Having read in this handbook about the seismic hazards and risks in various parts of the United States, you are probably trying to decide where your community fits in. This chapter is designed to help you determine the risk at your specific location and formulate an action plan that will fill your local needs.

Building on the advice presented in earlier chapters, a series of steps are described here to help you develop a practical and effective approach to reducing your community's exposure to seismic hazards.

#### KNOW YOUR COMMUNITY'S RISK

To determine your community's seismic risk, you need to take into account:

- The nature of the earthquake hazard as determined by scientists.
- The extent to which your community is aware of and informed about seismic hazards,
- The extent of education and mitigation efforts already made, and
- The degree of risk that your community will be willing to accept.

To help you define your community's seismic situation, consult such groups as:

- Local geologists, geophysicists, and seismologists (at local academic institutions or in private practice),
- State geologists,
- The regional offices of the U.S. Geological Survey and the Federal Emergency Management Agency,
- The national earthquake information centers, and
- State and regional seismic safety organizations.

Once you determine that your community is at moderate to high risk from earthquake and related hazards (e.g., landslides), go on to the next step.

## BECOME FAMILIAR WITH YOUR LOCAL BUILDING REGULATIONS

Find out if they provide for seismic protection. If they do, determine what level of protection is provided and how that level was established. If your local building code does not provide for seismic protection or if it does not provide adequately for such protection, discuss your concerns with:

- Your local building officials, and
- Knowledgeable members of local chapters of professional societies and organizations, and academic institutions.

During such discussions, identify the possible impacts on various segments of your community of introducing new or improved seismic provisions into the regulations. Establish, insofar as possible, who will benefit and, therefore, most likely favor improved code regulations and who will be adversely affected and opposed. Try to determine if the concerns are real or imaginary.

If by now you believe that your community is at risk but have found that, for one reason or another, the responsible officials have not taken appropriate action, you will have to step up efforts to increase awareness of the seismic risk in your community.

#### ORGANIZE, INFORM, AND EDUCATE

As was explained in Chapter 5, even in some cities without seismic codes, some individuals, organizations, and companies have already taken steps to increase seismic safety, and they may provide the core of a group of actively interested persons. It also might be wise to link up with adjacent and nearby jurisdications to develop a network of communities (as well as counties and states if appropriate) in a seismic zone to engage in cooperative, comprehensive seismic safety planning.

In the past few years, a number of state and regional seismic organizations have sprung up to address the geophysical and other conditions that exist in the various seismic zones in the United States. For example, the Central United States Earthquake Consortium (CUSEC), based in Marion, Illinois, was organized recently to promote understanding of the Mississippi Valley seismic zone and to foster seismic safety efforts in the 7 states and 24 major cities that are included in that zone. Two other site-specific organizations are the Southeastern United States Seismic Safety Consortium headquartered in Charleston, South Carolina, and the Tennessee Earthquake Information Center, based in Memphis.

The many other state, regional, and national seismic organizations can provide you with contacts and scientific, educational, and organizational advice. These organizations are listed in Chapter 7.

The building process participants and seismic safety proponents meeting with the BSSC committee emphasized that three groups must be made aware

of seismic issues if an effort to change a community's seismic safety policy is to be successful:

- Public officials.
- Building community professionals (engineers, architects, etc.), and
- The general public.

These three groups can be informed and educated through articles and reports, through meetings and conferences, through video tapes and computer software, through direct and indirect technical assistance, and in a variety of other ways. The important points are that:

- You develop a coordinated approach to informing and educating them.
- You provide information and education in a manner understandable to the specific group being addressed.
- You develop information and education materials that are tailored to fill each group's specific needs.

Public officials can be addressed through such organizations as the U.S. Conference of Mayors, the National League of Cities, the International City Management Association, the National Association of County Officials and organizations of functional specialists such as city planners, financial officials, and community development specialists.

A good way to educate and inform building community professionals is to work through the local chapters of professional associations or societies like the American Institute of Architects, the American Society of Civil Engineers, the Associated General Contractors of America, and the American Consulting Engineers Council. The various building product organizations and the model code groups also can be helpful.

