

# U.S. Department of Veterans Affairs

## GREEN BUILDINGS ACTION PLAN

### Implementing the Memorandum of Understanding on Federal Leadership in High Performance and Sustainable Buildings

#### I. INTRODUCTION

On February 28, 2006, the Assistant Secretary for Management joined 21 Federal Departments and Agencies in signing the Memorandum of Understanding (MOU) on Federal Leadership in High Performance and Sustainable Buildings. The MOU commits the Department of Veterans Affairs (VA) to demonstrating leadership in implementing common strategies for planning, acquiring, siting, designing, building, operating, and maintaining high performance and sustainable buildings.

The MOU establishes a common set of sustainable guiding principles to: 1) employ integrated design principles; 2) optimize energy performance; 3) protect and conserve water; 4) enhance indoor environmental quality; and 5) reduce environmental impact of materials. These sustainable guiding principles will help VA achieve the MOU goals:

- **Reduce** the total ownership cost of facilities;
- **Improve** energy efficiency and water conservation;
- **Provide** safe, healthy, and productive built environments; and
- **Promote** sustainable environmental stewardship

Implementation of the MOU will be subject to financial, technical and other mission-related considerations. The Leadership in Energy and Environmental Design (LEED) rating system or a comparable rating system will be used to establish successful implementation of the MOU, where feasible and as applicable to the project type.

Currently, VA's real property portfolio includes several Energy Star®-labeled buildings and a LEED certified building. VA policy requires that preference be given in leases to Energy Star® or LEED certification (a rating system developed by the U.S. Green Building Council) and the Department is also actively pursuing LEED certification for two of its leased buildings.

Through this Action Plan, which implements the "Green Buildings" MOU, VA will be able to expand its leadership on this Presidential priority in new buildings, existing buildings, leased space, grants, and land development projects such as cemeteries. The Action Plan will be reported on semiannually and updated annually to promote continuous improvement toward the MOU goals.

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

#### II. GOALS

The primary goal of the sustainable design/green buildings action plan is to implement the Memorandum of Understanding on Federal Leadership in High Performance and Sustainable Buildings, signed by the Assistant Secretary for Management on February 28, 2006. The goal is to enhance VA's ability to perform its mission to serve our Nation's veterans and their families in a cost-effective and conscientious manner.

VA will strive to provide veterans, employees, and visitors with built environments that promote sustainability of the natural environment. Sustainable design/green buildings can reduce environmental liabilities for the Department and improve working conditions for employees.

#### III. MOU PRINCIPLES

(See the MOU for specific actions – Appendix A.)

- A. *Integrated Design Principles* (which should also include the integration and involvement of Operations and Maintenance (O&M)) – including total building commissioning, consideration of high density zoning where possible, alternative transportation, minimal site disturbance, storm water management, minimal heat island effect, minimal light pollution, and daylighting with consideration of physical security, visual appearance, and ecosystem impacts.
- B. *Optimize Energy Performance* – including Operations and Maintenance (O&M) education and monitoring, metering, controllability of lighting, temperature, and heating, ventilating, and air conditioning (HVAC) systems, reducing energy consumption levels by 30 percent below ASHRAE Standard 90.1-2004, using the Energy Star® benchmarking tool for applicable building types, continuously tracking building energy performance. For major renovations, reduce energy use by 20 percent below pre-renovations 2003 baseline.
- C. *Protect and Conserve Water* – including use reduction, source protection, minimizing wastewater discharge, landscaping techniques, gray water and reclaimed water use.
- D. *Enhance Indoor Air Quality* – hazardous materials management (e.g., asbestos, lead, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs)), thermal comfort, green cleaning, humidity and mold control.
- E. *Reduce Environmental Impact of Materials* – optimize use of environmentally preferable materials, recycling programs, toxic materials source reduction, minimization of ozone-depleting substances, and emissions reduction reporting.

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

#### IV. BUDGETING

To meet the above goals, adequate resources must be brought to bear as soon as possible. The Office of Management and Budget (OMB) has required that by **December 31, 2006**, VA craft a policy and implementation plan that complies with certain budget guidance. In comments to VA by OMB on the July 2006 Environmental Stewardship Scorecard, VA was directed to formulate its policy and implementation plan in compliance with Section 110 of OMB Circular No. A-11 Part 3, Selected Actions Following Transmittal of the Budget, dated June 2006. This guidance covers unanticipated budget changes due to new legislation enacted or “uncontrollable” increased workload that would require supplemental appropriations. However, compensating reductions must be made elsewhere in the budget to offset new allocations. There are four requirements for these supplemental requests: (a) appropriations language, (b) justification, (c) explanation of request, and (d) a letter from the agency head. Sample documentation is provided in the guidance document at

[http://www.whitehouse.gov/omb/circulars/a11/current\\_year/s110.pdf](http://www.whitehouse.gov/omb/circulars/a11/current_year/s110.pdf).

