


Cover: A schematic representation of relative earthquake risk in the United States simplified from "A Probabilistic Estimate of Maximum Acceleration in Rock in the Contiguous United States" by S. T. Algermissen and D. M. Perkins (U.S. Geological Survey Open File Report 76-416, 45p, 1976). The shaded areas represent the horizontal acceleration in rock that with 90 percent probability is not likely to be exceeded in 50 years. The light stippled area is 4 to 10% of the acceleration due to gravity; the darker stippled area is 10 to 20%; the darkest stippled area is 20 to 40% and the black area is greater than 40%.

## FOREWORD

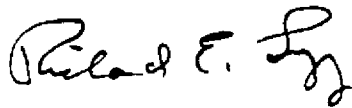
The Plan for Federal Response to a Catastrophic Earthquake has been developed through the efforts of the Subcommittee on Federal Earthquake Response Planning in conjunction with the Regional Steering Committee, chaired by the Federal Emergency Management Agency (FEMA) Region IX, San Francisco. These groups provide a forum for the 25 agencies with identified responsibilities in the Plan to participate in planning and exercising activities that are required to develop and maintain a Federal response capability.

FEMA has coordinated development of the Plan to fulfill its lead agency responsibilities under the Disaster Relief Act and the Earthquake Hazards Reduction Act. The purpose of the Plan is to assist State and local governments affected by a catastrophic earthquake or, if appropriate, another catastrophic natural event, during emergency lifesaving operations. The Plan outlines the policies, planning assumptions, concept of operations, organizational structures, and specific assignments of responsibility that form the basis for Federal response to supplement State and local efforts.

Publication of the Plan represents a major milestone and demonstrates the ability of a large number of Federal departments and agencies, at both the national and regional levels, to work together to achieve a common goal. FEMA appreciates the cooperation and support that have resulted in this achievement.



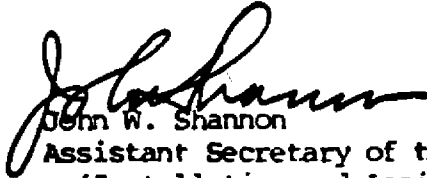
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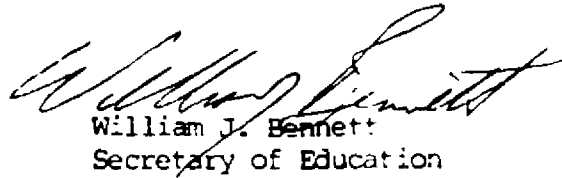
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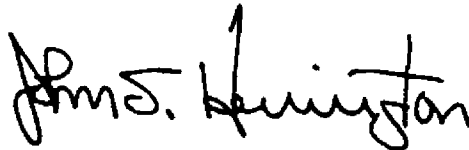
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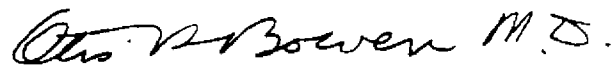
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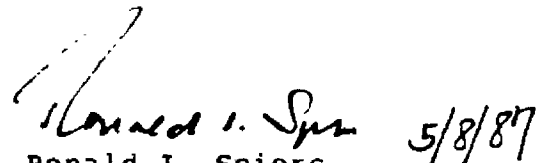
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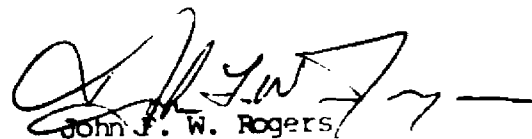
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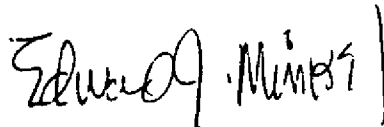
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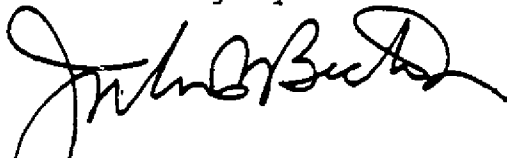
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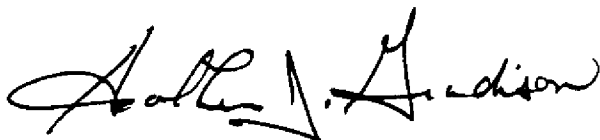
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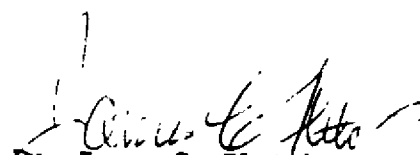
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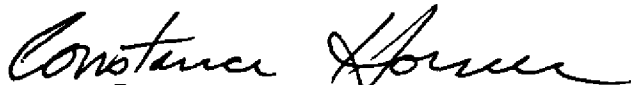
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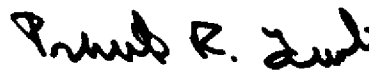
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## LETTER OF AGREEMENT