The general public can be approached through special purpose seismic organizations, through the local media, and through existing organizations such as public interest groups, voluntary agencies, and other benevolent groups (e.g., PTAs and PTOs, civic clubs, fraternal organizations, the League of Women Voters, and scouting organizations).

If the general public and the various building professionals in your community become fully aware of the seismic situation and conclude that the benefits to be derived from increased protection through building regulation are worth the costs, they can and most likely will be strong advocates when you proceed to the next step.

#### MOTIVATE YOUR LOCAL PUBLIC LEADERS

Local elected and appointed officials play an especially important role in seismic safety efforts. Their attitude with respect to seismic hazard

mitigation will be of critical importance in achieving seismic safety objectives. It is therefore essential that the means of educating them about seismic issues be well thought out and that they be approached at the right time.

The four BSSC interactive meetings shed some light on the degree of interest in seismic safety of elected and appointed officials. Seismic safety code regulations did not appear to be an issue of high priority for the chief elected and appointed officials and executives of any of the cities and counties visited. The chief officials in the building departments represented at the four meetings appeared to reflect a full array of positions from pro to con regarding the adoption and/or enforcement of seismic safety code requirements.

The general consensus of opinion at the four BSSC meetings was that a movement to promote improved seismic safety for new buildings will be successful only if it has sufficient "grass roots" support to stimulate public leaders to act. In fact, the seismic safety movements in all four communities visited reflect such a "bottom up" approach, and the Charleston meeting participants urged that public officials not even be approached until a united front has been developed by other segments of the community including researchers, academicians, engineers, architects, voluntary agencies, and public interest groups.

#### INFORMATION SOURCES

In addition to the information sources identified above, the papers by Beavers and Ward in the selected readings volume provide some details concerning current practices in earthquake preparedness and mitigation and management of state and local earthquake safety programs.

Information focusing primarily on the local public policy aspects of seismic safety is included in Rubin's paper in the selected readings volume and in the following publications:

Lambright, W. Henry. 1982. "Policy Innovation in Earthquake Preparedness: A Longitudinal Study of Three States." Paper prepared for presentation at the Annual Meeting of the American Political Science Association, Denver, Colorado, September 2-5.

Lambright, W. Henry. N.d. Agenda Setting for Earthquake Preparedness: Lessons for New York State. Unpublished paper. (Contact the author at Syracuse Research Corporation, Merrill Lane, Syracuse New York 13210-4080.)

<sup>&#</sup>x27;Although these four situations are not fully representative of all possible situations in communities throughout the United States, they probably are typical. In fact, the observations about local public leaders made on the basis of the four meetings are very much in keeping with the empirical studies of seismic mitigation efforts in California conducted by Wyner and Mann and Nilson and Olson. Rubin's paper in the selected readings volume presents a review of recent research efforts.

Lambright, W. Henry. N.d. Earthquake Preparedness: The Dynamics of Long-Term Policy Innovation. Unpublished paper. (See the note above.)

Nigg, Joanne M., and Alvin H. Mushkatel. 1984. "Structural Policy Issues for Seismic Hazard Mitigation." Unpublished paper. Contact the authors at Arizona State University, Center for Public Affairs. Tempe, Arizona 85287.

Nilson, Douglas. 1984. "How to Gain the Attention and Commitment of Political Officials: An Earthquake Primer." In <u>Primer on Improving the State of Earthquake Hazards Mitigation and Preparedness</u>, edited by Paula L. Gori. U.S. Geological Survey Open File Report 84-772. Reston, Virginia: U.S. Geological Survey.

Nilson, Douglas C., and Linda B. Nilson. 1981. "Seismic Safety Planning Strategies: Lessons from California." In <u>Earthquakes</u> and <u>Earthquake Engineering: The Eastern United States</u>, edited by James Beavers. Ann Arbor, Michigan: Ann Arbor Science Publishers, Inc.

Olson, R. S., and Douglas Nilson. 1980. "Public Policy Analysis and Hazard Research: Natural Complements." <u>Social Science Journal</u> (fall):1-25.

Petak, William J., Editor. 1985. "Emergency Management: A Challenge for Public Administrators." Special issue of <u>Public Administration Review</u> (January). (This journal contains more than a dozen articles about intergovernmental relations and public administration aspects of emergency management.)

