

Infrastructure Safety Assessment Process Overview, Part 1

4 April 2013

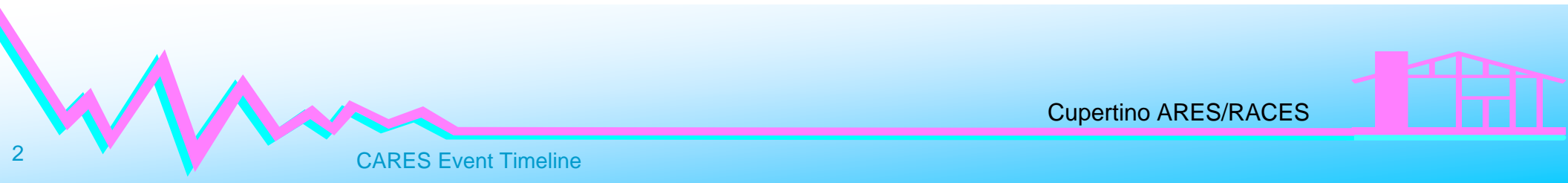
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Cupertino ARES/RACES



CARES mission

The mission of Cupertino ARES is to maintain and train Amateur Radio volunteers capable of providing professional emergency communications, increasing the City's emergency response effectiveness, and speeding the recovery effort.



The City's response priorities

- Address immediate life safety problems.
- Assess the integrity of and stabilize Cupertino's critical infrastructure.
 - Water
 - Sanitary
 - Access
- Perform search and rescue, health and welfare, establish shelters.
- Execute recovery operations.



Earthquake Scenario

Initial Response Assignments

City Staff	<ul style="list-style-type: none">• Inspect City facilities• Staff the EOC
County Fire	<ul style="list-style-type: none">• Fire suppression• Search and Rescue
County Sheriff	<ul style="list-style-type: none">• Public Safety• Law and Order
CERT, MRC	<ul style="list-style-type: none">• CERT operations (SAR, medical, care and shelter, etc.) and support for:<ul style="list-style-type: none">– Organized neighborhoods– Area Ark ICS, response
CARES	<ul style="list-style-type: none">• Preliminary Safety Assessment• Emergency field communications support• Infrastructure Safety Assessment



Earthquake Scenario

Served Agencies	Critical Need
City of Cupertino	<ol style="list-style-type: none">1. Preliminary Safety Assessment2. ARK communications support3. Critical facility staffing4. General communications support
Santa Clara County Fire	Infrastructure Safety Assessment
Cupertino Sanitary District	Infrastructure safety assessment
San Jose Water Company	Infrastructure safety assessment

Other critical agencies	Need
Cupertino Medical Center	Communications with the city
Cal Water	Infrastructure Safety Assessment
Santa Clara Valley Water District	Infrastructure safety assessment
Union Pacific RR	Infrastructure safety assessment



Earthquake Scenario

CARES response assignments

1. Preliminary Safety Assessment	CARES collects and reports information about the state of the city immediately after a city-wide emergency or disaster occurred.
2. Field Response	CARES members respond and operate at a field assignment during a declared emergency.
3. Infrastructure Safety Assessment	CARES observes and reports on selected Cupertino critical facilities that are deemed to be important to the City or other Agencies.



CARES Assignment

Assignment

- Perform a preliminary Infrastructure Safety Assessment (ISA) on infrastructure assets of interest to be reported to the Cupertino EOC.

Objective

- Develop a picture on the state of the city's infrastructure.
- Help the EOC focus attention on problem areas that may only get worse or impede the recovery if not addressed quickly.
- Provide an early report of asset status for Served Agencies.



What is required for an ISA?

Infrastructure Safety Assessment

People: The CARES or CCC members responsible for performing an ISA

Infrastructure Assets: The list of things that the city or served agencies wants to know about as soon as possible

ISA Process: The procedure that describes how CARES will collect and report information about the Infrastructure assets to the city after a city-wide emergency or disaster has occurred.