The Plan for Federal Response to a Catastrophic Earthquake (hereafter referred to as the Plan) establishes the basis for fulfilling the Federal Government's responsibilities to State and local governments impacted by a catastrophic earthquake or, if appropriate, another catastrophic natural event. By signature hereon, the Federal officials with responsibilities in the Plan agree to prepare for and carry out its provisions.

The Plan is based on the fundamental assumption that a catastrophic earthquake will overwhelm the capability of State and local governments to carry out the extensive emergency operations that will be necessary to save lives and protect property. Consequently, resources and authorities of Federal departments and agencies have been grouped into broad categories of response activities, called emergency support functions (ESF), to provide Federal assistance. Primary and support agency responsibilities have been identified for each of these functions. Signature on this letter constitutes acceptance of responsibility for the specific assignments.

Under the provisions of Public Law 93-288, the Disaster Relief Act of 1974, as amended, a Federal Coordinating Officer (FCO) will be appointed as the President's representative to coordinate overall delivery of Federal assistance. Federal officials will be designated for each department and agency to carry out the provisions of the Plan, and will be responsive to the overall management and direction by the FCO.

The Subcommittee on Federal Earthquake Response Planning is recognized as the interagency organization responsible for overall coordination of planning and exercising efforts required to develop and maintain a Federal response capability. The Subcommittee is chaired by the Federal Emergency Management Agency (FEMA) and includes representatives of each of the Federal departments and agencies identified in the Plan. Members of the Subcommittee are responsible to their department or agency officials for changes required to improve the Plan and for department or agency participation in response planning and exercising activities. Changes or issues

which cannot be resolved at the Subcommittee level will require approval by the heads of the appropriate departments or agencies.

To fulfill their responsibilities in the Plan, the undersigned agree to develop and maintain the supplemental internal and regional interagency planning that must be done to establish a coordinated Federal response capability.

Many aspects of the Plan have been developed as a result of lessons learned from response operations after the catastrophic earthquake in Mexico in September 1985. The tragedy of that event serves as a reminder that the United States is also vulnerable to the devastating effects of a powerful earthquake in some of our high-risk, high-population areas. By agreeing to the provisions of the Plan, the undersigned willingly accept responsibility to contribute to a coordinated, timely Federal response to supplement the capabilities of State and local governments.

## TABLE OF CONTENTS

| <u>Section</u>                               | <u>Page</u> |
|--|-------------|
| LETTER OF AGREEMENT                          | iii         |
| TABLE OF CONTENTS                            | v           |
| LIST OF FIGURES                              | ix          |
| TERMS AND DEFINITIONS                        | xi          |
| <br><u>Basic Plan</u>                        |             |
| I INTRODUCTION                               | 1           |
| A. Purpose                                   | 2           |
| B. Scope                                     | 2           |
| II POLICIES                                  | 3           |
| III SITUATION                                | 6           |
| A. Disaster Condition                        | 6           |
| B. Planning Assumptions                      | 6           |
| IV CONCEPT OF OPERATIONS                     | 7           |
| A. General                                   | 7           |
| B. Organization                              | 8           |
| 1. National-Level Response Support Structure | 8           |
| 2. Regional-Level Response Structure         | 8           |
| C. Notification                              | 11          |
| D. Initial Actions                           | 12          |