Wyner, Alan J. 1984. "Earthquake and Public Policy Implementation in California." <u>International Journal of Mass Emergencies and Disasters</u> 2(August).

Wyner, Alan J., and Dean E. Mann. 1983. <u>Seismic Safety Policy in California</u>: <u>Local Governments and Earthquakes</u>. Santa Barbara: University of California, Department of Political Science.

#### WHERE DO I GO FOR INFORMATION?

#### INTRODUCTION

This list is designed to identify potential sources of seismic safety information useful at the local level. Although the list is far from exhaustive, it does include many of the associations, organizations, and centers that provide various types of data ranging from relatively general information to specific technical guidance.

Since much information is best obtained at the local level, the reader is urged to contact local academic institutions and the local chapters of the various professional organizations.

## ORGANIZATIONS

#### American Concrete institute

B.O. Box 19150 Detroit, Michigan 48219 (313)532-2600

#### American Consulting Engineers Council

1015 15th Street, N.W., Suite 802 Washington, D.C. 20005 (202)347-7474

#### American Institute of Architects

1735 New York Avenue, N.W. Washington, D.C. 20006 (202)626-7300

#### American Institute of Architects Foundation

1735 New York Avenue, N.W. Washington, D.C. 20006 (202)626-7421

## American Institute of Steel Construction

400 North Michigan Avenue Chicago, Illinois 60611 (312)670-2400

#### American Insurance Association

85 John Street New York, New York 10038 (212)669-0400

## American Planning Association

1313 East 60th Street Chicago, Illinois 60637 (312)947-2082

## American Plywood Association

7011 South 19th Street Box 11700 Tacoma, Washington 984411-0700 (206)565-6600

#### American Society of Civil Engineers

345 East 47th Street New York, New York 10017-2398 (212)705-7496

#### American Red Cross, National Office of Disaster Assistance

18th and E Streets, N.W. Washington, D.C. (202)857-3718

#### Applied Technology Council

2471 East Bayshore Road, Suite 512 Palo Alto, California 94303 (415)856-8925

#### Arizona State University, Office of Hazard Studies

Center for Public Affairs Tempe, Arizona 85287 (602)965-4518

## Arkansas Earthquake Advisory Council

Arkansas Geological Commission 3815 West Roosevelt Little Rock, Arkansas 72204 (501)663-9714

## Associated General Contractors of America

1957 E Street, N.W. Washington, D.C. 20006 (202)393-2040

## Association of Bay Area Governments

Metro Center P.O. Box 2050 Oakland, California 94606 (415)464-7900

## Association of Engineering Geologists

Box 506 Short Hills, New Jersey 07078 (201)379-7470

## Association of Major City Building Officials

200 North Spring Street Los Angeles, California 90012 (213)485-2021

## Association of the Wall and Ceiling Industries International

25 K Street, N.E. Washington, D.C. 20001 (202)783-2924

## Bay Area Regional Earthquake Preparedness Project

Metro Center 1018th Street, Suite 152 Oakland, California 94607 (415)540-2713

## Bay Area Regional Earthquake Preparedness Project Policy Advisory Board

Assistant Director, Institute of Governmental Studies University of California 109 Moses Hall Berkeley, California 94720 (415)642-6722

## Battelle Human Affairs Research Centers

4000 N.E. 41st Street Seattle, Washington 98105 (206)525-3130

#### Brick Institute of America

11490 Commerce Park Drive, Suite 300 Reston, Virginia 22091 (703)620-0010

## Building Officials and Code Administrators, International

4051 West Flossmoor Road Country Club Hills, Illinois 60477 (312)799-2300

## Building Owners and Managers Association, International

1221 Massachusetts Avenue, N.W. Washington, D.C. 20005 (202)638-2929

## Building Seismic Safety Council

1015 15th Street, N.W., Suite 700 Washington, D.C. 20005 (202)347-5710

#### Business and Industry Council for Earthquake Preparedness

Director of Emergency Planning and Office Administration Atlantic Richfield Company 515 South Flower Street Los Angeles, California 90071 (213)486-2535