***** What do we do in the Field?**

***** What do we do at the EOC?**



ISA Management

Field and EOC View

Field	ISA Assignment Sheet	Description of one the infrastructure item to be assessed
	ISA Control Log	Field tracking log for ISA Assignments.
	ISA Field Assignment Checklist	Description of the steps to perform the ISA assignments in the field.
	Unit Log	ICS-214; records the activities that occur relating to addressing a specific ISA Assignment Set.
	ISA Assignment Set	A collection of ISA Assignments based on some logical grouping: geographical, skill, access methods, etc., and supporting documentation.
EOC	ISA EOC Rollup Log	Log used at the EOC to record the reports from Field ISA Assignment holders



What's critical?

Served Agencies	Critical Need
San Jose Water Company	21 Assets, includes <ul style="list-style-type: none">• Tanks• valve stations• critical pipeline sections
Cupertino Sanitary District	10 Assets, include <ul style="list-style-type: none">• Pump and wet wells• Metering stations
Santa Clara Valley Water District	2 Assets, includes <ul style="list-style-type: none">• Pipeline• Stevens Dam
PG&E	3 Assets, includes <ul style="list-style-type: none">• Substations
Transportation	12 Assets, all overpasses
Total	48



San Jose Water Company

MOU in place

Background

- Public utility in the business of providing retail water service to approximately one million people in the cities of San Jose, Los Gatos, Monte Sereno, Saratoga, Campbell and Cupertino.
- Water is sourced from groundwater (wells, ~40%), imported surface water (supplied by the Santa Clara Valley Water District, ~50%), and local mountain surface water (Santa Cruz Mountain watershed, ~10%).
- Water supplied to the City of Cupertino originates from both import and groundwater.

Risk, Impact

- Loss of water pressure due to damaged facilities impacting
 - Fire Suppression
 - Potable water supply
 - Sanitary flushing

Cupertino ARES/RACES



Santa Clara Valley Water District

No MOU in place

Background

- Provides wholesale water and groundwater management services to local municipalities and private water retailers who deliver drinking water directly to homes and businesses in Santa Clara County.
- Manages water resources for the County's 1.8 million residents.
 - 10 dams and surface water reservoirs
 - three water treatment plants
 - a state-of-the-art water quality laboratory
 - nearly 400 acres of groundwater recharge ponds
 - more than 275 miles of streams
 - Underground distribution pipe network

Risk, Impact

- Flooding in Cupertino
- Loss of water supply and pressure to regional distributors

Cupertino ARES/RACES



Cupertino Sanitary District

MOU in place

Background

- Special District that provides service to about 52,000 persons (21,600 residences and homes) within the City of Cupertino, portions of the Cities of Saratoga and Los Altos, and surrounding unincorporated areas.
- While there is a gradual slope to the bay (and waste treatment plant), pump and well stations are situated throughout the City to move waste water over hills in terrain.
- Some, not all, pump stations have fixed-mounted generators to guard against loss of power.

Risk, Impact

- Public Health Hazard
 - In the event of a power loss, Sewage spill onto city streets caused when wet wells fill up and overflow.



PG&E

Background

- One of the largest combination natural gas and electric utilities in the United States; primary business is the transmission and delivery of natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California.
 - 141,215 circuit miles of electric distribution lines and 18,616 circuit miles of interconnected transmission lines.
 - 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines.
 - 5.1 million electric customer accounts.
 - 4.3 million natural gas customer accounts.

Risk, Impact

- ...



