

EARTHQUAKE PREPAREDNESS GUIDELINES

FOR

LARGE RETIREMENT COMPLEXES

AND

LARGE RESIDENTIAL CARE FACILITIES

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Governor's Office of Emergency Services
Coastal Region Earthquake Program
1300 Clay Street
Suite 400
Oakland, CA 94612
(510) 286-0895

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Guidelines Review Committee

Ron Anderson, Villa Fontara Retirement Communities
Michelle Anderson, State Department of Social Services,
Community Care Licensing
Dale Harrington, Cambrian Center, Inc.
Seymour D. Lesser, Monterey County Area Agency on Aging
Douglas Allen, Santa Clara County Central Fire District
Betty Manwell, Santa Clara County Health Department
Lynn Murphy, Bay Area Regional Earthquake Preparedness Project
Coleen Olsen, Santa Clara County Office of Emergency Services
Jan Straka, Sunny View Manor/Sunny View West
Aaron Straus, Sunnyside Retirement Hacienda

The drafting of the document was largely the work of Betty Manwell of the Santa Clara County Health Department and Lynn Murphy of the Bay Area Regional Earthquake Preparedness Project, a program of the Governor's Office of Emergency Services. John Hutchins, Chair of the BAREPP Policy Advisory Board, reviewed the final document. BAREPP staff Sarah Nathe assisted with the editing and Dee Burroughs prepared the manuscript for publication.

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TYPES OF FACILITIES COVERED

These guidelines have been prepared to assist you, your staff, and your residents to take the steps necessary to ensure everyone's safety and well-being, as well as that of your facility, in the event of a damaging earthquake. The types of facilities covered by these guidelines are those having fifteen or more residents and include the following:

Congregate and Senior Housing Apartments

Providing studio and one or two bedroom apartments for rent as part of a group living arrangement. Facilities may provide at least one hot meal per day as part of the rental agreement.

Accessory Apartments

Providing independent living units with their own outside entrance. The units contain a kitchen or kitchenette and bathroom.

Retirement Communities

Offering apartments for rent or condominiums, cooperatives and single family dwellings for sale. Services vary in each community ranging from only police and fire protection to transportation, home delivered meals, and some in-home services.

Life Care Communities

Residents may buy into the community and pay a monthly fee for services which may include meals, maintenance, chore services, housekeeping, and other personal care services.

Residential Care and Community Care Facilities

Residents pay for a single or shared room. Non-medical care and supervision are provided to the resident who is in need of some personal services, protection, supervision, assistance, guidance or training to sustain the activities of daily living or for protection of the individual in care.

Throughout this document, the terms residential facility and facility will be used interchangeably to designate the aforementioned facilities.

HOW TO USE THE GUIDELINES

These Guidelines contain three major sections: **Before the Earthquake; During the Earthquake; and After the Earthquake.**

Preparedness is achieved by undertaking a series of activities **Before the Earthquake.** This section of the guidelines is divided into four categories:

- Reducing hazards in your facility
- Planning and organizing your response
- Educating staff and residents about damaging earthquakes
- Planning for recovery needs and services

Review each section. Use the checklists to identify actions and set priorities in each category. Proceed with assistance from staff and, if appropriate, residents to undertake systematic preparedness activities in your facility:

- Assign responsibilities
- Obtain/record supplies and equipment
- Plan and implement training and education efforts
- Review progress with employees and involved residents
- Conduct and evaluate drills

Using the information provided, train residents and staff in what to do **During the Earthquake.**

After the Earthquake, follow the Response Procedures Summary and implement your preparedness and recovery plans.

Your plans should be specifically tailored to meet the needs of the residents and staff of your facility.

