

# 2012

## Berkeley CERT Citywide Exercise



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## Acknowledgements

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The 2012 Berkeley CERT Citywide Exercise Planning Team

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5<sup>th</sup> and Channing Neighborhood Group

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And to all participating neighborhood and community group leaders.

## Executive Summary

This after action report is intended to assist the City of Berkeley's Office of Emergency Services and Community Emergency Response Team (CERT) program by identifying strengths, identifying potential areas for further improvement and by recommending follow up actions learned from the 2012 Berkeley CERT Citywide Exercise.

The 2012 Berkeley CERT Citywide Exercise was conducted on May 19, 2012. Objectives of the exercise focused on emergency communications. The exercise was the first of its kind in Berkeley. Exercise events were scheduled from 9am to 11am followed by a Citywide Exercise Debriefing hosted by the City's Office of Emergency Services at 12pm at the Berkeley Fire Department Warehouse. Over 900 community participants from over 70 neighborhood groups throughout Berkeley participated.

A website and Participant Handbook was developed to guide exercise players in activating themselves and their neighbors for the event. Participation was designed to be scalable so that any individual or group of individuals could participate to their current level of preparedness and knowledge regardless of prior training in Berkeley's CERT program. More than half of the participants in the Citywide Exercise did not have any prior CERT training.

Scale of activities ranged from basic phone contact with out-of-area emergency contacts and listening to emergency broadcasts from the City to in-depth set up of neighborhood incident command posts to organize and conduct simulated CERT light search and rescue operations and practice of emergency radio communications. The largest number of participants in one group was 42 with fourteen groups having 20 or more participants at their site.

The City activated and promoted awareness of emergency communications systems like Radio 1610 AM and the Berkeley Emergency Notification System (BENS). Also among the exercise objectives, the City activated amateur radio operators to provide emergency message passing from fire stations. Berkeley Fire Department dispatched companies to visit some participating neighborhoods to simulate CERT interaction with professional responders and to convey the value of the work these neighborhood and community leaders bring to disaster readiness efforts.



## Strengths

Key strengths identified included:

- Community participation was significant. Over 900 participants and over 70 neighborhood groups participated in the exercise.
- Scalability of the exercise was effectively implemented by participants at both the individual and group levels.
- The Participant Handbook successfully conveyed ways that groups can participate and to engage their neighbors to participate.
- Outreach for the exercise was successful in promoting awareness of the Berkeley Emergency Notification System (BENS).
- The citywide event functioned well as an opportunity to practice some basic response skills.

## Areas for Improvement

Recommendations for improvement included:

- Fire station access policies and official affiliation with the City for volunteering amateur radio operators should be clarified.
- Registration process to receive a BENS exercise message should be better communicated to participants.
- Radio 1610 AM broadcast was not understandable by many participants in the exercise.
- Outreach and marketing efforts should be increased and improved for future exercises both to internal city departments, to community stakeholders, and to residents.
- Do this more often. Increase the number of opportunities for city supported practice by the community.

## Narrative

The City of Berkeley's Community Emergency Response Team aims to provide education in disaster preparedness and training in basic emergency skills. By preparing neighborhoods and community groups with basic emergency skills we can lessen the effect of a disaster and help sustain ourselves until assistance can arrive.

The Berkeley CERT Citywide Exercise provides participants an opportunity to practice disaster response in their own neighborhoods. All individuals or community groups are encouraged to participate regardless of their level of CERT training or previous participation in City disaster preparedness activities.

### Exercise Objectives

1. Communicate with an Out-of-Area Contact
2. Receive an exercise text message from the Berkeley Emergency Notification System (BENS)
3. Listen for important information on 1610 AM radio.
4. Demonstrate effective communications within the neighborhood
5. Demonstrate effective communications with the Berkeley Emergency Operations Center through the fire stations (via runners and also ham radios, if available).

### Out-of-Area Contact

About 400 of the exercise participants reportedly made contact with their designated out-of-area emergency contacts. As a basic part of a disaster plan for personal and family preparedness, this exercise objective promoted participation at the individual level. Exercising this part of the plan helps participants not only establish an emergency contact plan if they did not already have one, but also to test what they would do if their out-of-area contact were unreachable or unavailable at the time.

### Berkeley Emergency Notification System (BENS) SMS Message

SMS text messages were sent to registered mobile phones to improve exercise participants' awareness of the Berkeley Emergency Notification System. This portion of the exercise activated only a limited functionality (only SMS text messaging) of the BENS system and did not exercise the full BENS system (voice, email, TTY).

