:

Include mutual aid systems (law enforcement, fire/rescue, medical, etc.); cooperating entities (utilities, American Red Cross, Sheriff's Office, City Departments, etc.); telecommunications and media interactions.

Field Operations Teams

Eight field operations teams were deployed with each team consisting of at least one CARES member and one or more CERT members. As anticipated when officially activated for an emergency, this partnership will allow Cupertino Citizen Corps to deploy more field teams with communications capability than if we had to double-up with communicators. However, to ensure CARES members had a successful ARK experience, at least 2 CARES members were deployed to each ARK. The roles of the members were as follows:

1. CARES: radio facing; maintained radio contact with the EOC; was control operator for all packet operations; made all required communications log entries as necessary.
2. CERT: community facing. Was the first point of contact with an approaching community member to take their report; engaged the public as necessary. SIMULATED community request scenarios were scripted and the CERT team member evaluated the immediacy of the request and determined the essential elements of the request to be conveyed by formal radio messages to SIMULATED served public safety agencies.

Additionally, both CARES and CERT responders had an opportunity to create packet messages to be sent to the EOC or County Comm.

911 Message Process

One of the ancillary tests of this exercise was to pass all 911 messages to County Comm by AX.25 packet radio. This 911 message process must be fully developed, reviewed, tested and evaluated before final adoption. Not too much of a surprise, the performance against a preliminary list of critical success factors points to plenty of room for improvement. For this drill, the following was concluded:

1. Field Teams can differentiate a 911 request from a general request.
Results: INCONCLUSIVE for this drill; it appears that not every station created and sent a 911 packet message.

2. Field Teams can summarize community requests into succinct messages to be passed to County Comm.
Results: INCONCLUSIVE for this drill; it appears that not every station created and sent a 911 packet message.
3. The 911 packet system received and recorded all incoming 911 requests.
Results: Very Good. The County Comm packet station was activated and polled for incoming messages every 3 minutes. The actual poll time must be agreed to by County RACES to balance timely delivery of critical 911 messages to County Comm with channel utilization.
4. 911 message hand-off of all incoming 911 requests to County Comm for dispatch.
Results: Out of scope for this drill. This aspect of the process will be tested once the process is defined and validated.

Communications Systems

1. All radio nets were run on Simplex. Coverage and use was reported as satisfactory except for Monta Vista ARK (furthest from the EOC); reception was problematic and required a higher gain antenna form them to hit the EOC.
2. The VAN-to-DOC network was activated and worked as planned. The network application used was limited to VoIP telephone service.

CCC Department Operation Center

The CCC DOC was staffed. The following specifics are noted here:

- The DOC originated and passed messages to the Comm Van for transmission to the Field.
- Interactions with the EOC: received messages were passed by paper hardcopy net and telephone to the DOC.

vii. Improvements, Conclusions, Recommendations:

As applicable, include a description of actions taken, assignments, associated costs or budget, timetable for completion or correction, and follow-up responsibility.

The following is a summary of the key observations and recommendations.

What worked

- Net controls stations did a good job.
- Retrieving the ARK access codes worked.
- All ARKS were opened.
- ARK generators worked, many within 3 pulls to start.
- Phone demo of ARKnet from De Anza ARK to the DOC.

What didn't work / needs improvement

- Monta Vista ARK antenna and coverage.
- Equipment problems... Radio (cabling), PCs, radio frequencies not programmed.
- Message handling; also differentiate between informal and 3rd party messages.
- Personal HT Tone and Squelch not correctly set.
- DZA ARK is aluminum. Need to note that Mag Mounts only work from the ARK corners (steel).
- Long pause between checking in and getting the assignment.
- Not all messages were passed in 5-7 word blocks.
- Voice vs packet decision making needs refinement.

Assessment against Critical Tasks

The Preparedness Measures listed below are essentially a rephrasing of each Critical Task's Process Task Element. Each Process Tasks Element was evaluated per for the 5 Results/Metrics by asking the question: "do we have a working < Process Tasks Element>?"

Results/Metrics

- Yes: task element exists, and essentially worked
- Partial: task element exists, but the results were mixed; may need some work time or resources permitting
- No: task element exists, but did not work; definitely needs work
- N/A: task element exists, but was Not Applicable for this drill
- Incomplete: task element does not exist, and is still under development.

Results may not necessarily be derived from activities from this drill, but continues to give CARES an opportunity to further refine select Critical Task elements.

