

IMPLEMENTATION OF CALIFORNIA'S SEISMIC PLANNING LAW AT THE LOCAL GOVERNMENT LEVEL

by
Richard L. Meehan^I

SYNOPSIS

The introduction of a new "seismic element" law requires each city and county in California to initiate a program of identification and appraisal of local seismic hazards, and to integrate findings into its general plan for community development. Although the new law is generally accepted as a useful and necessary piece of legislation, many issues relating to the desirable scope and content of the seismic element are not yet resolved.

DEVELOPMENT OF THE SEISMIC ELEMENT LAW

Two years ago, California's State Legislature adopted a law which requires, for the first time, consideration of seismic hazards in the formulation of policy and standards for local community development. In California, specific local policies for land use, transportation facilities, conservation of resources, housing, and provision of "open space" are for the most part worked out at the county and city government level, in accordance with general guidelines set forth in the local community general plan, the content of which is broadly mandated by State law. The 1971 law requires that county and city governments take steps to add to their general plans:

"A seismic element consisting of an identification and appraisal of seismic hazards such as susceptibility to surface ruptures from faulting, to ground shaking, to ground failures, or to effects of seismically induced waves such as tsunamis and seiches".

The requirement, stated above in its entirety, originated as the recommendation of a State legislative advisory group made up of professional appointees responsible for the development of new legislative proposals pertaining to the earthquake hazard aspects of land use planning. The rapid passage of such a law in mid 1971 was doubtless related in part to the public interest and concern generated by the San Fernando earthquake in February of that year, but the law also reflects the vigorous promotion by geologist and planner professionals of the use of geologic and seismic factors as a means of optimizing land use and constraining urban sprawl. This method may be recognized as an application of the doctrine of "physiographic determinism" to land use planning, a process more popularly described as "designing with nature".

While the integration of seismic (or geologic) determinants into the development of an optimum general plan may be best described as a problem in operations research, it is hardly surprising in California to find the new seismic element perceived by some as a mandate that potentially hazardous areas be left in

^I President, Earth Sciences Associates, Palo Alto, California.

their natural state, and by others as a call for developing more and better technological resources for hazard management and control. In other words, should the community, as a matter of practical politics, develop its seismic element as a basis for obtaining funding for purchasing "green belt" lands along fault zones, or for a new fire engine?

Considering that the original draft of the seismic element law was the combined effort of a prominent developer/engineer and a government geologist who has been active in advancing the "planning geology" concept, and the language of the law itself, no special point of view is evident with respect to significance of seismic hazards or preferred method of hazard management. Rather, the immediate requirement is for an "identification and appraisal" of the threat. Nonetheless, although few cities or counties have progressed to the point of developing an adequate identification or appraisal of their local seismic conditions, much attention is already being focused on legally and politically difficult aspects of the law related to implementation of land use controls, retroactive building codes, etc. In fact, immediate consideration of these issues is encouraged by preliminary but semi-official guidelines issued by the California Council on Intergovernmental Relations (CCIR). These guidelines suggest that preparation of the seismic element be carried to the detailed extent of preparing plans for "medical triage of the injured", posting of potentially dangerous structures with signs indicating that their seismic safety is suspect, and evaluation of nonseismic hazards such as flooding. It has been argued that official adoption of these catch-all guidelines will tend to dilute the effort expended on "identification and appraisal of seismic hazards" at the local level, and that many of the items suggested for inclusion in the element, such as civil defense program and building code improvements, would be better implemented through channels other than the general plan.

CURRENT STATUS OF LOCAL COMMUNITY ACTION

The new requirement for a seismic safety element was adopted in June 1971. No mandatory date for completion was specified in the law, but more recent legislation requires in effect that local communities have prepared an element which conforms to a final, but as yet unissued, set of CCIR guidelines by April 1974. A few cities within the San Francisco Bay area, including Corte Madera, Martinez, Menlo Park, South San Francisco, Daly City, and Hayward, had, by December 1972, made substantial progress or had completed their seismic elements. Significant progress had been made in the tri-city area of Albany - Richmond - El Cerrito in a well funded effort at producing what was intended to be an exemplary seismic element.

