

Section 7040

(October 2002)

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EARTHQUAKE RESPONSE

7040

(October 2002)

OVERVIEW

7040.1

(October 2002)

Earthquakes pose a significant risk throughout the United States. California is well known as a high-risk earthquake state due to many prominent earthquake faults and earthquake fault systems. Station Managers and station personnel should familiarize themselves with seismic active areas and significant fault systems located in their region or unit. Ground movement produced by earthquakes is measured using the Richter Scale. The scale ranges from 1.0 to 10.0 and higher. Each whole number increase represents an increase in ground movement of 10 times. A 6.0 magnitude earthquake represents ten times the ground movement as a magnitude 5.0. Earthquakes are categorized as: Minor 3.0 – 3.9; Light 4.0 – 4.9; Moderate 5.0 – 5.9; Strong 6.0 – 6.9; Major 7.0 – 7.9; Great 8.0 and higher.

INTENT

7040.2

(October 2002)

The INTENT is to provide guidance to response personnel those essential actions that should be taken immediately following a significant earthquake. Those actions may be part of an organized response dependent upon other emergency resources or may be undertaken as independent action in the absence of all standard means of communications with the ECC.

OBJECTIVES

7040.3

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The OBJECTIVES include:

1. Safeguarding the lives and well being of station personnel.
2. Safeguarding fire apparatus and rescue equipment essential to the department's mission and response to earthquake events.
3. Conducting a windshield survey of those critical and target hazard facilities within the stations Initial Attack area most likely to be impacted by a significant earthquake.
4. Reporting results of the windshield survey into the ECC.
5. Conducting Critical or Target Hazard facility Triage in order to determine the most appropriate application of resources with the overall goal of doing the most good for the most amount of victims.

6. Initiating life saving rescue operations as coordinated with the ECC.
7. Initiating independent action life saving rescue operations in the absence of all standard means of communications with the ECC.

RESPONSE ACTIONS

7040.4

(October 2002)

The following response actions should be taken during an earthquake (IMPACT PHASE) and immediately following the cessation of ground shaking (POST- IMPACT PHASE):

Impact Phase

1. DUCK or DROP down to the floor; take COVER under a sturdy desk, table or other furniture; and HOLD on to it and be prepared to move with it. Hold the position until the ground shaking stops and it is safe to move. If that is not possible, seek cover against an interior wall and protect your head and neck with your arms.
2. Remain alert for STRUCTURAL and NON-STRUCTURAL HAZARDS.
3. When in a HIGH-RISE BUILDING, move against an interior wall if you are not near a desk or table. Do not use the elevators.
4. When OUTDOORS, move to a clear area away from trees, signs, buildings, or downed electrical wires.
5. When on a SIDEWALK NEAR BUILDINGS, duck into a doorway to protect yourself from falling bricks, glass, plaster and other debris.
6. When DRIVING, pull over to the side of the road and stop. Avoid overpasses and power lines. Stay inside the vehicle until the shaking stops.
7. When in a CROWDED STORE OR OTHER PUBLIC PLACE, move away from display shelves containing objects that could fall. Do not rush for the exit.
8. When in a STADIUM or THEATER, get below the level of the back of a seat and cover your head and neck with your arms.
9. When in the STATION, move away from the engine or other vehicles. Avoid exterior walls, glass windows, and overhead equipment or machinery.

Post-Impact Phase

1. ACCOUNT for all station personnel and CHECK for life-threatening injuries. TREAT life-threatening injuries.
2. Remain alert for SECONDARY HAZARDS.
3. REMOVE APPARATUS from station bays and relocate a safe distance away from structures and overhead power lines. A safe distance should be beyond the potential collapse zone of the station or other structures (approx. 1 and ½ times the height of any structure).
4. INSPECT for and CONTROL for any hazards created by damaged UTILITIES such as natural gas, propane, electrical or water.
5. Be prepared to REPORT a Personnel and Facility Status Report to the ECC. This report should consist of; Injuries to personnel, Status of fire and rescue apparatus, and Status of station facilities. Status and damage of station facilities may be reported as; None, Minor, Moderate, Major, or Destroyed.
6. Be prepared for AFTERSHOCKS that may be as strong or stronger than the initial shock.
7. Initiate WINDSHIELD SURVEY of the stations Initial Attack or First In Area. The windshield survey should consist of all CRITICAL or TARGET HAZARD FACILITIES.
8. Be prepared to REPORT an Initial Attack Area WINDSHIELD SURVEY to the ECC. This report should consist of positive findings as noted in the windshield survey.
9. Conducting CRITICAL OR TARGET HAZARD FACILITY TRIAGE in order to determine the most appropriate application of resources with the overall goal of doing the most good for the most amount of victims.
10. Initiating life saving RESCUE OPERATIONS as coordinated with the ECC.
11. Initiating independent action life saving rescue operations in the absence of all standard means of communications with the ECC.

EARTHQUAKE WINDSHIELD SURVEY

The WINDSHIELD SURVEY should be a rapid and cursory assessment of the stations first in or initial attack area to include all LIFE HAZARD FACILITIES, CRITICAL SERVICE FACILITIES, and SPECIAL HAZARD FACILITIES

A. STRUCTURAL HAZARDS

- Unreinforced masonry
- Soft floor buildings
- Mobile homes
- Light weight truss construction
- Overhead walkways
- Overhead stairways
- Glass building fronts
- Glass windows
- Cornices
- Facades
- Chimneys
- Bridges
- Overpasses

NON-STRUCTURAL HAZARDS

- Ruptured gas lines
- Ruptured water lines
- Ruptured power lines
- False ceilings
- Bookcases
- Cabinets
- Overhead lighting
- Moving appliances
- Broken glass

B. SECONDARY HAZARDS

- Flooding
- Fires (structure, wildland, electrical vaults)
- Landslides or earth shifts
- Chemical spills
- Gas leaks
- Transportation accidents
- Power lines down
- Water supply contamination
- Structural failures
- Civil unrest

C. CRITICAL OR TARGET HAZARD FACILITIES

LIFE HAZARD FACILITIES

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(Facilities that pose a special risk due to the special needs required by the population or due to the large numbers of people present).

- Nursing Homes
- Residential Care Facilities
- Group Homes
- Incarcerated populations
- Public Venues
- Stadiums
- Auditoriums
- Concert Halls
- Churches
- Schools
- Festivals

CRITICAL SERVICE FACILITIES

(Facilities that are essential to the provisions of emergency services or critical services to the public).

- Fire Stations
- Police Stations
- EOC's
- Hospitals
- Clinics
- Military Installations
- Essential Government Buildings
- TV Broadcast Facilities
- Radio Broadcast Facilities
- Repeater Towers
- Highways & Major Thoroughfares
- Overpasses & Tunnels
- Railways
- Airports
- Telecommunication Facilities
- Water Supply Facilities
- Power & Gas Distribution Stations

SPECIAL HAZARD FACILITIES

(Those facilities that pose a special hazard to the population due to their processes conducted or storage of hazardous commodities)

- Petroleum Installations
- Tank Farms
- Gas Pipelines
- Research Facilities

- Laboratories
- School Chemical Labs
- Plating Shops
- Pool Chemical Distributors
- Agriculture Chemical Distributors

Reference: [CDF HB 7741.5 Handling Emergency Response \(93\)](#);
[CCR Title 85192](#)

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