

SEMINAR  
ON  
"EARTHQUAKE DISASTERS IN LARGE CITIES"  
JULY 24 - JULY 27, 1990

BOGOTA, COLOMBIA



**LOS ANGELES CITY FIRE DEPARTMENT  
DISASTER PREPAREDNESS DIVISION**

**INTRODUCTION**

Los Angeles is a city covering 467 square miles and is the second largest city in the United States, with a population of over 3.5 million people. The potential for major loss of life, injury, and property loss as a result of an earthquake of magnitude 6 or greater is significant.

The 1933 Long Beach earthquake, the 1971 San Fernando earthquake, and the 1987 Whittier earthquake provided valuable experience and lessons for City government and the Fire Department in understanding the earthquake threat and developing plans to mitigate the effect of a damaging earthquake. Given the natural topography, climate, spiraling increase in population, structures, and industry in this area of California, the threat of fire and hazardous materials releases following an earthquake, or the potential of other disasters, poses a major problem for the Fire Department and the community.

**DISASTER PREPAREDNESS DIVISION**

As a result of the October 1, 1987 Whittier earthquake, the City of Los Angeles implemented a new division within the Fire Department that develops plans and programs to mitigate the predicted life and property loss from an earthquake or other disasters. The responsibilities of the Disaster Preparedness Division include: educating the public and government sectors in disaster preparedness; developing and training Community Volunteer Response Teams; and providing for research, analysis, and development of programs, resources, and regulations to reduce potential losses. This is one of the largest and most ambitious public education and preparedness programs ever attempted by a segment of the American fire service. The 36-person Division is made up of four Units: the Fire and Safety Education Unit; the Research and Development Unit; the Community/Department Preparedness Unit; and the Community Response Team Unit.

Work is currently proceeding in several specific areas to minimize life and property loss and to improve response capabilities to various types of emergency incidents. Major efforts are directed toward: public education; development of legislation, codes, and ordinances; establishing an effective community and business self-help response system; improving local and regional responses; and the coordination of various agencies.

The Disaster Preparedness Division is directly involved in increased levels of training to assist businesses in developing comprehensive emergency response and recovery plans for all types of incidents. Current projects for the Disaster Preparedness Division include developing: a community hazardous materials preparedness program; a comprehensive heavy urban search and rescue system; and improving disaster emergency medical service response as well as the disaster communications network.

Members of the Division participate in various working groups of the City's Emergency Operations Organization and are involved with other City departments in projects such as earthquake prediction response planning, recovery and reconstruction plans, large scale evacuation procedures, and emergency communication and information systems.

The information obtained from the on-scene investigation and study of disasters has been invaluable to our Department and the City in applying lessons learned to our preparedness plans. We have sent personnel on special teams to the San Francisco Bay Area in October 1989 to investigate the effects of the Loma Prieta earthquake and to Charleston, South Carolina to survey the damage, response, and recovery from the ravages of Hurricane Hugo.

Personnel of the Division were involved in the development and implementation of various disaster response exercises including simulated earthquake response by our Community, City Employee and Business Emergency Response Teams; a City multi-department command, coordination, and communication exercise utilizing the City Emergency Operations Organization, Mayor, City Council, and the City's new Mobile Emergency Operations Center vehicles; a simulated hazardous materials problem involving a field and Emergency Operations Center exercise emphasizing the evacuation and sheltering of 20,000 people; and various structural collapse search and rescue field exercises.

Our educational outreach program has expanded far beyond the Los Angeles area into the national and international network. We use a variety of methods to reach the public with our messages and information on preparedness. This is accomplished through the media, including print, radio, and television; direct

mailing; distribution of literature; public contacts; seminars and conferences; and through our training programs. We have reached an estimated 10 million people through the production of an hour-long earthquake preparedness videotape titled "Surviving the Big One". This video was developed and presented by one of our Firefighter/Instructors, and produced by our local Public Broadcasting System Station KCET. The video was such a success that both the Firefighter and the program were nominated for a 1990 Emmy Award and won an Emmy for "Best Instructional Special".

Over 250,000 people are directly trained by our staff each year and several million receive disaster preparedness information. We are committed to reaching the diverse and growing population of the City.

#### **FIRE AND SAFETY EDUCATION UNIT**

This Unit provides a variety of assistance to the public including fire safety education; required training for health care facilities and high-rise buildings; fire fighting and evacuation training for business and industry; assistance in the development of business disaster plans; certification of emergency plans and persons providing training; training for the handicapped; and educating the public on hazardous materials emergencies.

#### **RESEARCH AND DEVELOPMENT UNIT**

Disaster planning and research is vital to the effectiveness of our programs. This Unit evaluates and disseminates disaster information, analyzes legislation, evaluates new equipment, develops recommendations on new or improved programs, procedures, and systems. The staff of this Unit maintains a broad network of disaster planners and information sources valuable to our progress.

#### **COMMUNITY/DEPARTMENT PREPAREDNESS UNIT**

The primary goal of this Unit is to provide the public, Fire Department members, and City employees with basic training in emergency preparedness both at home and in the workplace. They develop new literature and media information as part of the continuing educational and outreach program. A brush fire awareness program is designed to provide citizens who live in our mountainous areas with effective ways of protecting their homes in the face of an approaching brush fire.

