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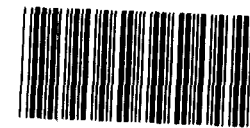
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Statement of Lowell Dodge
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Before the
Subcommittee on Science, Technology and Space
Committee on Commerce, Science and Transportation
United States Senate
on
FEMA's Implementation of the Earthquake Hazards
Reduction Act of 1977, as Amended

Mr. Chairman and Members of the Subcommittee:

We welcome your invitation to discuss our review of progress in implementing the Earthquake Hazards Reduction Act of 1977, as amended. This review was aimed primarily at assessing how well the Federal Emergency Management Agency (FEMA) is carrying out its lead role under this act.

A draft of our report is now with FEMA and other affected agencies for their review and comment and is subject to revision based on comments received. My statement here today will



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highlight the findings contained in the draft report and offer our views on ways to improve the implementation of this act.

In summary, Mr. Chairman, our draft report indicates that despite progress since mid-1981, implementation of the act has fallen behind schedule. FEMA has not carried out several provisions and has missed deadlines on others. We believe FEMA should nonetheless remain lead agency because of its primary role in the event of a major earthquake. In furtherance of the act's objectives, FEMA would be well advised to put in place an interagency mechanism for planning, budgeting, and evaluation, to guide Federal agencies participating in the program.

My testimony today will address the principal requirements of the 1977 act, as amended; FEMA's progress in implementing these requirements; factors which have limited FEMA from fully complying with the act; and the status of earthquake prediction efforts.

THE NATIONAL EARTHQUAKE HAZARDS
REDUCTION ACT OF 1977 AND THE
EXECUTIVE ORDER OF SEPTEMBER 1982

The 1977 act sought to establish a National Earthquake Hazards Reduction Program, under which the efforts of Federal, State, and local governmental units and private organizations concerned with earthquake hazards reduction would be jointly planned and coordinated.

The act assigned to the President the development of a plan for implementing the new earthquake program. This plan, presented to the Congress in 1978, set forth principles to guide

the program and proposed in general terms the roles to be played by various involved Federal agencies. Principal among these agencies were the U.S. Geological Survey, the National Science Foundation, and the National Bureau of Standards. The plan did not specify or recommend any particular organizational structure or management system for the program, except to state that a lead agency should be designated to provide "a central focus" for coordinating the program, and to list certain functions for the lead agency.

After FEMA began operations in 1979, the Congress amended the act, designating FEMA as "the agency with primary responsibilities to plan and coordinate the National Earthquake Hazards Reduction Program." The Congress stopped short of mandating that FEMA direct or "conduct" the program, as initially proposed in the 1980 House bill. Instead, FEMA was to offer a set of recommendations to the the President. The President was then to assign roles to the appropriate agencies and to set goals, priorities, budgets, and target dates for the program.

In 1982, the President issued an Executive Order delegating to FEMA the functions assigned to the President under the 1977 act, as amended. This delegation has the effect of making FEMA responsible for performing important functions itself, rather than recommending them to the President for him to execute.

The 1977 act, as amended, and the 1982 Executive Order require FEMA to

- assign roles and responsibilities to each appropriate agency as a part of the earthquake program (delegated by the Executive Order);
- establish goals, priorities, budgets, and target dates for the implementation of the program (delegated by the Executive Order);
- compile a written multi-year program plan to have been completed by September 30, 1981, transmit it to the Congress, and update it annually;
- submit an annual report to the Congress within 90 days after the end of each fiscal year, evaluating progress achieved during the preceding year in reducing earthquake risks, and include a copy of the multi-year program plan, (delegated by the Executive Order); and
- provide qualified and sufficient staffing for the program.

These requirements amount to a charge to FEMA to establish an integrated management system for the earthquake program, including staffing, the development of priorities and budgets, and the performance of program evaluations.

FEMA's PERFORMANCE
UNDER THE ACT

FEMA program officials view their lead agency role as evolving over time. Initially, FEMA defined its role narrowly, functioning as a coordinator, rather than as a leader or a manager. It has generally left management decisions associated with planning, budgeting, and evaluation to each agency to determine

for its own earthquake activities. Since mid-1981, FEMA has stepped up the pace of earthquake program activities. FEMA's program officials would now like to assume a more aggressive role, but believe they may not have sufficient authority.