INTRODUCTION

Earthquakes are an unfortunate fact of life in California, as we all saw during the Loma Prieta quake of October 17, 1989. Earthquakes have come in cycles throughout history. Currently, the Bay Area is in a period of increased seismic activity. Scientists estimate that there is now at least a 67% probability of another magnitude 7 or larger earthquake striking the Bay Area within the next 30 years. This could be an earthquake on the Hayward, the Peninsula segment of the San Andreas, or the Rodgers Creek fault. In Southern California, there is a 60% probability of a magnitude 7.5 to 8.0 earthquake on the southern San Andreas fault within the next 30 years, and a 50% probability of a magnitude 6.5 to 7.0 on the San Jacinto fault during that 30-year time frame. Earthquakes of the size that hit Whittier in 1987 (M5.9), Morgan Hill in 1984 (M6.2), and Coalinga in 1983 (M6.7) are more frequent and could happen at any time.

Thirty-nine of our fifty states are vulnerable to damaging earthquakes. The New Madrid Fault in the central United States generated two earthquakes in the early 1800s that are estimated to have been greater than magnitude 8.0. More recently, damaging earthquakes have hit in Washington (1949), Nevada (1954), Montana (1959), Alaska (1964), and Idaho (1986). The Quebec Province earthquake in 1988 was widely felt in the Northeastern United States.

Effective preparedness efforts are a responsibility of all sectors of society -- individuals and families, businesses, organizations, and federal, state and local governments. Actions taken *before* an earthquake will reduce injury, loss of life, and property damage, as well as enable people and institutions to return to normal in the shortest possible time following a damaging event.

These guidelines outline the steps to take *before*, *during*, and *after* an earthquake to ensure the safety and well-being of your residents, your staff and your facility.

Wherever possible, checklists are provided. In some areas, residential care and community care facilities will need to undertake greater preparedness and response measures than will those facilities offering independent living arrangements. While this document focuses specifically on earthquake preparedness, natural disasters of one form or another can strike any place, any time. The actions necessary to prepare for your response to and recovery from an earthquake, are applicable to other types of disasters.

A Facility Director's Checklist follows. It summarizes the actions you need to take in the areas of hazard mitigation, response planning, education, and recovery planning to prepare for a damaging earthquake. Throughout these guidelines, information will be provided for you on how to address each item listed on the checklist.

FACILITY DIRECTOR'S CHECKLIST

Reviewing this checklist is the first step toward comprehensive earthquake preparedness. Upon completing the checklist, go through the guidelines and develop preparedness plans for those areas you have not addressed in your facility or those which need to be strengthened.

BEFORE THE EARTHQUAKE

HAZARD MITIGATION

- Has a seismic evaluation of your facility been conducted?
- Have nonstructural hazards in building systems, offices, common areas, and living environments been identified and reduced?
- Have you arranged for a damage assessment immediately following a damaging earthquake?

RESPONSE PLANNING

- Have you selected a Command Center location and back-up in case your first choice is not usable?
- Have plans been developed to carry out response functions?
- Do all staff know their responsibilities following a damaging earthquake? Have they received adequate training?
- Do you have an evacuation plan? Have you tested the plan?
- Do you have plans for relocating to another site if necessary? Do you have an arrangement to use that site?
- Have inventories been developed and maintained of critical supplies and equipment?
- Do you have the necessary communications and back-up power equipment?
- Have procedures been established to inform residents and their families about the essential elements of your response plan?
- Are there hazardous materials on-site? Have plans been developed for identifying and containing them?

- Have you included neighborhood residents in your response planning?

EDUCATION AND PREPAREDNESS

- Does everyone (staff and residents) know what to do *during an earthquake*?
- Have all employees been trained in basic first aid?
- Do you hold drills and exercises to test various aspects of your plan?
- Have you ensured that staff are prepared at home? Do they have a family earthquake plan?
- Have you recommended (required) preparedness steps on the part of your residents?
- Have you considered volunteers (especially neighborhood people) in your education and response planning?

RECOVERY PLANNING

- Have you minimized potential damage by having a structural evaluation and reducing nonstructural hazards?
- Have you established a system for communicating with your residents? For assisting them to meet immediate needs?
- Have you established a system for relatives of your residents to learn of their status?
- Have you analyzed the impact of a reduced cash flow and established a disaster contingency fund?
- Have you made response expectations clear to staff and clarified recovery responsibilities?
- Have you established agreements with suppliers and contractors to receive services in a timely manner?
- Do you have a back-up (preferably off-site) copy of all important business records and resident and employee information?