## California Seismic Safety Commission

1900 K Street Sacrament, California 95814 (916)322-4917

## Canadian National Committee on Earthquake Engineering

National Research Council of Canada Division of Building Research Ottawa, Ontario KIA OR6

## Central United States Earthquake Consortium

2001 Industrial Park Drive Box 367 Marion, Illinois 62959 (618)997-5659

## Concrete Masonry Association of California and Nevada

83 Scripps Drive, Suite 303 Sacramento, California 95825 (916)920-4414

#### Concrete Reinforcing Steel Institute

933 North Plum Grove Road Shaumburg, Illinois 60195 (312)490-1700

## Council of American Building Officials

5205 Leesburg Pike, Suite 1201 Falls Church, Virginia 22041 (703)931-4533

## Earthquake Education Center

Baptist College P.O. Box 10087 Charleston, South Carolina 92411 (803)797-4208

#### Earthquake Engineering Research Institute

2620 Telegraph Avenue Berkeley, California 94704 (415)848-0972

# Federal Emergency Management Agency, Division of Earthquakes and Natural Hazards Programs

500 C Street, S.W. Washington, D.C. 20472 (202)646-2797

## Governor's Earthquake and Safety Technical Advisory Panel

Kentucky Division of Disaster and Emergency EOC Building, Boone Center Frankfort, Kentucky 40601 (502)564-8600

## Governor's Earthquake Emergency Task Force

California Office of Emergency Services 2800 Meadowview Road Sacramento, California 95832 (916)427-4285

#### Illinois Earthquake Advisory Board

Illinois Emergency Services and Disaster Agency 110 East Adams Street Springfield, Illinois 62706 (217)782-4448

#### Indiana Earthquake Advisory Panel

Indiana Department of Civil Defense B-90 State Office Building 100 North Senate Indianapolis, Indiana 46204 (317)232-3834

#### Insurance Information Institute

110 Williams Street New York, New York 10038 (212)669-9200

## Interagency Committee on Seismic Safety in Construction

c/o Center for Building Technology National Bureau of Standards Gaithersburg, MD 20899 (301)921-3377

#### International City Management Association

1120 G Street, N.W. Washington, D.C. 20005 (202)626-4600

#### International Conference of Building Officials

5360 South Workman Mill Road Whittier, California 90601 (213)699-0541

#### Masonry Institute of America

2550 Beverly Boulevard Los Angeles, California 90057 (213)388-0472

## Masonry Institute of Washington

925 li6th Street, Suite 209 Bellevue, Washington 98004 (206)453-8820

#### Metal Building Manufacturers Association

1230 Keith Building Cleveland. Ohio 44115 (216)241-7333

## Mississippi Seismic Advisory Panel

Mississippi Emergency Management Agency P.O. Box 4501, fondren Station Jackson, Mississippi 39216 (601)352-9100

## Missouri State Earthquake Safety Advisory Council

P.O. Box 116
Jefferson City, Missouri 65101
(314)751-2321

## National Academy of Sciences, Committee on Natural Disasters

210) Constitution Avenue, N.W. Washington, D.C. 20418 (202)334-3312

## National Association of Home Builders of the U.S.

15th and M Streets, N.W. Washington, D.C. 20005 (202)822-0200

## National Bureau of Standards, Center for Building Technology

Room B168, Building 226 Gaithersburg, Maryland 20899 (301)921-3471

## National Concrete Masonry Association

2302 Horse Pen Road Herndon, Virginia 20072 (703)435-4900

#### National Conference of States on Buildings Codes and Standards

481 Carlisle Road Herndon, Virginia 22070 (703)437-0100

## National Coordinating Council on Emergency Management

3126 Beltline Boulevard Columbia, South Carolina 29204 (803)765-9286

#### National Elevator Industry, Inc.

1 Farm Spring Farmington, Connecticut 06032 (212)986-1545

## National Emergency Managers Association

c/o Director
Colorado Division of Disaster Emergency Services, EOC
Camp George West, Golden, Colorado 80401
(303)273-1624