## TABLE OF CONTENTS (CONTINUED)

|                   | <u>Page</u>                               |
|-------------------|---|
| V                 | RESPONSIBILITIES 13                       |
|                   | A. Primary Agencies 13                    |
|                   | 1. FEMA 13                                |
|                   | 2. Other Primary Agencies 13              |
|                   | B. Support Agencies 15                    |
|                   | C. Other Federal Organizations 16         |
|                   | D. CDRG 16                                |
|                   | E. EST 17                                 |
| VI                | RESOURCE REQUIREMENTS 17                  |
| VII               | REFERENCES 18                             |
|                   | A. Public Laws 18                         |
|                   | B. Executive Orders 18                    |
|                   | C. Federal Emergency Management Agency 18 |
|                   | D. Other 18                               |
|                   | GLOSSARY 20                               |
| <u>Appendix A</u> | COORDINATION OF THE FEDERAL RESPONSE A-1  |
| I                 | INTRODUCTION A-1                          |
|                   | A. Purpose A-1                            |
|                   | B. Scope A-1                              |
|                   | C. Assumptions A-1                        |



## TABLE OF CONTENTS (CONTINUED)

|     |   | <u>Page</u> |
|-----|---|-------------|
| II  | ORGANIZATIONAL STRUCTURE                | A-2         |
|     | A. National Level                       | A-2         |
|     | 1. CDRG                                 | A-2         |
|     | 2. Emergency Staff Support Group (ESSG) | A-4         |
|     | 3. ESF Response Elements                | A-5         |
|     | B. Regional Level                       | A-5         |
|     | 1. FCO                                  | A-5         |
|     | 2. EST                                  | A-7         |
|     | 3. ESF                                  | A-7         |
|     | 4. State Coordinating Officer           | A-7         |
|     | 5. DFO                                  | A-8         |
| III | RESPONSE OPERATIONS                     | A-8         |
|     | A. Functions                            | A-8         |
|     | 1. National Level                       | A-8         |
|     | 2. Regional Level                       | A-12        |
|     | B. Response Coordination                | A-15        |
|     | 1. General                              | A-15        |
|     | 2. Coordination                         | A-15        |
|     | C. Specialized Activities               | A-16        |
|     | 1. Public Affairs                       | A-16        |
|     | 2. Congressional Relations              | A-17        |

## TABLE OF CONTENTS (CONTINUED)

|  | <u>Page</u> |
|--|-------------|
| <u>Appendix B</u> ADMINISTRATIVE POLICIES AND PROCEDURES             | B-1         |
| I INTRODUCTION   | B-1         |
| A. Purpose   | B-1         |
| B. Scope   | B-1         |
| II ADMINISTRATIVE POLICIES   | B-1         |
| A. Preimplementation of the Plan                                     | B-1         |
| B. Postimplementation of the Plan                                    | B-1         |
| III ADMINISTRATIVE PROCEDURES  | B-2         |
| A. Preimplementation   | B-2         |
| 1. Plan Review and Revision  | B-2         |
| 2. Notification List   | B-2         |
| B. Postimplementation  | B-3         |
| 1. FCO Continuity  | B-3         |
| 2. Reports   | B-3         |
| 3. Financial Management  | B-6         |
| 4. Operations  | B-8         |
| 5. Administrative Services   | B-8         |
| IV REFERENCES  | B-9         |
| <u>Appendix C</u> COMPENDIUM OF EMERGENCY AUTHORITIES AND DIRECTIVES | C-1         |
| <u>Annexes</u> EMERGENCY SUPPORT FUNCTIONS (ESF)                     |             |
| ESF #1 - Transportation  | 1-1         |
| ESF #2 - Communications  | 2-1         |
| ESF #3 - Construction Management                                     | 3-1         |

## TABLE OF CONTENTS (CONTINUED)

|  | <u>Page</u> |
|--|-------------|
| ESF #4 - Firefighting  | 4-1         |
| ESF #5 - Damage Information  | 5-1         |
| ESF #6 - Mass Care   | 6-1         |
| ESF #7 - Resource Support  | 7-1         |
| ESF #8 - Health and Medical Services                                 | 8-1         |
| ESF #9 - Urban Search and Rescue                                     | 9-1         |
| ESF #10 - Hazardous Materials  | 10-1        |
| ESF #11 - Food   | 11-1        |
| <br><u>Figures</u>   |             |
| 1 National- and Regional-Level Response Structures                   | 9           |
| 2 National-Level Response Support Structure: CDRG and the ESF        | 10          |
| 3 Emergency Support Functions Assignments Matrix                     | 14          |
| A-1 National-Level Response Coordination Structure                   | A-3         |
| A-2 Federal Coordinating Officer's Organizational Structure          | A-6         |
| B-1 Reports Flow   | B-4         |
| 2-1 National-Level Organization                                      | 2-4         |
| 2-2 Regional and DFO Organization                                    | 2-5         |
| 3-1 Situation Report Format  | 3-7         |
| 5-1 Composition of the Damage Information Emergency Support Function | 5-5         |
| 5-2 Procedure for Processing a Request for Aerial Reconnaissance     | 5-9         |