#### V. PLANNING

VA will use an integrated design approach to create facilities that will serve veterans in the 21<sup>st</sup> century. At the same time, VA must continuously review its real property portfolio for opportunities to retrofit or adapt energy conserving technologies.

Administrations will commence implementing action plan components in their budget submissions beginning with the FY 2009 cycle. In the interim, a review of projects still in the planning stage will be undertaken to establish where no-cost or low-cost modifications incorporating these principles and practices can be implemented.

In addition, key VA organizations should support or provide representation to interagency activities and working groups focused on sustainability.

#### VI. TIME LINE

The Office of Asset Enterprise Management (OAEM) has established a VA cross-functional team to develop the Green Buildings Action Plan as the precursor to an advisory council being formed. The ASM will charter an advisory council to develop and monitor action plan implementation. The advisory council will be composed of members with qualifications relating to the principles of the MOU. In addition, each VA Administration will review current projects in the early planning stage of design for possible integration of sustainable design principles. The Office of Construction and Facilities Management (OOCFM) will review feasibility of achieving LEED rating or equivalent for both renovations and new projects in VA’s major construction program.

## **U.S. Department of Veterans Affairs**

### **GREEN BUILDINGS ACTION PLAN**

#### *FY 2007*

Review whether any projects still in design could incorporate MOU principles. Continue the utilization of integrated design teams in the design development process (Principle 1). Identify at least one pilot project for implementing innovative energy and water conservation and indoor air quality measures that notably increase building performance over previous designs (using the LEED or a comparable rating system in order to meet MOU principles). Incorporate MOU principles into new construction and renovation projects and initiate certification process. Include funding in FY 2009 budget submission for MOU compliance.

#### *FY 2008*

Review whether any project still in design could incorporate MOU principles. Select at least two additional pilot projects for implementing innovative energy and water conservation and indoor air quality measures that notably increase building performance over previous designs (using the LEED or a comparable rating system as a guide). Incorporate MOU principles into new construction and renovation projects and continue certification process. Include funding in FY 2010 budget submission for MOU compliance.

#### *FY 2009*

Begin implementation of all MOU principles into new projects in VA's operating plan. Continue certification process for major projects. Include funding in FY 2011 budget submission for MOU compliance.

#### *FY 2010*

Continue implementation of MOU principles, and identify opportunities for measurable improvements. Continue certification process for major projects. Include funding in FY 2012 budget submission for MOU compliance.

#### *FY 2011*

Continue implementation of MOU principles, and identify opportunities for measurable improvements. Continue certification process for major projects. Include funding in FY2013 budget submission for MOU compliance.

#### *FY 2012*

Complete implementation of MOU principles, and identify opportunities for measurable improvement. Continue certification process for major projects. Include funding in FY 2014 budget submission for MOU compliance.

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

#### VII. RESPONSIBILITIES

**Assistant Secretary for Management (ASM)**, as the Agency Environmental Executive and Senior Energy Official, is responsible for overseeing and monitoring the Department's progress toward the goals stated in the Memorandum of Understanding on Federal Leadership in High Performance and Sustainable Buildings and OMB's Environmental Stewardship Scorecard. The ASM will establish a chartered Department-level advisory council with representatives (program lead and support) from each of the Administrations and key Staff Offices that reflect expertise areas from the five guiding principles. The ASM will approve a final Green Buildings Action Plan by December 31, 2006. The ASM, through the advisory council, will assign responsibilities at the Department and Administration levels for setting policy, implementation, performance measurement and verification.