FEMA's limitation of its lead role to that of coordinator has had an impact on its performance of the requirements assigned to it under the act. Prior to the 1982 Executive Order, FEMA had not made recommendations to the President concerning the roles and responsibilities of the various agencies or the "goals, priorities, budgets, and target dates for implementation of the program," as mandated by the act. Following the Executive Order, FEMA was itself to assign these roles and set the goals, priorities, budgets, and target dates for the implementation of the program. To date, FEMA has not done so.

Nor has FEMA completed work on a multi-year program plan. This plan was to have been transmitted to the Congress by September 30, 1981, and updated annually. Now, 17 months after that date, the plan is in draft form and yet to be issued. FEMA has created an independent panel of experts to review the draft; this panel is still at work. Our review of the current draft ("Review Panel Draft, September, 1982") notes that the plan lacks elements we believe to be essential to a complete program plan, including a delineation of goals, priorities, timetables, and a consolidated program budget.

FEMA has produced one annual report since 1979, the year the President delegated this task to FEMA. The report, which covers fiscal year 1981, consists largely of descriptions of the activities of the U.S. Geological Survey, the National Science Foundation, the National Bureau of Standards, and other agencies. It does not include an evaluation of progress in implementing the earthquake program, as specified in the law. Nor does it include a copy of the multi-year program plan, as required, since FEMA has not issued that plan. FEMA officials state they are now completing work on the annual report covering fiscal year 1982, which was due to the Congress by December 31, 1982.

FEMA has not provided qualified and sufficient staffing for the program. We found that only one FEMA staff member spends a substantial amount of his time on FEMA's lead role responsibilities under the act. This person is a staff assistant reporting to an official who is three organizational levels below the Director of FEMA. The three officials in line above this assistant each spend smaller portions of their time on the earthquake program, which competes for their attention with numerous other functions for which they are also responsible. Ten or so employees in other parts of FEMA are also engaged in earthquake related activities, such as assisting State and local units of government, but are not a part of the effort to establish and lead an interagency program.

FEMA began taking steps to implement the National Earthquake Hazards Reduction Program in 1981. FEMA program officials point to a group established by FEMA in late 1981, the Inter-agency Coordination Committee of the National Earthquake Hazards Reduction Program. This committee is described in the program's Annual Report for 1981 as its "formal coordinating mechanism." It is composed of mid-level representatives of the major agencies concerned with earthquake hazards reduction and has met on a quarterly basis. Its charter limits its functions to coordinating the activities of participants, and also advising FEMA.

Our review of this committee's efforts indicates that the committee has not addressed the establishment of the "goals, priorities, budgets and target dates" for the implementation of the National Earthquake Hazards Reduction Program. It is accurately described in the program's most recent annual report as an institutionalization of ad hoc but longstanding informal relationships among various concerned officials. In short, this committee does not function as a mechanism for the achievement of an integrated national earthquake program.

FEMA has also recently established a high level "policy group" intended to take actions to meet the Earthquake Hazards Reduction Act's requirement for the establishment of goals, priorities, budgets, and target dates for an integrated national earthquake program. This group, which is chaired by FEMA, at the level of Associate Director of the agency, has met twice to

date. It is too early to tell whether this group will meet FEMA's expectation that it become the operative interagency mechanism of the earthquake program.

FACTORS AFFECTING FEMA'S
PERFORMANCE

Our review identified a number of factors which may have affected FEMA's rate of progress in implementing the program. The first is a belief, expressed to us by FEMA program officials, that FEMA lacks sufficient statutory authority to implement assigned lead agency responsibilities, such as initiating an interagency budget process. I will return to this concern below.

Three other factors which may also have contributed are:

- delays by FEMA arising out of "start-up" problems it has experienced as a relatively new agency,
- FEMA's lack of technical in-house expertise, and
- the view, held by some in FEMA and elsewhere that the existence of numerous channels of informal communication within the "earthquake community" makes it unnecessary to dedicate staff or an office to manage the earthquake program.