A number of participants reported that they did not receive the BENS message. Most of these instances were determined to be due to participants' confusion about registration (many did not understand that they needed to follow a separate registration process to receive an

exercise message), participants registering to receive a text message too close to the exercise activation and data entry errors in the exercise registration process.

All of the 338 SMS text messages were successfully delivered by BENS to the SMS Gateway. However, 17 of those messages (5%) did not reach registrants' phones. Documented reasons included mobile carrier blocks and insufficient prepaid balances on destination phones. Blocks are established and removed at the discretion of carriers and phone owners. The impact of mobile carrier blocks may be decreased through communication of these technical requirements to BENS registrants by the City, and through coordination of registering phone owners with their carriers.

### **Radio 1610 AM**

Radio 1610 AM is the City of Berkeley's broadcast frequency for travel advisory information. This radio frequency will be utilized in a disaster as a method of public information and warning. The Berkeley CERT Citywide Exercise encouraged participants to tune in to test their ability to receive this message in their home or neighborhood.

As with previous communications exercises conducted by the city, the test produced reportedly mixed results. 253 participants were reported to being able to receive the exercise message on AM radio. However, many others (more than 40 individual survey respondents) were unable to receive the radio station clearly from their location. See the map in Appendix A. Although the relatively small data sample and qualitative nature of the information obtained limit the applicability of this data for specific technical improvements in Radio 1610 AM, the exercise demonstrated that this public information outlet does not currently reach all locations in Berkeley with access to AM radio.

### **Amateur Radio Operators**

The City of Berkeley simulated Emergency Operations Center (EOC) information gathering through activation of amateur radio operators at fire stations and at the simulated EOC. Twenty-five amateur radio operators activated with the Northern Alameda County Amateur Radio Emergency Service/Radio Amateur Civil Emergency Service (NALCO ARES RACES) for this exercise. Twelve were assigned to the seven fire stations, two at the simulated EOC, one as a rover, and the remainder directly in neighborhood groups.

Simulating the loss of traditional 9-1-1 communications systems, community members utilized the amateur radio network established at fire stations for emergency communications and reported attempted delivery of over 135 messages to the EOC in the two-hour exercise operational period. Forty-nine messages were passed to the EOC within this time frame, thirty-

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two in the last hour of the exercise where messages were passed at an average rate of two minutes per message.

This portion of the exercise highlighted the importance of amateur radio as a medium of emergency communications especially when other communications are compromised as well as the continued need for training and exercise on effective message passing.



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## Overview

### Activity Name

2012 Berkeley CERT Citywide Exercise

### Duration

4 hours

### Exercise Dates

May 19, 2012

### Participating Agencies

City of Berkeley

Berkeley Community Emergency Response Team (CERT)

Berkeley Fire Department

City Manager's Office

### Number of Participants

Players 900+

Evaluators 2

Controllers 1

### Focus

Response

Recovery

Prevention

Other

### Type of Exercise

Full Scale

## Evaluation

Exercise evaluation was conducted for players through player debriefing, player evaluation and feedback forms, and online feedback survey, and for amateur radio operations through evaluator monitoring of radio transmissions. The exercise was designed to provide participants with an opportunity to activate CERT trained community members to practice and test emergency preparedness, plans and response skills in their local neighborhood setting. Participants identified strengths, areas for improvement and potential improvement actions. Observations focus primarily on overall actions, interactions and challenges at the city program management level and at the neighborhood organizer level rather than on individual players.

## Exercise Schedule

Date	Time	Event or Activity Description, Notes, Comments
5/19	0900 hrs	Exercise Start
5/19	1100 hrs	Exercise End
5/19	1130 hrs	Player Hotwash
5/19	1200 hrs	Citywide Exercise Debriefing
5/19	1300 hrs	End Exercise Activities



## Demonstrated Strengths and Improvement Plan

The 2012 Berkeley CERT Citywide Exercise objectives were intended to engage as broad an audience as possible and to be scalable for varying participation levels. Key strengths demonstrated include notable participation levels for the first iteration of this community event, effective implementation of scalability of objectives and the participant handbook, and that the exercise functioned simply as an awareness tool within itself to promote an opportunity to take the time to evaluate and practice some basic personal, family, and group preparedness actions.

