VA DIRECTIVE 7512 Transmittal Sheet October 12, 2011

SEISMIC SAFETY OF VA BUILDINGS

- **1. REASON FOR ISSUE:** This Department of Veterans Affairs (VA) Directive establishes policy regarding the seismic safety of VA buildings.
- 2. SUMMARY OF CONTENTS/MAJOR CHANGES: Two Executive Orders require seismic safety of all Federal buildings. This Directive has been changed from a Veterans Health Administration (VHA) Directive to VA Directive.
- **3. RESPONSIBLE OFFICE:** The Office of Acquisition, Logistics, and Construction, Office of Construction and Facilities Management (CFM) is responsible for the contents of this Directive.
- 4. RELATED HANDBOOKS: None
- 5. RESCISSIONS: VHA Directive 2005-019, Seismic Safety of VHA Buildings

CERTIFIED BY

BY DIRECTION OF THE SECRETARY OF VETERANS AFFAIRS

/s/
Roger W. Baker
Assistant Secretary for
Information and Technology

/s/
Glenn D. Haggstrom
Executive Director, Office of
Acquisition, Logistics and Construction

Distribution: Electronic Only

SEISMIC SAFETY OF DEPARTMENT OF VETERANS AFFAIRS (VA) BUILDINGS

- **1. PURPOSE:** This Department of Veterans Affairs (VA) Directive establishes policy regarding the seismic safety of VA buildings. VA is committed to providing life-safety protection to Veterans, employees, and other building occupants in all facilities. In addition, facilities identified as essential must meet additional requirements to remain in operation after a seismic event.
- **2. POLICY:** It is VA policy that all VA facilities identified as essential remain operational after a seismic event, and non-essential VA facilities must be life-safety protected.
- a. Executive Order (E.O.) 12699, Executive Order for Seismic Safety of New Federal Buildings, 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.
- b. E.O. 12941, Executive Order for Seismic Safety of Existing Federal Buildings, 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.
- c. In compliance with E.O. 12941, VA developed an inventory of its owned and leased buildings identifying their seismic risk. This data was reported to the Federal Emergency Management Agency (FEMA), in January 1999. Veterans Integrated Service Networks (VISN) 8, 19, 20, 21 and 22, with facilities located in high seismic zones, were identified as having exceptionally high risk (EHR) and high risk (HR) buildings. The Office of Construction & Facilities Management (CFM) transmitted this data to all affected VISNs and periodic updates are provided.

3. RESPONSIBILITIES:

a. The Director, Office of Construction & Facilities Management (CFM) is responsible to:

- (1) Provide direction, guidance, and policy requiring all new buildings be structurally designed and constructed in compliance with VA Seismic Design Requirements H-18-8, International Building Code (IBC), and American Society of Civil Engineers (ASCE) 7 Minimum Design Loads for Buildings and Other Structures.
- (2) Identify and report on life-safety hazards of existing buildings and report on the capability of hospitals and other essential facilities to remain in operation after an earthquake.
- (3) Maintain the Facility Condition Assessment program that assesses compliance with VA Seismic Design Requirements H-18-8 for bracing of all nonstructural components, e.g., ceilings, mechanical pipes, ducts and equipment, etc., in high seismic areas with a 3-year update cycle.
- (4) Assist Veterans Health Administration (VHA), Veterans Benefits Administration (VBA), National Cemetery Administration (NCA), and VA leadership with the development of specific seismic upgrade project applications and prioritizing these projects.
- (5) Coordinate with VA administrations' emergency management teams to provide post-event support including VA staff support, consulting services, and contract services for construction.
- b. Under Secretaries, Assistant Secretaries, Other Key Officials, and Deputy Assistant Secretaries are responsible for overseeing implementation of this Directive for facilities within their jurisdiction. Specific responsibilities include:
- (1) Developing plans to address seismic deficiencies for their buildings and structures. Incorporating these plans into strategic plans;
- (2) Developing mitigation plans for all non-exempt buildings and structures. Incorporating these plans into strategic plans;
 - (3) Complying with seismic life-safety standards;
- (4) Ensuring all essential buildings and structures (including EHR and HR facilities) are included in the strategic planning process;

- (5) Formulating plans, in coordination with CFM, to evaluate seismic risk in buildings and structures that are identified as non-exempt in the FEMA Seismic Inventory Project;
- (6) Determining, through the Lessor, the seismic risk of leased buildings under their jurisdiction. If the leased buildings have a seismic risk, plans must be developed to mitigate these risks within the context of the lease agreement and/or at lease renewal. Inability of Lessor or VA to mitigate risks in a timely manner preclude execution of a lease agreement or lease renewal;
- (7) Developing contingency plans, fully coordinated with VA Emergency Planning Process for facilities located in HR seismic areas to conduct post-earthquake safety evaluation of their buildings and structures;

NOTE: These plans must be incorporated in all medical center strategic plans. The Applied Technology Council (ATC) is a source for training and learning procedures for conducting these evaluations.