#### National Fire Sprinkler Association

5715 West 76th Street Los Angeles, California 90045 (914)878-4200

#### National Forest Products Association

1619 Massachusetts Avenue, N.W. Washington, D.C. 20036 (202)797-5800

## National Institute of Building Sciences

1015 15th Street, N.W., Suite 700 Washington, D.C. 20005 (202)347-5710

## National Science Foundation, Directorate for Engineering, Fundamental Research for Emerging and Critical Engineering Systems Division

1800 G Street, N.W. Washington, D.C. 20550 (202)357-7710

## Natural Disaster Resource Referral Service

P.O. Box 2208 Arlington, Virginia 22202 (703)920-7176

## Natural Hazards Planning Council

Director, Planning Office P.G. Box 3088 Christiansted, St. Croix, Virgin 1slands 00820 (809)773-1082

## Natural Hazards Research and Applications Information Center

University of Colorado, IBS 6 Campus Box 482 Boulder, Colorado 80309 (303)492-6818

## New England Seismic Advisory Council (proposed)

P.O. Box 1496 400 Worcester Road Framingham, Massachusetts 01701 (617)875-1318

#### Oklahoma Masonry Institute

3601 Classen Boulevard, Suite 108 Oklahoma City, Oklahoma 73118 (405)524-8795

## Portland Cement Association

5420 Old Orchard Road Skokie, Illinois 60077 (312)966-6200

#### Prestressed Concrete Institute

201 North Wells Street Chicago, Illinois 60606 (312)346-4071

#### Rack Manufacturers Institute

1326 Freeport Road Pittsburgh, Pennsylvania 15238 (412)782-1624

## School Education Safety and Education Project

State Seismologist Geophysics Department, AD-50 University of Washington Seattle, Washington 98195 (206)545-7563

#### Soil and Foundation Engineers Association

P.O. Box 92630 El Taro, California 92630 (714)859-0294

#### South Carolina Seismic Safety Consortium

Department of Civil Engineering
The Citadel, The Military College of South Carolina
Charleston. South Carolina 29401
(803)792-7677
or
Baptist College
P.O. Box 10087
Charleston, South Carolina 29411
(803)797-4208

## Southeastern United States Seismic Safety Consortium

Department of Civil Engineering The Citadel, The Military College of South Carolina Charleston, South Carolina 29401 (803)792-7677

#### Southern Building Code Congress International

900 Montclair Road Birmingham, Alabama 35213 (205)591-1853

## Southern California Earthquake Preparedness Project

6850 Van Nuys Boulevard Van Nuys, California 91405 (213)787-5103

## Southern California Earthquake Preparedness Project Policy Advisory Board

Director of Emergency Planning and Office Administration Atlantic Richfield Company 515 South Flower Street Los Angeles, California 90071 (213)486-2535

## Steel Plate Fabricators Association, Inc.

2901 Finley Road, Suite 103 Downers Grove, Illinois 60515 (312)232-8750

## Structural Engineers Association of Arizona

2415 West Colter Phoenix, Arizona 85015 (602)249-0963

## Structural Engineers Association of California

217 2nd Street San Francisco, California 94105 (415)974-5147

## Structural Engineers Association of Utah

2126 South 1000 South Salt Lake City, Utah 84106

## Structural Engineers Association of Washington

1411 4th Avenue, Suite 1420 Seattle, Washington 98101 (206)624-7045

#### Technical Advisory Council

Deputy Director, State Emergency Management Office Public Security Building 22 State Office Building Campus Albany, New York 12226 (518)454-2156

## Tennessee Earthquake Information Center

Memphis State University Memphis, Tennessee 38152 (901)454-2007

#### Tennessee Seismic Advisory Panel

Tennessee Emergency Management Agency Tennessee EOC, 3041 Sidco Drive Nashville, Tennessee 37204-1502 (615)252-3311

## U.S. Geological Survey, Office of Earthquakes, Volcanoes, and Engineering

905 National Center Reston, Virginia 22092 (703)860-6471 CSM Campus 1711 Illinois Avenue, Mail Stop 966 Golden, Colorado 80401 (303)236-1611