With respect to start-up problems, FEMA has existed for nearly four years and can no longer be considered a newborn agency. Concerning staff expertise, FEMA has not taken sufficient advantage of existing opportunities for obtaining expert assistance, including requesting other agencies to detail needed staff, or establishing a standing technical committee. With

regard to reliance on informal communications, FEMA recently has acknowledged that dedicating a staff and an office to the earthquake program may have merit.

FEMA'S RESPONSIBILITY FOR
THE PARTICIPATION OF OTHER
AGENCIES IN THE PROGRAM

Our review indicates that FEMA, rather than any other agency, should serve in the lead agency role in the earthquake program. In this regard, FEMA has primary responsibility to take action, if called upon to do so by the President, in the event of a major quake. Such a responsibility, in our view, logically leads to retaining FEMA as the general focal point of earthquake preparedness activities.

The assertion that FEMA may lack sufficient authority to carry out its lead role in the new earthquake program is one we heard only from program officials in FEMA. Their doubts focused on the issue of whether FEMA can control, direct, or otherwise influence the actions of other agencies. On this question, we would observe, however, that granting FEMA more control than it is already authorized to exert over the actions of other agencies may not be essential to a viable earthquake hazards reduction program. Our review noted that there is no shortage of models for effective interagency cooperative arrangements, many of which extend to joint agreement on budgets and priorities. These arrangements can work without granting any one agency the power to control the decisions of another. An example is the

interagency program addressing the acid rain problem, which has implemented a consolidated budget process.

In its lead agency role, FEMA has not been resourceful in using its existing authority to shape an interagency management system or structure in which other agencies might participate willingly, even on questions related to budgets and priorities. FEMA's day-to-day effectiveness could rest on its exercise of its responsibility under the act to monitor the progress of other agencies' activities (for the purpose of preparing the annual report for the program) and on its leadership in the joint effort to produce and update the statutorily required multi-year program plan.

LACK OF ACTION ON AN
EARTHQUAKE PREDICTION SYSTEM

The question of how much priority to assign to the development of an earthquake prediction system is one which FEMA and other agencies, including the U.S. Geological Survey, might usefully address jointly in the course of interagency deliberations. The expectation in 1977 when the act was passed that development of an earthquake prediction system could be completed, and a prototype put in place, has not materialized. Current monitoring systems in place in California may produce warnings, but not firm predictions. To upgrade these monitoring systems to prediction systems would involve the application of complex measurement technology and computer modeling. An

investment estimated at \$60 to \$100 million or more for an earthquake hazard zone would be required. Considerable uncertainty exists about the prospects for a reliable operational prediction system even if large sums are invested.

The view is held by some scientists that current funds would be better spent on basic research to increase knowledge of earthquake phenomena, to improve our ability to measure them, and to develop better ways of evaluating the data collected. However, because the probability of earthquakes in some areas is relatively high, and potential losses large, planning by the U.S. Geological Service for a prototype prediction system continues.

The issues of whether the effort to develop an operational prediction system should be pushed harder and whether its funding should be increased remain unresolved. These issues might benefit, as suggested above, from being subjected to a broader, interagency review, such as one which FEMA as lead agency might initiate.

THE NEED FOR IMPROVED
IMPLEMENTATION OF THE ACT

FEMA has taken initial steps, including the establishment of a high level interagency policy group, toward more fully developing its lead agency role in the National Earthquake Hazards Reduction Program. We believe FEMA could strengthen its lead role substantially simply by executing more diligently the

requirements of the act, including taking an active role in assigning specific responsibilities to other agencies, and taking the initiative on joint interagency consideration of priorities, budgets, and target dates for the program.

We believe FEMA can exercise the authority granted to it under the act and the 1982 Executive Order to establish an operative interagency structure. This structure should facilitate agency agreement on priorities and resolve program issues.

Given the results of our review, we believe that continued interest in oversight by this subcommittee and others could provide important encouragement to FEMA, and accelerate the agency's efforts to establish a more viable National Earthquake Hazards Reduction Program.

Mr. Chairman, that concludes my prepared statement. I would be happy to address any questions the subcommittee might have. Thank you.