Transportation

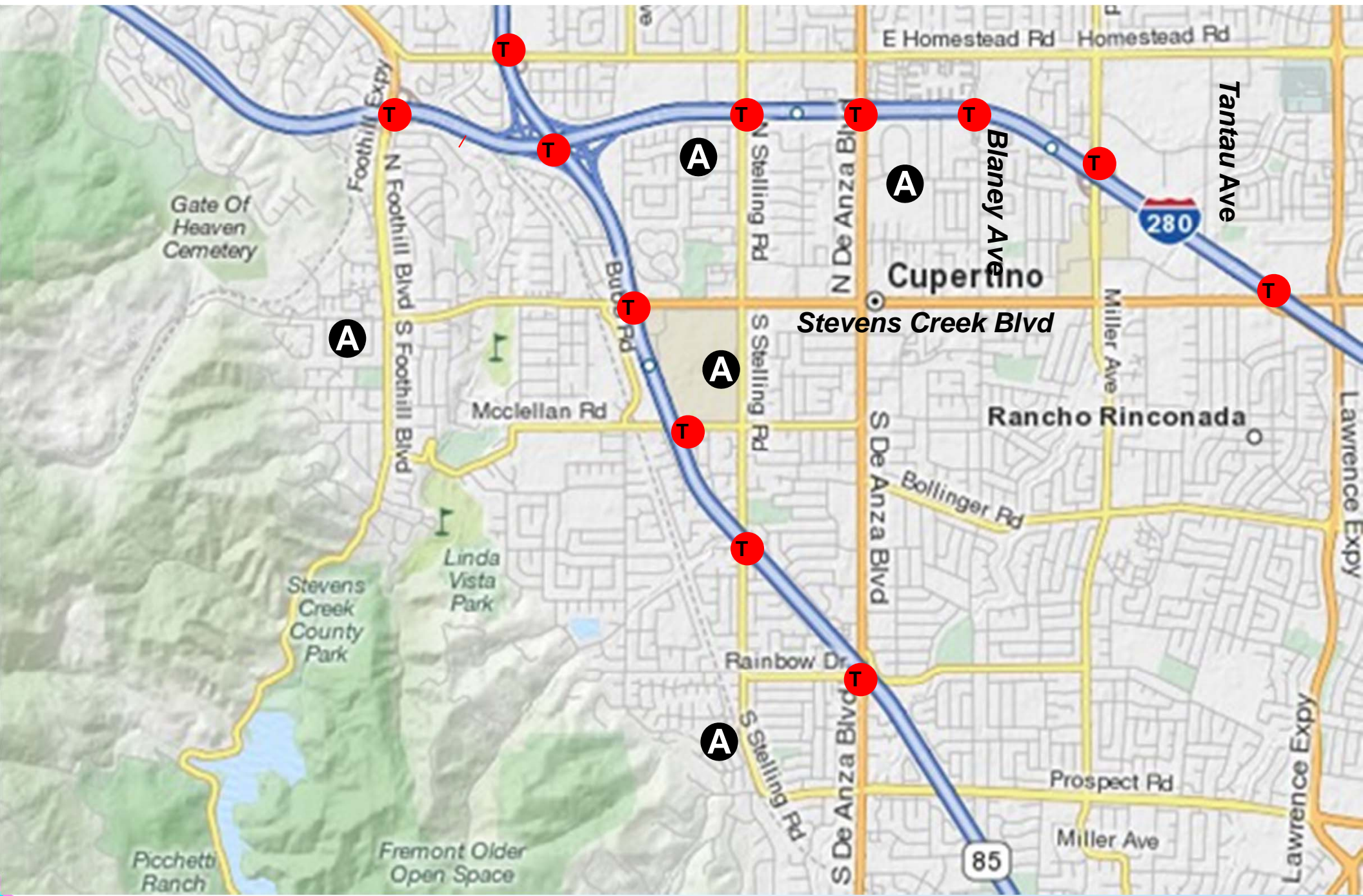
Background

- Cupertino is divided by 2 highways:
 - Interstate 280, runs east to west through the northern portion of the city.
 - Route 85, runs north to south along the western portion of the city.

Risk, Impact

- Loss of any or all city street overpasses may reduce access to or isolate portions of the city from city recovery efforts.





ISA Management

Field View

2. ISA Control Log

- Contains the IDs of the ISA Assignments included in this package.
- Checklist for assigning, marking completion and findings of the ISA.