345 Middlefield Road, Building 1, Mail Stop 22 Menlo Park, California (415)323-8111, Ext. 2312

# U.S. Public Health Service, National Institute of Mental Health, Center for Mental Health—Studies of Emergencies

5600 Fishers Lane Rockville, Maryland 20857 (301)443-1910

#### U.S. Small Business Administration Disaster Assistance Division

Area 1 (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Puerto Rico, Rhode Island, Vermont, Virgin Islands) 15-01 Broadway
Fair Lawn, New Jersey 07410 (201)794-8195

Area 2 (Alabama, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Mississippi, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin)
75 Spring Street. S.W., Suite 822
Atlanta, Georgia 30303
(404)221-5822

Area 3 (Arkansas, Iowa, Kansas, Louisiana, Missouri, Nebraska, New Mexico, Oklahoma, Texas)
2306 Oak Lane, Suite 110
Grand Prairie, Texas 75051
(214)767-7571

Area 4 (Alaska, Arizona, California, Colorado, Guam, Hawaii, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming)
P.O. Box 13795
Sacramento, California 95825
(916)484-4461

#### University of Delaware, Disaster Research Center

Newark, Delaware 19711 (302)451-2581

#### Western States Structural Engineers Association

304 Great Western Building Spokane, Washington 99201

## Western States Clay Products Association

9780 South, 5200 West West Jordan, Utah (801)561-1471

## Western Seismic Safety Council

c/o Hugh Fowler Washington State Department of Emergency Services 4220 East Martin Way Olympia, Washington 98504 (206)459-9191

## DATA BASES

## American Geological Institute

Indexes approximately 5,000 serials on the world's geological literature.

GeoRef 4220 King Street Alexandria, Virginia 22302 (703)379-2480

#### Department of Agriculture

Data bases or computerized records maintained by agencies within the department include material on emergency disaster assistance, emergency !oan distribution, insurance paid out for crop losses, avalanches, hail, and drought. AGRICOLA is a computerized bibli ographic reference service dealing primarily with agriculture. (301)344-3755

#### Earthquake Engineering Research Center Library

Extensive library on all aspects of the earthquake problem. Publications available by mail.

University of California 47th and Hoffman Boulevard Richmond, California 94804 (415)231-9403

## Federal Emergency Management Agency, Disaster Management Information System

More than 65 elements of information on presidentially declared disasters are available on magnetic tape.

FEMA/SL-DA 500 C Street, S.W. Washington, D.C. 20472 (202)382-6423

#### National Geophysical Data Center

Maintains an earthquake data file, photo files, and a set of data bases of direct interest to Pacific tsunami research and operations NOAA/EDIS/NGDC

D62

Boulder, Colorado 80303

(303) 497-6337

## National Technical Information Service

The source for the public sale of government-sponsored research, development, and engineering reports and other analyses prepared by federal agencies and their contractors and grantees. For general information call (703)487-4604. For information on research in progress call (703)487-4808. For information on the transfer of federal technology having potential commercial or practical applications, call (703)487-4808.

NTIS 5285 Port Royal Road Springfield, Virginia 22161

#### Smithsonian Institution

Provides the Scientific Event Alert Network (SEAN) that offers monthly bulletins summarizing short lived events around the world.

SEAN NHB

Smithsonian Institution

Mail Stop 129

Washington, D.C. 20560

(202)357-1511

#### U.S. Geological Survey

For information on the books, maps, and photographs of the USGS call the Reference Librarian at the:

National Center

(703)860-6671

or

Western Regional Library

(415)323-8111

or

Central Regional Library

(303)234-4133

USGS Circular 777, A Guide to Obtaining Information from the USGS, assists in obtaining USGS products and unpublished information and USGS Circular 817, Scientific and Technical, Spatial, and Bibliographic Data Bases of the U.S. Geological Survey, lists 223 USGS systems. Copies are available free from the:

USGS Branch of Distribution

604 Pickett Street

Alexandria, Virginia 22304

USGS Earth Resources Observation Systems (EROS) offers a computerized reference service for searches for remote sensing data. Contact: EROS Data Center Sioux Falls, South Dakota 57198 (605)594-6151

Geographic Information Systems, Methods, and Equipment for Land Use Planning lists many manual and computer-aided systems, systems design, and data sources for land use planners and managers. It is available as PB 286-643 from:

NTIS 5285 Port Royal Road Springfield, Virginia 22161