## TABLE OF CONTENTS (CONTINUED)

|      |   | <u>Page</u> |
|------|---|-------------|
| 5-3  | Procedure for Processing a Request for Ground Reconnaissance Assistance | 5-10        |
| 5-4  | Damage Information Report   | 5-11        |
| 10-1 | Hazardous Materials ESF Organizational Structure                        | 10-4        |
| 11-1 | Composition of the Food Emergency Support Function                      | 11-4        |

## TERMS AND DEFINITIONS

The terms and definitions used in the Plan are consistent whenever possible with other current response community terminology. Those which are specific to a catastrophic earthquake, the Disaster Relief Act of 1974, or the intent of this Plan are listed below. This is not exhaustive. Individual annexes may contain terms unique to a specific Emergency Support Function (ESF); if so, those terms are defined in the appropriate annex.

(1) Assistance Phases. The four phases of planning and response related to a catastrophic earthquake are as follows.

(a) Prediction Response. The phase that would occur 48 to 96 hours before the earthquake. It would consist of a series of preparatory actions taken by Federal, State, and local governments to protect life and minimize effects of the potential event on response personnel and equipment. These actions facilitate the deployment of resources necessary for immediate response and initial recovery operations.

(b) Immediate Response. The phase from the onset of the earthquake to approximately 30 days afterward, or those periods caused by aftershocks. The functions performed during this phase are critical to saving lives, protecting property, and meeting basic human needs. It is this phase which the Plan addresses.

(c) Initial Recovery. The phase traditionally associated with providing Federal supplemental disaster recovery assistance upon Presidential declaration. This phase probably will overlap the immediate response phase, beginning several days or weeks after the earthquake and lasting up to 2 years. Typical functions to be performed are associated with the establishment of the Federal mechanism for delivery of disaster assistance; i.e., public and individual assistance as provided for in P.L. 93-288, staffing of Disaster Application Centers, provision of temporary housing, and Federal disaster loans and grants.

(d) Long-Term Restoration and Recovery. The phase after onset of the event, during which time the designated areas would be restored to their normal or an improved state. The Federal role in the process would be to coordinate policy development through the authorities associated with provision of Federal funds and assistance.

(2) Catastrophic Disaster Response Group (CDRG). A group of representatives at the national level from the Federal departments and agencies which have Plan support responsibilities. The CDRG's primary role is that of a centralized, liaison coordinating group available at the call of the chairperson. Its members have timely access to the appropriate policymakers in their respective parent organizations to facilitate decisions on problems and policy issues, should they arise. The CDRG oversees the national-level response support effort and coordinates the efforts of the

ESF primary and support agencies in supporting Federal regional requirements. The CDRG serves as a mechanism to bring to bear all Federal authorities, resources, capabilities, and expertise that can contribute to an enhanced Federal response capability.

(3) Catastrophic Earthquake. There is no commonly accepted definition of a "catastrophic" earthquake. Whether a given earthquake qualifies as catastrophic depends on the combined effect of geologic parameters (e.g., magnitude, duration, type of earth movement, etc.), environmental parameters (e.g., location, time of occurrence, existing weather conditions, etc.), sociological parameters (e.g., preparedness of the population, warning, enhanced building construction, etc.), and destructive parameters (e.g., building damage and collapse, damage to infrastructure and systems, etc.). For the purpose of this Plan, a catastrophic earthquake is defined as a seismic event or series of seismic events that results in large numbers of deaths and injuries; extensive damage or destruction of facilities that provide and sustain human needs; an overwhelming demand on State and local response resources and mechanisms; a severe impact on national security facilities and infrastructures that sustain them; a severe long-term effect on general economic activity; and severe effect on State, local, and private sector initiatives to begin and sustain initial response activities.

(4) Designated Area. The area designated in the major disaster declaration which is eligible to receive disaster assistance in accordance with the provisions of Public Law (P.L.) 93-288, as amended.