On the county government level, plans had been made for adaption and expansion of pre-existing programs of geologic data collection and evaluation in the largely suburban, well staffed counties of Orange, Marin, San Mateo, and Santa Clara, all of which are well endowed with seismic hazards. Preparation of the element in these counties was generally being coordinated by the county's planning staff, with technical assistance being provided by either the State's Division of

Mines and Geology or by the U. S. Geological Survey, a federal agency. All of these counties had existing or were proposing agreements with their cities aimed at some degree of coordination between cities and county. Several counties in Southern California have a full time geologist on their staff who was participating in the development of the element, and both Santa Clara and San Mateo Counties, in the San Francisco Bay area, were in the process of hiring a full time staff geologist who, it was expected, would participate in the effort. All of these counties can point to active programs relating to disaster preparedness, geologic hazards, land use evaluation, etc. which existed prior to the new law, and which could be cited as valid progress in development of the effort. With the exception of Orange and San Diego Counties, which had established special intergovernmental committees to deal with the seismic element, it appeared that most of the county governments were awaiting firmer guidelines before adopting a specific program for completion of the element.

Few rural counties had made progress in seismic element preparation by the end of 1972. It appears likely that most rural counties and cities would rely principally on outside consultants for preparation of the seismic and other general plan elements and would take action at such time as mandatory guidelines and a timetable for completion was established at the State level.

PROBLEMS OF INTERPRETATION AND IMPLEMENTATION

Several consultants and city and county officials concerned with the preparation of seismic elements were interviewed during the course of preparing this review, and several provided general comments on usefulness of the new legislation, problems of interpretation, and for suggestions for improvements of the law. Commentary received is summarized as follows:

1. The new law was generally seen as desirable or necessary. However, one planner criticized what he described as the "fragmentation" of the planning process brought about by continuous addition of separate elements to the general plan. The seismic element is one of nine special general plan elements now required by State law.

2. Existing guidelines such as those issued by the CCIR deal with the scope and content of the seismic element, but not adequately with the administrative problems involved in its preparation or with the coordination of effort between counties and cities. For example, some cities were already rushing to complete their element, while at the same time county administrators were beginning an attempt to set up a coordinated county-city effort. It would seem that the CCIR could, by means of a series of bulletins, keep local governments informed of schedules, model county-city cooperative programs, budget guidelines, etc.

3. Although the requirement appears to call principally for a program of gathering and evaluation of physical data, existing guidelines call for a major expansion of scope which could dilute the quality of the more basic research required to adequately define local hazards.

4. The seismic safety element and another new, mandatory general plan element which deals with general public safety, are partially redundant.

5. The type of major data-gathering effort suggested by the law should include consideration of aseismic geologic hazards and perhaps other natural hazards (i.e., flooding) as well. For example, renewed movement of ancient landslides may be triggered by earthquakes or by heavy rains; both potential causes should be considered in evaluating the hazard.

6. Local communities are presently provided little guidance with respect to legally acceptable regulatory land use practices aimed at hazard management. For example, some Statewide effort might reasonably be made to establish a catalogue of alternative standards for building along fault lines. These could be selected for adoption in local communities in accordance with the local point of view with respect to such issues as consumer protection, property development rights, etc.

Finally, it is the writer's impression that some planners and local officials may have been oversold by the professions on the present-day feasibility of earthquake intensity microzoning and that some seismic elements may fall short of expectations which have been generated in the minds of local officials. Few of us here would disagree with the view that difficult problems remain to be worked out by and among geologists, seismologists, soil dynamicists, and structural engineers before microzoning can be considered a legally defensible, off-the-shelf planning tool. Unfortunately, some planners and administrators responsible for implementation of California's planning programs appear to have been introduced to what we would agree is a still elusive research goal by the words, "Now these are the types of things which can be done....."

SELECTED REFERENCES

Steinbrugge, Karl V., 1968; "Earthquake Hazard in the San Francisco Bay Area : A Continuing Problem in Public Policy". Institute of Governmental Studies, Univ. of California, Berkeley.

Mader, George C., 1971; "Thoughts on the New Seismic Safety Element Requirement of the California Planning Law." William Spangle and Associates, City and Regional Planners, Portola Valley, California.

State of California Governor's Earthquake Council, 1972; "Suggested Interim Guidelines for the Seismic Safety Element in General Plans" issued by California Council on Intergovernmental Relations, 1400 10th St., Sacramento, Calif. 95814.

Nichols, Donald, 1972; "Draft Guidelines for the Preparation of a Seismic Safety Element". c/o U.S. Geological Survey, 345 Middlefield Rd., Menlo Park, California 94025.

Los Angeles County Earthquake Commission, 1971; "Report, San Fernando Earthquake, February 9, 1971".