**Under Secretaries for Health, Benefits, and Memorial Affairs**, are responsible for ensuring that their facilities and construction organizations coordinate and initiate MOU principles in both owned and leased assets. Under Secretaries are also responsible for ensuring the adequacy of resources to implement the goals of the MOU and demonstrating progress toward the goals by incorporating factors in performance reviews of key personnel charged with implementation. Administrations shall include short-term and long-term actions in their planning that further MOU goals. Implementation by the Administrations will be reviewed semi-annually by the DCFM and submitted by the DCFM to the ASM. Reporting by Administrations to the DCFM shall include a listing of major projects including notation for any that are not applicable under the MOU. Administrations will be responsible for communications regarding MOU plans, mechanisms, and available training and education opportunities that support sustainability efforts. Administrations will document progress on sustainability and share lessons learned through use of information technology and incorporate lessons learned into new or existing training and educational tools related to facility design, construction, and maintenance. Administrations are encouraged to recognize sustainability champions of MOU principles from the individual level up to the organizational level, including through existing mechanisms such as the VA Environmental Excellence Awards Program as well as external award programs.

**Director, Construction and Facilities Management**, as the Senior Executive directing the Department's construction activities, is responsible for implementing the policies and goals related to implementation of the MOU principles on major construction program projects. The DCFM is also responsible for developing and tracking performance measures of MOU compliance to be reported to the ASM on a periodic basis.

**Green Buildings Advisory Council**, at the direction of the ASM, will set measurable goals for movement toward MOU goals on a definite time line. The advisory council will recommend policy or procedure impediments to Administrations to align VA policy with the MOU goals. The Council will review as needed when new legislation, regulations, Executive Orders, or other significant guidance are issued that affect implementation of this Action Plan.

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

#### VIII. REPORTING

- A. The advisory council will conduct annual benchmarking while accounting for workload, data quality, changes in equipment, regional weather differences, utility rate changes and report VA's progress to the ASM periodically.
- B. OAEM and the Office of Acquisition and Materiel Management (OA&MM) will periodically review goals versus actual results (compliance) and summarize actual progress versus goals in a report to the ASM.
- C. OA&MM will prepare and submit the Environmental Stewardship Scorecard, which includes green buildings requirements, to the Office of the Federal Environmental Executive semi-annually as required.

#### IX. PERFORMANCE MEASURES

In order to measure performance, OAEM will develop a scorecard for each VA Administration rolled up into the five MOU principle areas: integrated design, optimize energy performance, protect and conserve water, enhance indoor air/environmental quality, and reduce the impact of building materials. The following 15 performance measures are taken directly from the MOU:

##### A. Integrated Design Measures

1. Integrated Design. Use a collaborative and integrated planning and design process. It should initiate and maintain an integrated project team in all stages of a project's planning and delivery; establish performance goals for siting, energy, water, materials, and indoor environmental quality, along with other design goals; ensure incorporation of these goals throughout the design and lifecycle of the building; and consider all stages of the building's lifecycle, including deconstruction.

2. Commissioning. Employ total building commissioning practices tailored to the size and complexity of the building and its system components. This will be used to verify performance of building components and systems and help ensure that design requirements are met. This should include a designated commissioning authority, inclusion of commissioning requirements in construction documents, a commissioning plan, verification of the installation and performance of systems to be commissioned, and a commissioning report.

##### B. Energy Measures

1. Energy Efficiency. Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, other energy demands, and design to earn the Energy Star® targets for new construction and major renovation where applicable. For new construction, reduce the energy consumption by 30 percent below the baseline building performance rating per the American Society of Heating,

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential. For major renovations, reduce the energy consumption by 20 percent below pre-renovations 2003 baseline.

2. Measurement and Verification. In accordance with Department of Energy (DOE) guidelines issued under section 103 of the Energy Policy Act of 2005 (EPAct), install building level utility meters in new major construction and major renovation projects (thresholds to be determined in the VA's advanced metering plan currently under development) to track and continuously optimize performance. Compare actual performance data from the first year of operation with the energy design target. After one year of occupancy, measure all new major installations using the Energy Star® Benchmarking Tool for building and space types covered by Energy Star®. The facilities or construction office managing projects will be responsible for entering data and lessons learned from sustainable buildings into the High Performance Buildings Database for qualified projects. ([www.eere.energy.gov/femp/highperformance/index.cfm](http://www.eere.energy.gov/femp/highperformance/index.cfm))

#### C. Water Measures

1. Indoor Water. Employ strategies that in aggregate use a minimum of 20 percent less potable water than the indoor water use baseline calculated for the building, after meeting the Energy Policy Act of 1992 fixture performance requirements.

2. Outdoor Water. Use water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 50 percent over that consumed by conventional means (plant species and plant densities). Employ design and construction strategies that reduce storm water runoff and polluted site water runoff.