- Over 900 individuals participated at varying objective levels. For a city of Berkeley's size, and in comparison with other local CERT programs, this is a significant degree of participation.
- Scalability of the exercise objectives proved effective in promoting inclusion across the community given that individual and group preparedness levels can vary to a large extent. This facet of exercise design should perpetuate to future exercises.
- The Participant Handbook was recognized as an effective tool in conveying to both group leaders and individual participants how to take part in the event.
- Outreach for the exercise was successful in promoting awareness of the Berkeley Emergency Notification System (BENS). 818 self-registrations to the BENS system occurred between March 2012 and May 21, 2012 as compared to 244 for the same period, the year prior. This spike in registrations was likely due to the Citywide Exercise's reach to community members. With systems that depend on self-registration or opt-in, public awareness plays an important role in effectiveness.
- The citywide event functioned well as an opportunity to practice some basic response skills in the neighborhood setting including FRS radio communications, fire station location and routes, City emergency notification system and radio stations. Promoting and practicing some level of emergency awareness was accessible no matter where in the City a participant was located.

Areas of improvement identified include the following:

- Fire station access policies and official affiliation with the City for volunteering amateur radio operators should be clarified. With turnover of city staff and volunteer resources, identification badging and access protocols for fire stations should be revisited. The MOU between the City of Berkeley and Northern Alameda County Amateur Radio Emergency Service/Radio Amateur Civil Emergency Service should be updated.
- The separate registration process to receive a BENS exercise message should be either eliminated or better communicated to participants. The separate registration process to receive a BENS exercise message confused some participants. Clarifying registration

instructions could help to reduce confusion in future exercises or activations. The possible impact of mobile carrier blocks should be communicated to registering users of the BENS system to reduce the instances of SMS text messaging from BENS not reaching the end user.

- Radio broadcasts on 1610 AM were not understandable by many participants in the exercise. Although 253 participants reported hearing the broadcast, many others reported either unintelligible reception, competing interference from nearby frequencies, or simply complete lack of audible signal at their neighborhood location. To rely on this method of emergency public information and warning, the City will need to evaluate ways to enhance the effectiveness of broadcast reception on this station.
- Outreach and marketing efforts should be increased and improved for future exercises both to internal city departments and community stakeholders. There is much room for improvement in mobilizing the community to participate in a City-sponsored event on the topic of preparedness and safety. Increasing community engagement and inter-departmental collaboration in the City should be attempted for future exercises.
- Do this more often. Participants indicated that increasing the opportunities for practice and exercises will help in improving our community response capacity and proficiency. Exercises should be conducted annually at a minimum.

## **Conclusion**

The 2012 Berkeley CERT Citywide Exercise demonstrated the ability of community responders to access and relay emergency information, to implement basic emergency skills and to engage their fellow neighbors in disaster preparedness activities. Integrating a disaster preparedness activity that is open to Citywide participation into the community encourages outreach, promotes awareness and initiates real-life actions taken towards emergency readiness. The City's Office of Emergency Services commends and appreciates the determined efforts of all participating neighborhood and community group leaders in making this valuable contribution towards community readiness.