- Do you have earthquake insurance? Do you know what it will and will not cover?
- Do you have a plan to maintain security at your facility and for your residents?
- Are you familiar with the information you will need to apply for disaster assistance, undertake repairs/rebuilding, or obtain necessary inspections? Do you know where to find it?

DURING THE EARTHQUAKE

- Do all staff and residents know what to do during an earthquake? (**DUCK, COVER & HOLD**)
- Are people with mobility problems aware of alternatives to **DUCK, COVER & HOLD**? (Remain seated or sit down; cover head with arms)

AFTER THE EARTHQUAKE

- Is all necessary information and equipment in place to quickly activate your Command Center?
- Are communications arrangements adequate (battery-powered radio, cellular phones, walkie-talkies)?
- Do you have a well-tested evacuation plan?
- Is your recovery plan in place so that you can move smoothly from emergency response to recovery activities?
- Have you considered how to handle emergencies such as fires, water leaks, or gas leaks without assistance from usual responders?

* *Address the language needs of non- or limited-English speaking residents and staff in your preparedness planning, training, and drills. Materials are available in Spanish and several Asian languages from BAREPP and SCEPP. The American Red Cross also has materials in many languages.*

BEFORE THE EARTHQUAKE

The actions you take before an earthquake greatly increase your chance to survive, to continue functioning, and to manage the short and longer-term recovery process effectively. Evaluating your facility for seismic safety, reducing nonstructural hazards, developing a response plan, training staff, educating residents, and planning for recovery are all things that you can do *before* a damaging earthquake. Taking these steps will directly affect how well you come through the event and how quickly you can re-establish normal operations.

In this section, we will address all preparatory steps in terms of **WHAT TO DO** and **HOW TO DO IT**.

FACILITIES

A. FACILITIES

1. Seismic Evaluation

It is important to know the seismic soundness of your facility. Engage an engineering firm experienced in seismic analysis to evaluate your building(s). This analysis should include:

- ◆ Soils testing
- ◆ Age of building(s)
- ◆ Type of construction
- ◆ Identification of potential weak points and recommendations for strengthening them
- ◆ Nonstructural building systems and elements

The facility evaluation will give you a good idea of how you can expect your building(s) to perform in an earthquake and what, if any, specific problem areas exist. The validity of this evaluation over an extended period of time will depend on how well you maintain the building(s). The evaluation should be updated after any adverse impact on the site (i.e. landslide, flooding, excessive settling) and after an earthquake.

2. Damage Assessment

The first few days following a damaging earthquake are a time of confusion and greatly over-taxed services. One of the first, and possibly most difficult, decisions you may have to make is whether or not your facility (or parts of it) is safe for continued occupancy. In most instances, it is *impossible* for an *untrained* person to tell the difference between structural and cosmetic damage.

Therefore, it is important to arrange to have a trained person perform

a damage assessment of your facility as soon after a damaging earthquake as possible. Prior to the earthquake, consider:

- ◆ Contacting your local building department and asking to be included on a priority list for damage assessment following an earthquake, and/or
- ◆ Arranging for a structural engineer to assess your facility for structural damage immediately following an earthquake. Be sure that your facility is *easily* accessible from the engineer's office.

3. Nonstructural Hazards

Nonstructural hazards are building systems and elements in the working and living environments that have nothing to do with holding up the building. Nonstructural hazards are responsible for many injuries during an earthquake and collectively account for up to 80% of a building's value. Extensive damage to nonstructural systems can be financially devastating.

In addressing nonstructural hazards in your facility be sure to include:

- ◆ Building systems (heating/cooling, lighting, elevators, equipment)
- ◆ Building exterior and facades
- ◆ Building windows
- ◆ Common areas such as lounges, dining rooms, and reception areas
- ◆ Offices and storage/maintenance areas
- ◆ Resident living areas

Checklists for **Facility Nonstructural Hazards** and **Individual Resident Nonstructural Hazards** are included on the following pages.