#### D. Indoor Air Quality Measures

1. Ventilation and Thermal Comfort. Meet the current ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy, including continuous humidity control within established ranges per climate zone, and ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality.

2. Moisture Control. Establish and implement a moisture control strategy for controlling moisture flows and condensation to prevent building damage and mold contamination.

3. Daylighting. Achieve a minimum of daylight factor of 2 percent (excluding all direct sunlight penetration) in 75 percent of all space occupied for critical visual tasks. Provide automatic dimming controls or accessible manual lighting controls, and appropriate glare control.

4. Protect Indoor Air Quality during Construction. Follow the recommended approach of the Sheet Metal and Air Conditioning Contractor's National Association Indoor Air

## U.S. Department of Veterans Affairs

### GREEN BUILDINGS ACTION PLAN

Quality Guidelines for Occupied Buildings under Construction, 1995. After construction and prior to occupancy, conduct a minimum 72-hour flush-out with maximum outdoor air consistent with achieving relative humidity no greater than 60 percent. After occupancy, continue flush-out as necessary to minimize exposure to contaminants from new building materials.

#### E. Environmental Impact Measures

1. Low-Emitting Materials. Specify materials and products with low pollutant emissions, including adhesives, sealants, paints, carpet systems, and furnishings.

2. Recycled Content. For EPA-designated products, use products meeting or exceeding EPA's recycled content recommendations. For other products, use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10 percent (based on cost) of the total value of the materials in the project.

3. Bio-based Content. For USDA-designated products, use products meeting or exceeding USDA's bio-based content recommendations. For other products, use bio-based products made from rapidly renewable resources and certified sustainable wood products.

4. Construction Waste. During a project's planning stage, identify local recycling and salvage operations that could process site related waste. Program the design to recycle or salvage at least 50 percent construction, demolition and land clearing waste, excluding soil, where markets or on-site recycling opportunities exist.

5. Ozone Depleting Substances. Eliminate the use of ozone depleting substances during and after construction where alternative environmentally preferable products are available, consistent with either the Montreal Protocol and Title VI of the Clean Air Act Amendments of 1990 or equivalent overall air quality benefits that take into account life cycle impacts.

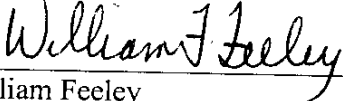


U.S. Department of Veterans Affairs

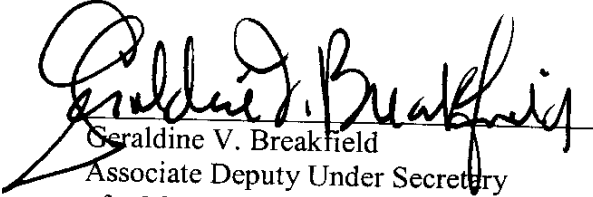
GREEN BUILDINGS ACTION PLAN

X. SIGNATORIES

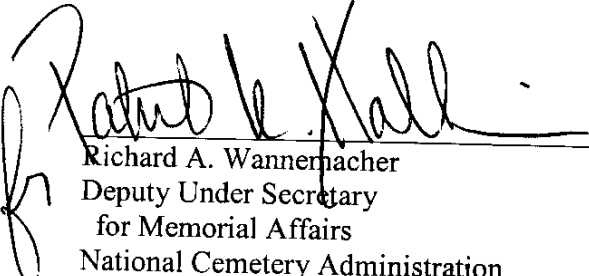
The Department of Veterans Affairs Green Buildings Action Plan Implementing the Memorandum of Understanding on Federal Leadership in High Performance and Sustainable Buildings takes effect upon signature of the following individuals. This Action Plan remains in effect through FY 2012.

  
\_\_\_\_\_  
William Feeley  
Deputy Under Secretary for Health  
for Operations and Management  
Veterans Health Administration

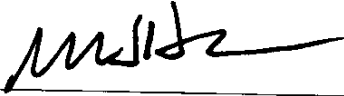
12/12/06  
Date

  
\_\_\_\_\_  
Geraldine V. Breakfield  
Associate Deputy Under Secretary  
for Management  
Veterans Benefits Administration

1/9/07  
Date

  
\_\_\_\_\_  
Richard A. Wannmacher  
Deputy Under Secretary  
for Memorial Affairs  
National Cemetery Administration

12/28/06  
Date

  
\_\_\_\_\_  
Robert J. Henke  
Assistant Secretary for Management

**MAR 30 2007**  
\_\_\_\_\_  
Date