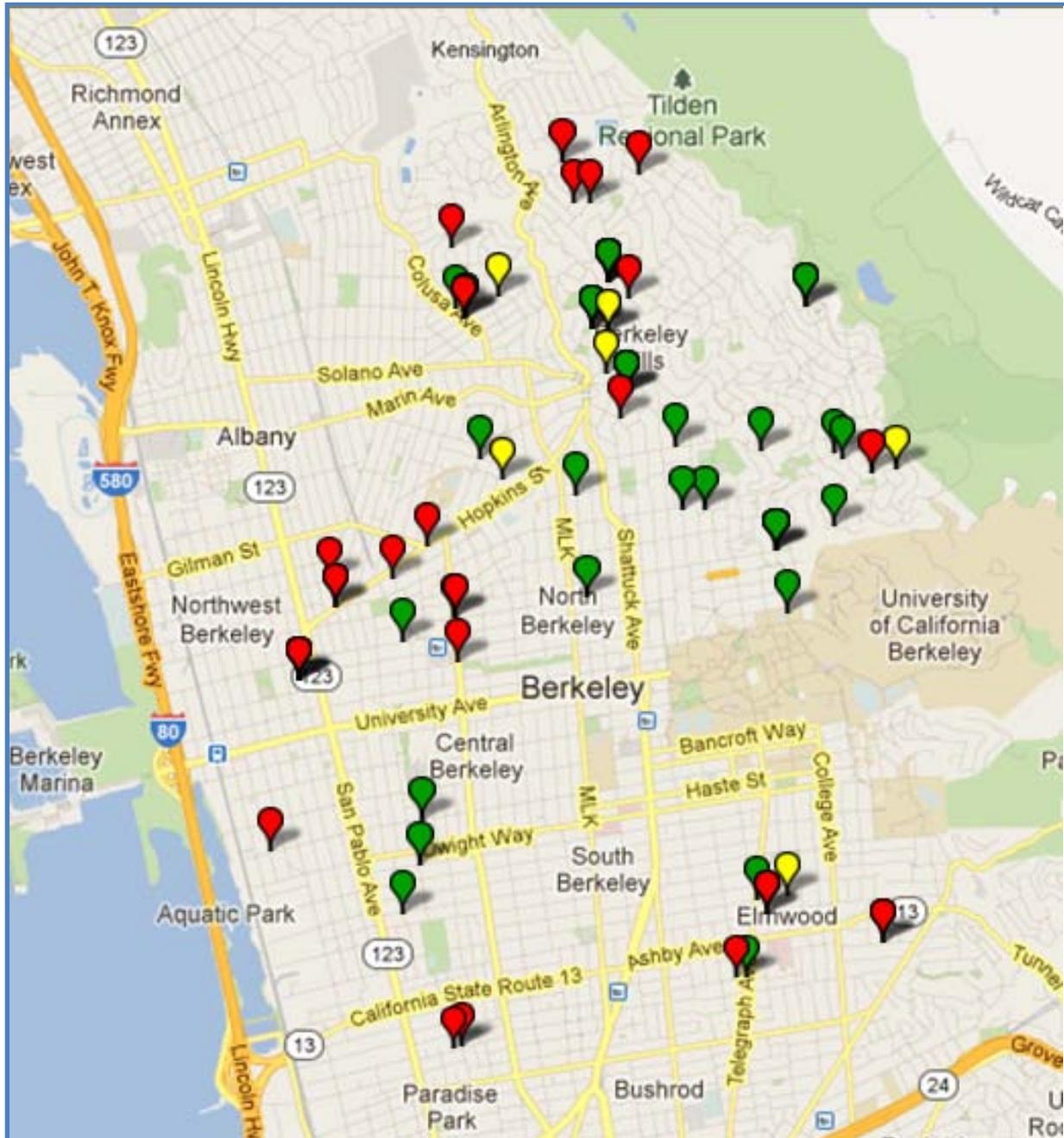
## Appendix A

Map A.1 - Map of Radio 1610AM Signal Reception Survey Responses

**Green** location marker = Report of Signal Copied

**Yellow** location marker = Report of Excessive Signal Interference or Static

**Red** location marker = Report of No Signal



## Appendix B

Table B.1 - Improvement Plan Matrix

Task	Recommendation	Improvement Action	Responsible Party/Agency	Completion Date
Clarify Fire Station Access and Volunteer Affiliation Policies for Amateur Radio	Update Memorandum of Understanding (MOU) with NALCO ARES RACES	Complete update and adoption of NALCO MOU with the City of Berkeley	Berkeley Fire Department	October 2012
Education on Radio 1610AM as a source of Emergency Information	Radio 1610AM as a source of emergency information and public education on the limitations of this media should be reinforced.	Provide updated education on Radio 1610AM to the public through CERT public safety presentations and community contacts.	Berkeley Fire Department	Ongoing
Increase Participation in Future City-Wide Drills	Increase inter-departmental collaboration and community engagement year round and leading up to the exercise.	Begin the 2013 CERT Citywide Exercise planning cycle by July 2012.	Berkeley Fire Department/ Berkeley CERT Program	July 2012
Improve the registration process for exercises.	Develop a more automated and/or comprehensive registration process for community exercises that will limit confusion from participants.	Explore technology solutions to simplifying and more effectively registering participants for future exercises.	Berkeley Fire Department	February 2013
Provide opportunities for practice	Conduct the CERT Citywide Exercise on an annual basis with additional smaller scale exercises throughout each year.	Establish planning team for the 2013 CERT Citywide Exercise and integrate interim exercises and trainings	Berkeley CERT Program/NALCO ARES RACES	May 2013/ Ongoing

## **Appendix C**

### Exercise Statistics Summary

#### **Participation**

900+ Individual Participants.

70+ Neighborhood/Community Groups.

#### **Out-of Area Contacts**

About 400 Participants contacted their out-of-area telephone contact.

#### **Berkeley Emergency Notification System (BENS) SMS Message**

338 SMS text messages were successfully delivered by BENS to the SMS Gateway. 17 of those messages (5%) did not reach registrants' phones.

818 self-registrations to the BENS system occurred between March 2012 and May 21, 2012 as compared to 244 for the same period, the year prior.

#### **Radio 1610 AM**

253 participants were reported to being able to receive the exercise message on AM radio. More than 40 individual survey respondents were unable to receive the radio station clearly from their location.

#### **Amateur Radio Operators**

25 amateur radio operators activated.

All 7 Fire Stations staffed with amateur radio operators.

Over 135 messages from CERTs delivered to fire stations.

49 messages delivered through ham radio.