Cupertino Amateur Radio Emergency Service PART 5 Checklists			Standard Operating Procedures	
ICS xxx ISA CONTROL LOG				
1. ISA Assignment Set:		5	2. Date Setup	
			November 1, 2006	
ISA Assignment ID	3. Assigned to:	4. Assigned Date/Time	5. Condition (OK/Discrepancy)	6. Reported Date/Time
1. TRANS-93				
2. TRANS-94				
3. SAN-45				
4. WATER-120				
5.				
6.				
7.				
8.				
9.				
10.				
7. Discrepancy (List ISA Assignment, description of deviation)				
ICS XXX	PREPARED BY	APPROVED BY	DATE	TIME
Rev. x.x November 2006				1

ISA Management

Field View

3. ISA Assignment Checklist

- Describes the steps to perform before, during, and after an event.

xxxx ISA Field Assignment Checklist

1. Before the event

- _____ 1. On a period not to exceed 6 months, audit each ISA Assignment Set.
- _____ 2. Perform updates to ISA Assignment Sets as changes to selected infrastructure components occur.

2. During the event

- _____ 3. First person at the scene, notify EOC that you have arrived.
- _____ 4. Retrieve the ISA Assignment Set Envelope. Confirm the envelope has not been previously opened or tampered with. Notify the EOC if the envelope was previously opened or you detect signs of tampering.
- _____ 5. Open the envelope; remove, and inventory the contents. The following should be included in each envelope
 - (i) ISA Control Log
 - (ii) ISA Field Assignment Checklist (this sheet)
 - (iii) ICS-214 Event Log
 - (iv) One or more ISA Assignment sheets. The number and ID of the forms included must match the ISA IDs on the ISA Control Log.

NOTE: Notify EOC of any content discrepancies with this ISA Assignment Set.

- _____ 6. Begin and maintain a Unit Log (ICS-214).
- _____ 7. Make ISA Assignments to responding staff, or begin performing the ISA (depends on the response team).

For each ISA Assignment

- _____ 8. Review the ISA Assignment sheet for details on location, points for observation, and expected nominal conditions.
- _____ 9. On arrival at the Assignment, inspect the item or structure, and general area for unusual conditions or other safety hazards.
- _____ 10. When done with the inspection, update the ISA Control Log for this ISA ID.
- _____ 11. Report the following to the EOC:
 - (i) The ISA Identifier just surveyed
 - (ii) State that either (a) All conditions normal, or (b) the problems or abnormal conditions that you observe.
- _____ 12. Proceed to the next ISA Assignment, and repeat steps 8, 9, 10, and 11.

When done with all ISA Assignment

- _____ 13. Collect all ISA Assignment sheets and return them to the Envelope.
- _____ 14. Update and close-out the Unit Log. Insert the Unit Log into the envelope.
- _____ 15. Return the ISA Assignment Set Envelope to the EOC when possible.

3. After the Event

- _____ 16. Inspect all returned ISA Assignment Set Envelopes for completeness.
- _____ 17. Collect all ISA Control Logs, ICS-214 Unit Logs, and ISA Assignment forms. Include them as part of the event documentation package.
- _____ 18. Rebuild replacement ISA Assignment Set Envelopes for those opened during the

ISA Management

EOC View

Cupertino Amateur Radio Emergency Service
PART 6 Forms

Standard Operating Procedures

5. ISA EOC Rollup Log

- Captures the field ISA results.

COES 205A ISA CONTROL LOG

1. ISA Group:

San Jose Water

2. Date Setup

November 2, 2007

ISA Assignment ID	3. Assigned to:	4. Assigned Date/Time	5. Condition (OK/Discrepancy)	6. Reported Date/Time
1. SJW-01				
2. SJW-02				
3. SJW-03				
4. SJW-04				
5. SJW-05				
6. SJW-06				
7. SJW-07				
8. SJW-08				
9. SJW-09				
10. SJW-010				
11. SJW-011				
12. SJW-012.1				
13. SJW-012.2				
14. SJW-012.3				
15. SJW-012.4				

ISA and Information Security

Why this approach?

- Served Agencies – Protects their information assets. We will need to demonstrate to our Served Agencies that we have methods, processes, and controls in place to manage information on their behalf.
- ISA Sites – City buildings (trusted sites, includes Fire Stations) are staffed and managed by local government employees.



