

March 23, 2000

SEISMIC SAFETY OF VA BUILDINGS

1. PURPOSE: This Veterans Health Administration (VHA) directive establishes policy on the seismic safety of VHA buildings; thereby ensuring the Department of Veterans Affairs (VA) provides adequate life-safety protection to veterans, employees, and other building occupants.

2. BACKGROUND

a. VA has had an active seismic mitigation program since the 1971 California San Fernando earthquake. This earthquake completely destroyed two occupied patient buildings killing 46 people. Since that tragedy, all VA buildings (approximately 1,000) located in medium and high seismic zones have been screened. Approximately 40 percent of those buildings were found to be at major risk of which 35 percent have been strengthened, demolished, replaced or such work is underway. *NOTE: See Attachment A for definitions.*

b. Executive Order (E.O.) 12699, signed by the President on January 5, 1990, requires each Federal agency responsible for the design and construction of new buildings to ensure that buildings are designed and constructed in accordance with appropriate seismic design and construction standards.

c. E.O. 12941, signed by the President on December 1, 1994, mandated the seismic safety of existing federally owned or leased buildings by adopting RP4, Standards of Seismic Safety of Existing Federally Owned or Leased Buildings. These standards, developed by the Interagency Committee on Seismic Safety in Construction (ICSSC), were adopted as the minimum level acceptable for use by Federal departments and agencies in assessing the seismic safety of their owned and leased buildings and in mitigating unacceptable seismic risk in those buildings.

d. In compliance with Executive Order 12941, VA developed an inventory of its owned buildings identifying their seismic risk. This data was reported to the Federal Emergency Management Agency (FEMA) in January 1999. Veterans Integrated Services Networks (VISNs) 8, 19, 20, 21 and 22, with facilities located in high seismic zones, were identified as having exceptionally high-risk (EHR) buildings. The Office of Facilities Management (FM) has transmitted this data to all affected VISNs.

3. POLICY: It is VHA policy that all:

a. Facilities identified as essential must remain in operation after a seismic event.

b. New buildings are designed and constructed in strict compliance with VA Seismic Design Requirements H-18-8 and the National Model Building Codes.

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4. ACTIONS

a. FM

(1) FM provides direction and policy to ensure that:

(a) All new buildings are designed and constructed in strict compliance with VA Seismic Design Requirements H-18-8 and the National Model Building Codes.

(b) VA programs are effective in mitigating life-safety hazards of existing buildings and ensuring that hospitals and other essential facilities remain in operation after an earthquake.

(2) FM will assist VISNs and VHA management with the development of specific seismic upgrade project applications and in prioritizing these projects.

b. VISNs

(1) Each VISN is responsible for developing a:

(a) Plan for addressing seismic deficiencies for their buildings.

(b) Mitigation plan for all non-exempt buildings to comply with seismic life-safety standards.

(c) Mitigation plan for all non-exempt buildings identified as essential (including EHR buildings) to ensure that these buildings remain in operation after an earthquake.

NOTE: These plans must be incorporated into each VA medical center and VISN strategic plan.

b. Each VISN must formulate plans in coordination with FM to evaluate seismic risk in buildings that are identified as non-exempt in the FEMA Seismic Inventory Project. *NOTE: These plans must be incorporated into each VA medical center and VISN strategic plan*

c. VISNs shall determine, through the lessor, the seismic risk of leased buildings under their jurisdiction. If the leased buildings have a seismic risk, the VA medical center must develop a plan to mitigate these risks within the context of the lease agreement and/or at lease renewal.

NOTE: These plans must be incorporated into each VA medical center and VISN strategic plan

c. Facility Directors. Facility Directors are responsible for ensuring:

(1) Medical centers in high-risk seismic areas develop contingency plans to conduct post-earthquake safety evaluation of their buildings. *NOTE: The Applied Technology Council (ATC) is a source for training and learning procedures for conducting these evaluations.*

(2) Staff and patients awareness about the seismic risk of their buildings is increased.

5. REFERENCES

- a. E.O. 12699, Executive Order for Seismic Safety of New Federal Buildings.
- b. E.O. 12941, Executive Order for Seismic Safety of Existing Federal Buildings.
- c. Public Law 101-614, National Earthquake Hazard Reduction Program Reauthorization Act.
- d. ATC 20: Procedures for Post-Earthquake Safety Evaluation of Buildings.
- e. VHA Handbook H-18-8, VA Seismic Design Requirements.

6. FOLLOW-UP RESPONSIBILITY: The Chief Facilities Management Officer (18) is responsible for the contents of this Directive.

7. RECISSION: This VHA Directive expires March 31, 2005.

S/ Frances Murphy, M.D. for
Thomas L. Garthwaite, M.D.
Deputy Under Secretary for Health

Attachment

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ATTACHMENT A

**DEFINITIONS FOR THE SEISMIC SAFETY OF DEPARTMENT OF
VETERANS AFFAIRS (VA) BUILDINGS**

1. **H-18-8: VA Earthquake Design Requirements (adopted in 1975 as H-08-8).** This document is regularly reviewed and updated by the Office of facilities Management (FM). A major upgrade was implemented in 1995 and titled as H-18-8. National Model Building Codes have also been revised periodically since 1975, and now closely align with the VA Earthquake Design Requirements.
2. **Essential Facilities.** Buildings which house functions that are required to remain operational after an earthquake or other natural disaster, including patient bed buildings, nursing homes, domiciliaries, outpatient clinics, psychiatric care, research facilities, and boiler plants.
3. **Exceptionally High Risk (EHR) Buildings.** In general, a large main hospital building located in a high seismic zone, and constructed before the adoption of H-08-8 in 1975. Specific definitions of EHR building is described as follows:
 - a. Buildings located in high seismic zones,
 - b. Building is an essential facility,
 - c. Buildings designed prior to adoption of H-18-8; and
 - d. Area of the building is greater than 10,000 feet.
4. **Applied Technology Council (ATC).** ACT is a non-profit, tax-exempt corporation established in 1971 through the efforts of the Structural Engineers Association of California. The purpose of ATC is to assist design practitioners in structural engineering in the task of keeping abreast of and effectively utilizing technological developments. Funding for projects is obtained from government agencies and from the private sector in the form of tax-deductible contributions.
5. **Federal Emergency Management Agency (FEMA) Seismic Inventory Project.** Executive Order 12941 mandated the seismic safety of federally owned buildings. It requires agencies to develop seismic inventory of their buildings and estimate the costs of mitigating unacceptable seismic risk in those buildings. FEMA is responsible for assembling the data from all agencies, and must submit a comprehensive report to Congress by December 2000.
6. **National Model Building Codes.** Public Law 100-678 affects all aspects of facility design and construction, and requires Federal agencies to follow nationally recognized model building codes. These building codes are the:
 - a. National Building Code (BOCA).

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b. Standard Building Code (SBC).

c. Uniform Building Code (UBC).

7. Exempt Buildings. Exempt buildings as defined by RP4 are:

a. Buildings classified for agriculture use, or intended for incidental human occupancy.

b. Detached one or two-story family dwellings in a low seismic zone.

c. One-story steel, light frame or wood constructed buildings with an area less than 3,000 square feet.

d. Fully rehabilitated buildings.

e. Buildings constructed and designed after the adoption of Executive Order 12699.

8. Non-exempt Buildings. All buildings not specifically meeting the definition of exempt buildings are designated as non-exempt. This does not necessarily mean that they are seismically unsafe. It simply means that they should be evaluated for seismic risk.