Personnel from this Unit also operate our "Yogi Bear Quakey Shakey" Mobile Earthquake Simulator Van. This unique piece of equipment is used to provide children with the sensation of the earth shaking, under controlled conditions. This experience heightens awareness, preparedness, and probably reduces the mental stress and fear caused by an earthquake.

A new neighborhood preparedness program is being developed to improve survivability after a disaster by pooling neighborhood resources under a local response and recovery plan.

### **COMMUNITY RESPONSE TEAM UNIT**

The Fire Department's Community Response Team Program was developed because of the need for a well-trained civilian emergency work force to assist the government in responding during disaster situations where the number and scope of incidents are sure to be overwhelming. The training program provides for community self-sufficiency through the development of multifunctional Response Teams to act as an adjunct to the City's emergency services during major disasters. Through this unique program, people from community organizations, business and industry, and City employees become members of a Civilian Emergency Response Team, or perform as individual leaders directing untrained volunteers in the initial phase of an emergency.

Community Response Teams receive over 17 hours of initial training in earthquake preparedness; team organization and management; fire suppression; urban search and rescue; disaster first aid; and a disaster exercise. As of May 1, 1990, 168 teams (over 3,700 people) have been trained by members of the Disaster Preparedness Division. This total number of teams is broken down as follows: 74 Community Teams; 73 Business Teams; and 21 City Employee Teams. More teams are scheduled for training throughout the coming year. In fact, there is a six-month waiting list for this program.

The course is taught by Firefighters and Paramedics in seven 2.5 hour classes with major emphasis on hands-on training. The curriculum consists of the following:

#### **CLASS 1. EARTHQUAKE AWARENESS, PREPARATION AND EMERGENCY RESPONSE TEAM OPERATIONS**

- REGISTRATION
- INTRODUCTION
- THE EARTHQUAKE THREAT IN SOUTHERN CALIFORNIA
- PERSONAL AND FAMILY PREPARATION
- NON-STRUCTURAL HAZARD MITIGATION

**CLASS 2. THE TEAM ORGANIZATION AND MANAGEMENT**

- DEVELOPING A RESPONSE TEAM
- INCIDENT COMMAND SYSTEM
- SIZE UP
- DISASTER PSYCHOLOGY
- HAZARDOUS MATERIALS

**CLASS 3. DISASTER FIRE SUPPRESSION TECHNIQUES**

- FIRE CHEMISTRY
- FIRE EXTINGUISHER USE
- UTILITY CONTROL
- VENTILATION
- CREATIVE FIREFIGHTING TECHNIQUES

**CLASS 4. SEARCH AND RESCUE OPERATIONS**

- EVACUATION
- SEARCH TECHNIQUES
- RESCUE METHODS
- CRIBBING AND SHORING

**CLASS 5. DISASTER MEDICAL OPERATIONS - SESSION ONE**

- RECOGNIZING AND TREATING LIFE THREATENING EMERGENCIES
- TRIAGE
- TREATMENT AREA MANAGEMENT

**CLASS 6. DISASTER MEDICAL OPERATIONS - SESSION TWO**

- HEAD TO TOE EVALUATION
- RECOGNIZING AND TREATING NON-LIFE THREATENING EMERGENCIES

**CLASS 7. COURSE REVIEW AND SIMULATED EXERCISE**

- WRITTEN EXAM REVIEW
- PRACTICAL EXERCISES
- CRITIQUE

This initial seven-week course is followed by a continuing education program consisting of quarterly 2.5 hour training programs. The long term goal is the establishment of 150 viable Community Response Teams throughout the City by the middle of 1992, and an unlimited number of business teams. Because of the enormous success of this program and the national demand for information, we are planning to transfer this technology to other agencies as part of our Department's and City's contribution to the International Decade for Natural Hazard Reduction so that others may benefit from our experience.

## **CONCLUSION**

All of our disaster preparedness programs train citizens to be self reliant rather than dependent on emergency response personnel. Recent disasters such as the Loma Prieta Earthquake in 1989, the Whittier Earthquake in 1987, and the Mexico City Earthquake in 1985, have clearly established the need for community preparedness and trained volunteers.

Our City is experiencing the emergence of a new citizen response force. We are building a team of government and community resources that will be a formidable counter-measure against the destruction caused by the earthquake we are expecting.

Our City has developed and is continuing to improve our pre-event plans, organization, and preparedness efforts. It is our belief that our integrated response system will be very effective during the critical time of the disaster, and we now have a plan for the recovery and reconstruction of the City so that we can more rapidly reach a state of normalcy.

This bond among government, the private sector, and the community has grown synergistically with a single common purpose: protecting life and property from the impact of disaster.

**LOS ANGELES CITY FIRE DEPARTMENT  
ASSISTANT CHIEF FRANK W. BORDEN  
COMMANDER  
DISASTER PREPAREDNESS DIVISION  
534 E. EDGEWARE ROAD  
LOS ANGELES, CA 90026  
(213) 237-1931**