(5) Disaster Field Office (DFO). The temporary office established in or near the designated area from which the Federal Coordinating Officer (FCO), his/her staff, the Emergency Support Team (EST), and where possible the State Coordinating Officer, his/her staff, and the regional response organizations coordinate response activities.

(6) Emergency. "Any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, explosion, or other catastrophe in any part of the United States which requires Federal emergency assistance to supplement State and local efforts to save lives and protect property, public health, and safety or to avert or lessen the threat of a disaster" (P.L. 93-288). (NOTE: For the purpose of implementing this Plan for emergency lifesaving and life-protecting activities in response to a catastrophic earthquake, there is no significant difference between a Presidential emergency and a major disaster declaration.)

(7) Emergency Support Function (ESF). A major category or functional area of response activity established to facilitate coordinated Federal delivery of assistance required during the immediate response phase after a catastrophic earthquake to save lives, protect property and public health, and maintain public safety. The ESF represent those types of Federal assistance which the State likely will need most because of the

overwhelming impact of a catastrophic earthquake on a State's own resources and response capabilities or because of the specialized or unique nature of the assistance. ESF support will be time-sensitive and nationwide in scope, flowing into the designated area from throughout the United States. ESF support is designed to supplement State and local response efforts.

(8) Emergency Support Team (EST). A team, consisting of the lead representative from each Federal department or agency assigned primary responsibility for an Emergency Support Function (ESF) and key members of the Federal Coordinating Officer's (FCO) staff, formed to assist the FCO in carrying out his/her responsibility pursuant to P.L. 93-288. The EST provides a forum for coordinating the overall Federal response, reporting on the conduct of specific operations, exchanging information, and resolving issues related to ESF and other response requirements. EST members respond to and meet as requested by the FCO. The EST may be expanded by the FCO to include designated representatives of other Federal departments and agencies as needed.

(9) Federal Coordinating Officer (FCO). The senior Federal official appointed to act for the President in accordance with the provisions of P.L. 93-288. The FCO represents the President as provided by Section 303 of P.L. 93-288 for the purpose of coordinating the administration of Federal relief activities in the designated area. Additionally, the FCO is delegated and performs those responsibilities of the Federal Emergency Management Agency (FEMA) Director outlined in Executive Order 12148 and those responsibilities delegated to the FEMA Regional Director in Title 44 Code of Federal Regulations, Part 205. This includes authority for tasking of Federal agencies usually delegated to the Disaster Recovery Manager for typical disaster recovery assistance.

(10) High-risk, High-population Areas. Heavily populated areas of the United States particularly susceptible to high-intensity earthquakes for which Federal emergency response may be necessary. FEMA is currently supporting State and local emergency response and preparedness projects in these areas: Honolulu, HI; San Diego, Los Angeles, and San Francisco, CA; Puget Sound, WA; Anchorage, AK; Salt Lake City, UT; the seven-State area of the central United States (MO, KY, TN, MS, AR, IN, IL); Charleston, SC; Boston, MA; New York; Puerto Rico; and the Virgin Islands.

(11) Major Disaster. "Any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, explosion, or other catastrophe in any part of the United States which, in the determination of the President, causes damage of sufficient severity and magnitude to warrant major disaster assistance under the Federal Disaster Relief Act, above and beyond emergency services by the Federal Government, to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby" (P.L. 93-288).

(12) Primary Agency. The Federal department or agency assigned primary responsibility to manage and coordinate a specific ESF. Primary agencies are designated on the basis of their having the most authorities, resources, capabilities, or expertise relative to accomplishment of the specific ESF support. Primary agencies are responsible for overall planning and coordination of, in conjunction with their support agencies, the delivery of ESF-related Federal assistance to their State counterparts. Designated officials of the primary agencies serve as Federal executive agents, subject to overall coordination and management of the FCO, and have the authority to commit funds and task support agencies under the authority of P.L. 93-288 to carry out the response activities as appropriate within the parameters of this Plan.

(13) State Coordinating Officer (SCO). The person appointed by the Governor of the affected State to coordinate State and local response efforts with those of the Federal Government.

(14) Support Agency. A Federal department or agency designated to assist a specific primary agency with available resources, capabilities, or expertise in support of ESF response operations, as coordinated by the representative of the primary agency.