- (8) Increasing awareness of staff, patients, contractors, and visitors about the seismic risk of their buildings and structures;
- (9) Complying with VA Seismic Design Requirements H-18-8 for essential facilities in HR seismic areas to remain operational after an earthquake, and life-safety performance capability of non-essential facilities; and
- (10) Ensuring projects, at VA-owned or leased facilities, involving seismic rehabilitation have:
- (a) A licensed structural engineer with experience in seismic rehabilitation sign and seal construction documents;
- (b) An independent plan review of construction documents to ensure compliance with H-18-8; and
- (c) A qualified engineer with experience in seismic rehabilitation overseeing construction of these projects.

4. REFERENCES

- a. American Society of Civil Engineers, Standards (ASCE 7), Minimum Design Loads for Buildings and Other Structures.
- b. Applied Technology Council (ATC 20): Procedures for Post-Earthquake Safety Evaluation of Buildings.
 - c. E.O. 12699, Executive Order for Seismic Safety of New Federal Buildings.

- d. E.O. 12941, Executive Order for Seismic Safety of Existing Federal Buildings.
- e. International Building Code (IBC).
- f. Public Law 101-614, National Earthquake Hazard Reduction Program Reauthorization Act.
- g. RP4, Standards of Seismic Safety of Existing Federally-Owned or Leased Buildings.
 - h. VA Seismic Design Requirements H-18-8.

5. DEFINITIONS:

- a. <u>Applied Technology Council (ATC)</u> ATC is a non-profit, tax-exempt corporation established in 1971 through the efforts of the Structural Engineers Association of California. ATC assists design practitioners in structural engineering in keeping abreast of, and effectively utilizing, technological developments. Funding for projects is obtained from government agencies and the private sector in the form of tax-deductible contributions.
- b. <u>Essential Facilities</u> Buildings which house functions that are required to remain operational after an earthquake or other natural disaster. They include patient bed buildings, nursing homes, community living centers, domiciliaries, outpatient clinics, psychiatric care facilities, research facilities, boiler plants, etc.
- c. <u>Exceptionally High Risk (EHR) Buildings</u> Typically 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 buildings are buildings that meet all of the following criteria below:
 - (1) Located in high-seismic zones;
 - (2) Designated as an essential facility;
 - (3) Designed prior to adoption of H-18-8;
 - (4) Area is greater than 10,000 feet; and
 - (5) Is at high risk of major damage or collapse.
- d. <u>Exempt Buildings</u> Exempt buildings are defined by RP4, Standards of Seismic Safety of Existing Federally-Owned or Leased Buildings, published by National Institute of Standards and Technology and meet one or more of criteria below:

- (1) Classified for agriculture use, or intended for incidental human occupancy;
- (2) Detached one-story or two-story family dwellings in a low-seismic zone;
- (3) One-story steel, light frame, or wood constructed buildings with an area less than 3,000 square feet;
 - (4) Fully rehabilitated; and
 - (5) Constructed and designed after the adoption of E.O. 12699.
- e. **FEMA Seismic Inventory Project** E.O. 12941 mandates the seismic safety of Federally-owned buildings. It required agencies to develop a seismic inventory of their buildings and estimate the cost of mitigating unacceptable seismic risk in those buildings. FEMA was responsible for assembling the data from all agencies, and submitted a comprehensive report to Congress in December 2000.
- f. <u>HR Buildings</u> The HR buildings, the second tier category, have been added to identify buildings just below EHR level. They are defined as meeting one of the following:
- (1) Buildings that meet the definition of EHR except they are located in an area of moderate to high seismicity; or
- (2) Buildings that meet the definition of EHR, except they are smaller than 10,000 square feet and greater than 1,000 square feet.
- g. <u>IBC</u> Building code adopted by the Federal government and all states. Earlier National Model Codes, i.e., the National Building Code (BOCA), the Standard Building Code (SBC), and the Uniform Building Code (UBC) were merged into the single IBC in the year 2000.
- h. **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 need to be evaluated for seismic risk.
- i. VA Sesimic Design Requirements H-18-8, (formerly known H-08-8): The VA Seismic Design Standard is regularly reviewed and updated by the CFM. A major upgrade was implemented in 1995 to H-08-8, and retitled as H-18-8. National Model Building Codes have also been revised periodically since 1975, and now have merged into a single International Building Code (IBC). VA H-18-8 closely meets or exceeds IBC.