| | Critical Task | Preparedness Measure (ref: Process Task Element Description). Do we have a working ... | Results/Metrics |
|----|----------------------|--|-----------------|
| 1 | 9-1-1 Operations | 9-1-1 end to end Message Process | PARTIAL |
| 1 | 9-1-1 Operations | County Communications Center site access | No |
| 1 | 9-1-1 Operations | County Communications Center equipment check | No |
| 1 | 9-1-1 Operations | 9-1-1 County RACES operational relationship | No |
| 1 | 9-1-1 Operations | 9-1-1 Field Operations procedure and resources | Partial |
| 2 | ARK Operations | ARK Strategy and Operations | Incomplete |
| 2 | ARK Operations | ARK Activation Levels procedures | Incomplete |
| 2 | ARK Operations | ARK inventory and replenishment process | YES |
| 3 | County EOC Comm | TBD | TBD |
| 4 | Event Management | Shift Supervisor (COML) Procedures | NO |
| 4 | Event Management | Resource management and characterization | NO |
| 4 | Event Management | Resource provisioning process | NO |
| 4 | Event Management | Resource tracking process (T-Cards) | NO |
| 5 | Field Communications | Field responder operations procedures | Partial |
| 5 | Field Communications | City Packet operations procedures | Partial |
| 5 | Field Communications | Message type definition and handling procedures | Partial |
| 6 | NCO, Messaging | Message NCO Process | NO |
| 7 | NCO, Resources | Resource NCO Process | NO |
| 8 | Safety Assessments | PSA Process | N/A |
| 8 | Safety Assessments | ISA Process | N/A |
| 8 | Safety Assessments | Agreements with San Jose Water, Cup Sanitary District | YES |
| 8 | Safety Assessments | Information Security procedures | Partial |
| 9 | SCCFD Station Ops | SCCFD ACES program | NO |
| 9 | SCCFD Station Ops | Fire Station qualification | NO |
| 9 | SCCFD Station Ops | Fire Station Access procedure | NO |
| 9 | SCCFD Station Ops | Agreements with SCC Fire Department | NO |
| 9 | SCCFD Station Ops | SCCFD Station equipment check plan | NO |
| 10 | VA/EOC Operations | Van Qualification plan | YES |
| 10 | VA/EOC Operations | Van Operations & Deployment Plan | Partial |
| 10 | VA/EOC Operations | VAN equipment check plan | NO |
| 10 | VA/EOC Operations | VanNet Setup & Operations Procedures | Partial |
| 11 | Watches | Creek Watch Plan and Procedures | NO |
| 11 | Watches | Ember Watch Plan and Procedures | NO |

| | Critical Task | Preparedness Measure (ref: Process Task Element Description). Do we have a working ... | Results/Metrics |
|----|----------------------|---|------------------------|
| 11 | Watches | Message content definition | NO |

viii. Logs, attachments:

As applicable, include a description of actions taken, assignments, associated costs or budget, timetable for completion or correction, and follow-up responsibility.

The following reports are attached:

1. Corrective Action Plan

End of Report.

A. Improvement Plan

This IP has been developed specifically for CARES as a result of 2016 Earthquake Exercise (CUP-16-34T) conducted on 10 December 2016. These recommendations draw on the results of the After Action Debrief. The IP has been formatted to align with the Corrective Action Program System.

| Critical Task | Element | Description | Corrective Action | Responsible Organization | POC | Start Date | End Date |
|------------------|--------------------|---|---|--------------------------|-------|------------|----------|
| 9-1-1 Operations | Planning | 9-1-1 end to end Message Process | Finalize County Comm message handoff process | | | | |
| 9-1-1 Operations | Planning | 9-1-1 end to end Message Process | Finalize 9-1-1 message format | | | | |
| ARK operations | Planning | ARK Activation Levels procedures | Finalize ARK Activation Level Guide w/ CCC; publish and distribute | CCC Steering Committee | CARES | | |
| Event Mgmt | Planning | Resource mgmt and characterization | Define procedures, tools for resource provisioning; Table top exercise to evaluate. | | | | |
| Field Ops | Planning | Field responder operations procedures | Revisit Message Handling procedures. | | | | |
| Field Ops | Planning, Exercise | Message type definition and handling procedures | Formalize on message types, approach for passing; Table top exercise to evaluate. | | | | |
| Field Ops | Planning | City Packet operations procedures | Refine packet check-in procedures. | | | | |
| Field Ops | Eqt & Systems | City Packet operations procedures | Check, correct all packet kit radio frequency memory programming. | | | | |
| Field Ops | Eqt & Systems | City Packet operations procedures | Check in on the weekly County Packet net. | | | | |
| NCO, Message | Planning | Message NCO Process | Revisit, update Message NCO, contact procedures. | | | | |
| NCO, Message | Exercise | Message NCO Process | Evaluate, adopt ICS 309 for NCO logging; Table top exercise to evaluate. | | | | |
| NCO, Resource | Planning | Resource NCO Process | Review and adopt/adapt County RACES Resource Tracking procedures. | | | | |
| NCO, Resource | Planning, Exercise | Resource NCO Process | Investigate SCC RACES Travel Tracking Form; Table top exercise to evaluate. | | | | |
| NCO, Resource | Planning | Resource NCO Process | Add Travel Net procedures to Cupertino 5K Run events. | | | | |

| Critical Task | Element | Description | Corrective Action | Responsible Organization | POC | Start Date | End Date |
|-------------------|---------------|--------------------------------------|--|--------------------------|-----|------------|----------|
| SCCFD Station Ops | Eqt & Systems | SCCFD Station equipment plan | Finish Monta Vista Station Setup. | | | | |
| SCCFD Station Ops | Personnel | SCCFD ACES program | Finalize ACES program definition and qualification. | | | | |
| SCCFD Station Ops | Eqt & Systems | SCCFD Station equipment plan | Check all packet radio and voice radio frequency memory programming. | | | | |
| VAN/EOC Ops | Eqt & Systems | VanNet Setup & Operations Procedures | Correct VANnet PC/network setup problem. | | | | |
| VAN/EOC Ops | Eqt & Systems | VAN equipment plan | Check all packet radio and voice radio frequency memory programming. | | | | |
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